Journal of Athletic Training 2025;60(1):29–33
doi: 10.4085/1062-6050-0287.24

www.natajournals.org

Factors That Impact Time to Athletic Trainer Evaluation Following Acute Injury Among Secondary School Athletes: A Report From the Athletic Training Practice-Based Research Network

Madison N. Renner, MS, ATC*; Kenneth C. Lam, ScD, ATC†; Emily C. Srygler, MA*; Stephanie N. Adler, MA*; Jennifer S. Chambers, MA*; David R. Bell, PhD, ATC*

*University of Wisconsin-Madison; †A.T. Still University, Mesa, AZ

Context: Immediate athletic trainer (AT) availability for acute injuries is essential as worse long-term outcomes are associated with delays in receiving medical care. Several factors have been found to influence AT availability between secondary schools, but few studies have evaluated how medical coverage varies between athlete groups.

Objective: The purpose of this project was to identify factors that impact the time to AT evaluation following acute sport-related injury in a secondary school setting.

Design: Cross-sectional study.

Setting: Retrospective analysis of deidentified patient records via the Athletic Training Practice-Based Research Network.

Patients or Other Participants: High school athletes diagnosed with an acute sport-related injury during in-season play from 2010 to 2023.

Main Outcome Measure(s): Time to AT evaluation was measured as the number of days between injury onset, reported by the patient, and AT evaluation.

Results: This report consists of 17 354 patient cases representing 20 different sports. Overall, 46.9% ($n = 8138$) of patients who sustained an injury during in-season play were evaluated by an AT the same day (range, 0–14 days). Significant group differences were reported for sex ($P < .001$), setting ($P < .001$), and sport level ($P < .01$), with female athletes and in-game injuries associated with longer times to AT evaluation. Freshmen were evaluated sooner than junior varsity ($P < .01$) and varsity ($P < .001$) athletes. No difference was observed between junior varsity and varsity athletes ($P = .34$).

Conclusions: Almost half of patients received medical care within 24 hours following an acute injury during in-season play, highlighting how qualified health care is accessible for many student-athletes through ATs in the secondary school setting. Differences in time to AT evaluation may be attributable to sex discrepancies in immediate medical coverage between sports and injury reporting patterns among athletes.

Key Words: evaluation, injury, accessibility

Key Points

- Almost half of patients who sustained an acute injury during in-season play were evaluated by an athletic trainer within 24 hours of injury.
- Female athletes, athletes playing at the junior varsity or varsity level, and athletes who sustained an injury during a game were associated with longer time to athletic trainer evaluation.
- Time from injury to athletic trainer evaluation may be a more sensitive measure of athletic trainer accessibility.

Secondary school athletic trainers (ATs) are in a unique position to provide youth athletes with direct access to care by quickly recognizing and treating a multitude of injuries and conditions. Access to athletic training services at secondary schools is associated with positive health outcomes, including a reduced injury rate and increased awareness and knowledge of certain sport-related injuries such as concussions.[1,2] Schools that employ ATs are more likely to have emergency action plans, heat-illness policies, and automated external defibrillators and thus are better prepared to handle medical emergencies, which can ultimately reduce the risk of catastrophic injury and death.[3,4] Overall, student-athletes have access to a better quality of medical care if athletic training services are available to them.[5] However, delays in receiving medical care following an injury can result in worse long-term health outcomes for the athlete, including an increased time to recovery following concussion and increased incidence of recurrent ankle sprains.[6,7] Although the literature regarding delays in receiving medical care, specifically from an AT, is scarce, several factors have been found to affect the availability of athletic training services at secondary schools.

Secondary schools are less likely to provide athletic training services in any capacity and provide a decreased level of availability if they are smaller in size, located in rural locations, or classified as private.[1,8–13] Additionally, lower socioeconomic status of the school is associated with decreased AT

availability.[1,11,14–16] This discrepancy is particularly alarming as health care services are already less accessible to adolescents in lower socioeconomic communities, and secondary school ATs have the potential to decrease health disparities.[11,15,17] Many of the previously mentioned studies have measured AT availability using employment status (full time and part time) or level of AT availability using hours per week that the AT provides services at the school.[8,9,11,12,15] However, a different outcome variable is needed to understand how immediate AT availability differs between student-athletes.

The purpose of this project was to identify factors that may impact the time to an AT evaluation following acute sport-related injury in the secondary school setting. We hypothesized that the setting where the injury occurred, athlete sex, and athlete sport level would be associated with an increase or decrease in time from injury to AT evaluation.

METHODS

Design and Setting

We performed a retrospective analysis of deidentified patient records collected within the Athletic Training Practice-Based Research Network. All patient records were created via a web-based electronic medical record (EMR) during routine care by ATs within the secondary school setting. For the current study, there was a total of 333 clinical practice sites across 40 different states that represented the South ($n = 13$), Midwest ($n = 10$), Northeast ($n = 8$), West ($n = 8$), and Pacific ($n = 1$) regions of the United States, as classified by the US Census Bureau.[18]

Patients. Patients who were diagnosed with an acute injury that occurred during in-season sport participation between 2010 and 2023 were included in this study. All patients were secondary school athletes receiving care from an AT within the Athletic Training Practice-Based Research Network. This study was determined as exempt by the institutional review board at the University of Wisconsin-Madison, as it was a retrospective analysis of deidentified patient records.

Procedures. Data were recorded in the Athletic Training Practice-Based Research Network's EMR by ATs who successfully completed a training session before data collection.[19] Data extraction procedures were similar to Lam et al and Marshall et al.[20,21] One research team member (K.C.L.) was responsible for the daily management of the EMR's regional database and completed the data extraction for quality assurance procedures.[22] Patient cases were identified by the number of days between injury onset and AT evaluation and diagnosis. Then, using the unique identifier (ie, days since injury) associated with each patient case, we identified and extracted the remaining study variables from the EMR database for analysis.

Three Board-certified ATs and authors of this study (M.N.R., E.C.S., and S.N.A.) independently classified each International Classification of Disease (ICD) diagnostic code as acute or not acute. Disagreements in classification of an injury resulted in a discussion between the research team until a consensus was reached. A total of 193 ICD-10 codes were used to diagnose patients, 104 of which were determined to be acute. Only acute injuries that were evaluated by an AT less than or equal to 14 days from when they were sustained were included in analyses.

Instrumentation. The CORE-AT EMR (www.core-at.com) is a web-based documentation system that features standard documentation forms, an injury surveillance feature, and patient-reported outcome forms. It is Health Insurance Portability and Accountability Act compliant, and in-depth descriptions of the features and functionality of the CORE-AT EMR have been described in previous investigations.[19,23] Patient characteristic variables were extracted from the demographics form and included sex, sport, activity during injury (ie, practice and competition), mechanism of injury, diagnosis (ICD-10 code), and days from injury to AT evaluation. Our main outcome measure, the time to AT evaluation, was measured as the number of days between injury onset, reported by the patient, and AT evaluation.

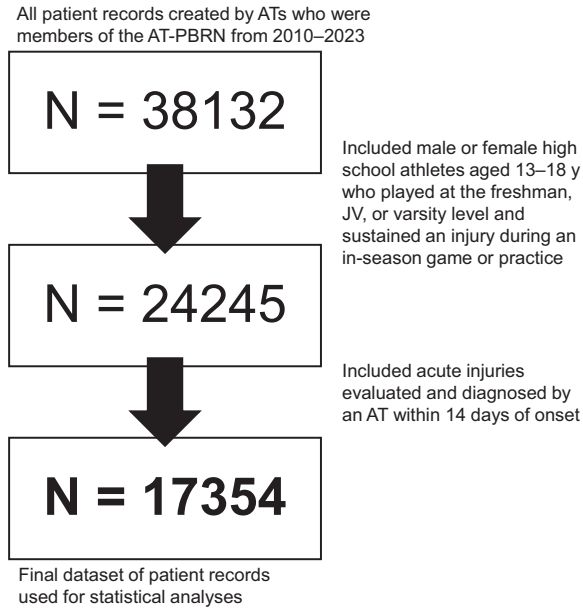

Figure 1. Flow diagram for selection of patient cases. Abbreviations: AT, athletic trainer; AT-PBRN, Athletic Training Practice-Based Research Network; JV, junior varsity.

Data Analysis. Mann-Whitney U and Kruskal-Wallis tests were used to examine the effect of sex (male or female), setting (practice or game), and sport level (freshman, junior varsity [JV], or varsity) on time to AT evaluation. Alpha was set a priori at $P < .05$. If a Kruskal-Wallis test was significant, separate Mann-Whitney U tests were conducted to determine where differences occurred with an adjusted P value ($P < .017$). All statistical analyses were conducted using SPSS 28.0 software (SPSS Inc).

RESULTS

A flow diagram on how the final dataset was reached can be seen in Figure 1. A total of 17 354 patient cases, representing 20 different sports, were included in this report. Athlete demographics can be viewed in Table 1. Football had the highest number of patient records in this report (37.1%), followed by basketball (16.3%), soccer (13.2%), volleyball (7%), and track (6.1%). Athletes represented in this sample were predominantly male (61.7%) and played at the varsity level (62.4%). Concussions (17.4%), ankle sprain/strains (12.8%), and thigh/hip/groin sprain/strains (8.6%) were the most diagnosed injuries.

Overall, 46.9% ($n = 8138$) of patients who sustained an acute injury during in-season play were evaluated by an AT the same day, 68.3% ($n = 11\,849$) were evaluated the following day, 76.5% ($n = 13\,271$) were evaluated after 2 days, and 84%

Table 1. Athlete Demographics[a]

	Male	Female
n, %	10 708 (61.7)	6646 (38.3)
Age, years	15.6 ± 1.3	15.4 ± 1.23
Time to AT evaluation, days	1.00 (0.00–2.00)	1.00 (0.00–2.00)
Sport level, frequency (%)		
Freshman	1257 (11.7)	794 (11.9)
Junior varsity	2656 (24.8)	1812 (27.3)
Varsity	6795 (63.5)	4040 (60.8)

Abbreviations: AT, athletic trainer.
[a] Data are shown as frequency (%), mean ± SD, or median (interquartile range).

($n = 2725$) were evaluated after 3 days (Figure 2). A similar percentage of male and female athletes were evaluated 3 days after sustaining an injury, but a higher percentage of male athletes were evaluated the same day and 1 day following injury (male versus female; same day: 48.3% versus 44.6%; 1 day: 69.1% versus 66.9%; 2 days: 76.4% versus 76.5%; 3 days: 84.7% versus 82.9%). These percentages can be seen in Figure 3. Significant group differences were reported for sex ($P < .001$), setting ($P < .001$), and sport level ($P = .002$), with female athletes and in-game injuries associated with longer times to AT evaluation. Furthermore, freshmen athletes were evaluated sooner than JV ($P = .007$) and varsity ($P < .001$) athletes. No difference was observed between JV and varsity athletes ($P = .34$). Associations between athlete variables and the number of days from injury to AT evaluation are displayed in Table 2.

DISCUSSION

The most important finding of our study was that approximately half of high school athletes received medical care the same day they sustained an acute injury during in-season play, and over 80% of athletes were evaluated 3 days following injury. Evaluation within 72 hours is clinically relevant for athletes who are injured during Friday night play or over the weekend, and it also marks the end of the inflammatory phase of tissue remodeling following injury.[24] Thus, qualified health

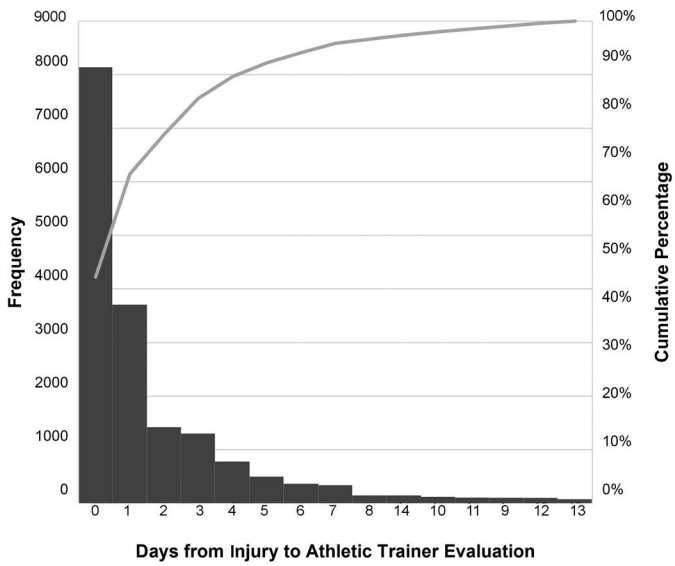

Figure 2. Days from acute injury to athletic trainer evaluation for all patient cases.

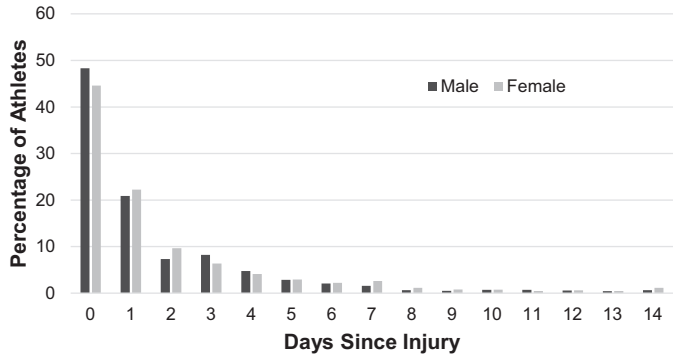

Figure 3. Days from acute injury to athletic trainer evaluation between male and female secondary school athletes.

care is accessible for many student-athletes through ATs, and our study highlights how quickly ATs can help youth athletes enter the health care system. However, we observed several factors that were associated with a longer time to an AT evaluation following injury. Specifically, female athletes, athletes playing at the JV or varsity level, and athletes who sustained an injury during a game were associated with longer time to AT evaluation.

AT employment (full time or part time) has often been used as a proxy for AT accessibility in the literature, but the availability of an AT at a school does not necessarily represent their accessibility to different groups of student-athletes.[8,9,12] It is possible that the time to AT evaluation may be a more sensitive measure of AT availability than AT employment and, thus, a better representation of AT accessibility within this population. Associations between general availability of AT services and secondary school factors such as size, type (ie, public versus private), geographic location, and socioeconomic status are well established, but very few studies have observed medical coverage discrepancies between sport, sport level, and gender. We believe we are the first study to quantify AT availability as the time to AT evaluation following injury and evaluate differences in AT availability between different athlete groups and settings.

Several publications have investigated differences in sideline medical coverage between sports in the secondary school

Table 2. Effects of Sex, Setting, and Sport Level on the Time From Injury to Athletic Trainer Evaluation

Independent Variable	*n* (%)	Mean ± SD	Median (IQR)	*P* Value
Sex				
Male	10 708 (61.7%)	1.62 ± 2.59	1.00 (0.00–2.00)	<.001[b]
Female	6646 (38.3%)	1.81 ± 2.82	1.00 (0.00–2.00)	
Setting				
Practice	8930 (51.5%)	1.51 ± 2.77	0.00 (0.00–1.00)	<.001[b]
Game	8424 (48.5%)	1.89 ± 2.57	1.00 (0.00–3.00)	
Sport level				
Freshman[a]	2051 (11.8%)	1.56 ± 2.59	0.00 (0.00–2.00)	.002[b]
Junior varsity	4468 (25.7%)	1.63 ± 2.58	1.00 (0.00–2.00)	
Varsity	17 354 (62.4%)	1.69 ± 2.68	1.00 (0.00–3.00)	

Abbreviations: IQR, interquartile range; SD, standard deviation.
[a] Signifies significant between-group differences between freshman and junior varsity and between freshman and varsity ($P < .017$).
[b] Significant between groups using Mann-Whitney *U* or Kruskal-Wallis tests ($P < .05$).

setting. These studies surveyed high school athletic directors or coaches, and both found that the largest disparity in immediate medical coverage was between football and all other sports, regardless of sex.[25,26] Subanalyses of our dataset showed similar results, as no statistical significance was found for the time to AT evaluation between sex when football was removed (male, $n = 4312$; female, $n = 6598$; $P = .691$). However, sex discrepancies in the time to a medical evaluation and availability of medical care following an injury may still exist. We found a significant difference in the time to an AT evaluation between male and female athletes for several sex-equivalent sports, such as basketball (male, $n = 1264$; female, $n = 1558$; $P = .047$) and soccer (male, $n = 841$; female, $n = 1442$; $P = .47$), but not in track (male, $n = 472$; female, $n = 579$; $P = .71$). Male basketball athletes who sustained an acute injury during in-season play were evaluated sooner, on average, and a higher percentage were evaluated within 24 hours than female basketball athletes (days to evaluation: male = 1.45 ± 2.46 and female = 1.62 ± 2.59; percentage of athletes evaluated within 24 hours: male = 48.3% and female = 45.1%). Similar results were found for soccer athletes (days to evaluation: male = 1.65 ± 2.69 and female = 1.8 ± 2.71; percentage of athletes evaluated within 24 hours: male = 45.7% and female = 41.1%). Thus, more research is needed to understand how and why the availability of medical care may differ between male and female athletes overall and in sex-equivalent sports.

Injury reporting patterns may help explain why athletes were evaluated sooner if they sustained an injury during practice or played at the freshman level than athletes who were injured during a game and athletes playing at the varsity and JV levels. For example, some athletes may not be as forthcoming about sustaining an injury as others for a variety of reasons. They may not understand the extent of their injury, or, as concussion research shows, athletes may choose not to report their injury for fear of being removed from participation.[27] This may explain why there was an increased time to AT evaluation in athletes playing at the JV and varsity levels compared with athletes playing at the freshman level. For example, JV athletes may not want to disclose an injury if they feel that participating will eventually allow them to play at the varsity level, and varsity athletes may wait to report an injury if they want to keep playing in hopes of being recruited. This fear of being removed from participation may also explain why athletes were evaluated sooner after sustaining an injury during practice than during games. However, research on concussion reporting behaviors suggests that female athletes are more likely to report concussion symptoms to a coach, AT, or teammate.[28,29] If female athletes are more likely to report sustaining an injury, the true discrepancy in immediate medical coverage between male and female athletes may be larger than indicated in this study. More research on how injury reporting patterns differ between athlete sex and sport level for a variety of injuries is needed.

Additionally, ATs may be more likely to be available for athletes during practices, especially if they are practicing on school grounds, than during games, which are not always at the school where the AT is employed. This provides another explanation for why there is a decreased time to AT evaluation for athletes who sustain an injury during practice compared with injuries sustained during games in the current study. The location of home athletic events may have implications on the athlete's access to their schools' AT, and additional research is needed to evaluate associations between immediate AT availability and the proximity of home athletic events to the athletic training clinic.

This study only included patient records for athletes who attended a secondary school that provided AT services in any capacity. Future research should evaluate how the time from sustaining an injury to being evaluated by a medical professional changes for athletes who become injured, and their school or sports club does not provide AT services. Approximately one-third of secondary schools in the United States provide no AT services, and although the availability of medical providers at club sporting events is unknown, club sport coaches were less likely to report that ATs are responsible for medical care during practices and games than high school coaches.[8,10,30] This leaves many athletes without medical coverage during athletic participation, which is alarming because life- or limb-threatening injuries are unpredictable and can occur without warning during physical activity at any level of participation.[31,32]

This study is not without limitations. Our main outcome variable, the time to AT evaluation, was patient reported, and we relied on the patient being truthful to the AT regarding how long ago they sustained the injury. Additionally, this variable was reported in days, and a more sensitive measure of the time to AT evaluation, such as hours, may give researchers a better idea of how quickly athletes are evaluated following injury and the true discrepancies in immediate AT access between athletes. This study did not control for school factors, such as school size, type, and socioeconomic status, which have been found to influence general AT availability, and future studies should evaluate how these factors may influence the time to AT evaluation following injury. Further, this sample of patient records included a large percentage of male athletes who played at the varsity level. Lastly, the large size of this dataset allowed us to find statistical significance between the groups of interest but raised concern regarding its clinical significance. For example, female athletes waited an additional 0.2 days to be evaluated by an AT following injury. Although this delay in care could have detrimental implications in emergent conditions, how a delay of less than a day affects long-term recovery and health outcomes in other sport-related injuries has yet to be established.

There is undisputed importance in having qualified and appropriate medical care readily accessible to athletes, and our study advocates for the profession of athletic training, as almost half of patients who sustained an acute injury were evaluated by their secondary school AT the same day. The National Athletic Trainers' Association recommends that each student-athlete should have equitable access to appropriate medical care, regardless of sport, gender, or level of competition. However, we found several of these factors to be associated with a longer time to an AT evaluation following injury. We recognize that if a school provides AT services in any capacity, a single AT is typically responsible for providing care to all student-athletes. To increase the accessibility of AT services in the secondary school setting, school administrators should consider hiring additional ATs, while athletic directors and coaches may consider planning sporting events in a way that allows the AT to be more accessible to each athlete.

REFERENCES

1. Kroshus E, Rivara FP, Whitlock KB, Herring SA, Chrisman SPD. Disparities in athletic trainer staffing in secondary school sport: implications for concussion identification. *Clin J Sport Med*. 2017;27(6):542–547. doi:10.1097/JSM.0000000000000409

2. Pierpoint LA, LaBella CR, Collins CL, Fields SK, Dawn Comstock R. Injuries in girls' soccer and basketball: a comparison of high schools with and without athletic trainers. *Inj Epidemiol*. 2018;5(1):29. doi:10.1186/s40621-018-0159-6
3. Johnson ST, Norcross MF, Bovbjerg VE, Hoffman MA, Chang E, Koester MC. Sports-related emergency preparedness in Oregon high schools. *Sports Health*. 2017;9(2):181–184. doi:10.1177/1941738116686782
4. McLeod TCV, Cardenas JF. Emergency preparedness of secondary school athletic programs in Arizona. *J Athl Train*. 2019;54(2):133–141. doi:10.4085/1062-6050-35-18
5. Wham GS II, Saunders R, Mensch J. Key factors for providing appropriate medical care in secondary school athletics: athletic training services and budget. *J Athl Train*. 2010;45(1):75–86. doi:10.4085/1062-6050-45.1.75
6. Desai N, Wiebe DJ, Corwin DJ, Lockyer JE, Grady MF, Master CL. Factors affecting recovery trajectories in pediatric female concussion. *Clin J Sport Med*. 2019;29(5):361–367. doi:10.1097/JSM.0000000000000646
7. Rhon DI, Fraser JJ, Sorensen J, Greenlee TA, Jain T, Cook CE. Delayed rehabilitation is associated with recurrence and higher medical care use after ankle sprain injuries in the United States Military Health System. *J Orthop Sports Phys Ther*. 2021;51(12):619–627. doi:10.2519/jospt.2021.10730
8. Huggins RA, Coleman KA, Attanasio SM, et al. Athletic trainer services in the secondary school setting: the athletic training locations and services project. *J Athl Train*. 2019;54(11):1129–1139. doi:10.4085/1062-6050-12-19
9. Pike A, Pryor RR, Mazerolle SM, Stearns RL, Casa DJ. Athletic trainer services in US private secondary schools. *J Athl Train*. 2016;51(9):717–726. doi:10.4085/1062-6050-51.11.04
10. Pike AM, Pryor RR, Vandermark LW, Mazerolle SM, Casa DJ. Athletic trainer services in public and private secondary schools. *J Athl Train*. 2017;52(1):5–11. doi:10.4085/1062-6050-51.11.15
11. Post EG, Roos KG, Rivas S, Kasamatsu TM, Bennett J. Access to athletic trainer services in California secondary schools. *J Athl Train*. 2019;54(12):1229–1236. doi:10.4085/1062-6050-268-19
12. Pryor RR, Casa DJ, Vandermark LW, et al. Athletic training services in public secondary schools: a benchmark study. *J Athl Train*. 2015;50(2):156–162. doi:10.4085/1062-6050-50.2.03
13. Suzuki-Yamanaka M, Huggins RA, Armstrong KJ, Coleman KA, Casa DJ, Kaneoka K. Athletic training employment in US secondary schools by geographic setting and school size. *J Athl Train*. 2021;56(9):1010–1017. doi:10.4085/109-20
14. Barter EW, Rivera MJ, Post EG, Games KE, Eberman LE. Differences in access to athletic trainers in public secondary schools based on socioeconomic status. *J Athl Train*. 2023;58(2):91–96. doi:10.4085/1062-6050-0240.21
15. Post E, Winterstein AP, Hetzel SJ, Lutes B, McGuine TA. School and community socioeconomic status and access to athletic trainer services in Wisconsin secondary schools. *J Athl Train*. 2019;54(2):177–181. doi:10.4085/1062-6050-440-17
16. Rivera MJ, Post EG, Eberman LE. The impact of the social determinants of health on athletic trainer availability in Indiana secondary schools. *J Athl Train*. 2024;9(4):381–387. doi:10.4085/1062-6050-0737.21
17. Hernandez MI, Miller EC, Biese KM, et al. Secondary school athletic trainers' navigation of patient socioeconomic status challenges in care: a qualitative study. *Int J Environ Res Public Health*. 2022;19(24):16709. doi:10.3390/ijerph192416709
18. Census regions and divisions of the United States. US Census Bureau. Accessed October 9, 2024. https://www2.census.gov/geo/pdfs/maps-data/maps/reference/us_regdiv.pdf
19. Valovich McLeod TC, Lam KC, Bay RC, Sauers EL, Snyder Valier AR; Athletic Training Practice-Based Research Network. Practice-based research networks, part II: a descriptive analysis of the athletic training practice-based research network in the secondary school setting. *J Athl Train*. 2012;47(5):557–566. doi:10.4085/1062-6050-47.5.05
20. Lam KC, Marshall AN, Welch Bacon CE, Valovich McLeod TC. Cost and treatment characteristics of sport-related knee injuries managed by athletic trainers: a report from the Athletic Training Practice-Based Research Network. *J Athl Train*. 2021;56(8):922–929. doi:10.4085/1062-6050-0061.20
21. Marshall AN, Valovich McLeod TC, Lam KC. Characteristics of injuries occurring during cross-country: a report from the Athletic Training Practice-Based Research Network. *J Athl Train*. 2020;55(12):1230–1238. doi:10.4085/1062-6050-541-19
22. Valovich McLeod TC, Kostishak N II, Anderson BE, Welch Bacon CE, Lam KC. Patient, injury, assessment, and treatment characteristics and return-to-play timelines after sport-related concussion: an investigation from the Athletic Training Practice-Based Research Network. *Clin J Sport Med*. 2019;29(4):298–305. doi:10.1097/JSM.0000000000000530
23. Lam KC, Snyder Valier AR, Valovich McLeod TC. Injury and treatment characteristics of sport-specific injuries sustained in interscholastic athletics: a report from the athletic training practice-based research network. *Sports Health*. 2015;7(1):67–74. doi:10.1177/1941738114555842
24. Baoge L, Van Den Steen E, Rimbaut S, et al. Treatment of skeletal muscle injury: a review. *ISRN Orthop*. 2012;2012:689012. doi:10.5402/2012/689012
25. Aukerman DF, Aukerman MM, Browning D. Medical coverage of high school athletics in North Carolina. *South Med J*. 2006;99(2):132–136. doi:10.1097/01.smj.0000199749.22741.5e
26. Salzman GA, Burke RV, Muller VM, Spurrier RG, Zaslow TL, Upperman JS. Assessing medical care availability for student athletes of a large urban high school district. *J Pediatr Surg*. 2015;50(7):1192–1195. doi:10.1016/j.jpedsurg.2014.10.058
27. McCrea M, Hammeke T, Olsen G, Leo P, Guskiewicz K. Unreported concussion in high school football players: implications for prevention. *Clin J Sport Med*. 2004;14(1):13–17. doi:10.1097/00042752-200401000-00003
28. Kroshus E, Baugh CM, Stein CJ, Austin SB, Calzo JP. Concussion reporting, sex, and conformity to traditional gender norms in young adults. *J Adolesc*. 2017;54:110–119. doi:10.1016/j.adolescence.2016.11.002
29. Torres DM, Galetta KM, Phillips HW, et al. Sports-related concussion: anonymous survey of a collegiate cohort. *Neurol Clin Pract*. 2013;3(4):279–287. doi:10.1212/CPJ.0b013e3182a1ba22
30. Post EG, Schaefer DA, Biese KM, et al. A comparison of emergency preparedness between high school coaches and club sport coaches. *J Athl Train*. 2019;54(10):1074–1082. doi:10.4085/1062-6050-207-18
31. Andersen J, Courson RW, Kleiner DM, McLoda TA. National Athletic Trainers' Association position statement: emergency planning in athletics. *J Athl Train*. 2002;37(1):99–104.
32. Casa DJ, Guskiewicz KM, Anderson SA, et al. National Athletic Trainers' Association position statement: preventing sudden death in sports. *J Athl Train*. 2012;47(1):96–118. doi:10.4085/1062-6050-47.1.96

Address correspondence to Madison Nicole Renner, MS, ATC, University of Wisconsin-Madison, 1300 University Ave, Madison, WI 53706. Address email to sehmer@wisc.edu.