

Clinical Supervision of Athletic Training Students at Colleges and Universities Needs Improvement

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Objectives: To assess the type and amount of clinical supervision athletic training students received during clinical education.

Design and Setting: An online survey was conducted with a questionnaire developed specifically for this study.

Subjects: Head athletic trainers from National Collegiate Athletic Association Division I (28), Division II (34), and Division III institutions (30). Thirty-four represented Commission on the Accreditation of Allied Health Education Programs-accredited athletic training education programs, 20 represented athletic training programs in Joint Review Commission on Athletic Training candidacy, and 35 offered the internship route.

Measurements: Descriptive statistics were computed. Three sets of chi-square analyses were completed to assess associations among athletic training students with first-responder qualifications, program and institution characteristics, certified athletic trainer medical coverage of moderate- and increased-risk sports, and clinical supervision. A trend analysis of students' class standing and time spent in different types of clinical supervision was also completed. The alpha level was set at < .05.

Results: Most of the athletic training students (83.7%), particularly in accredited programs, had first-responder qualifications. More than half of the head athletic trainers (59.8%) indicated that athletic training students were authorized to provide medical care coverage without supervision. A minimal amount of medical care coverage of moderate- and increased-risk sports was unsupervised. No significant difference between the size of the education or athletic program and type and amount of clinical supervision was noted. Freshman athletic training students spent more time in direct clinical supervision and less time in unsupervised experience, but the opposite was true for senior students.

Conclusions: Athletic training students are being utilized beyond appropriate clinical supervision and the scope of clinical education. Future research should employ methods using non-participant observation of clinical instructors' supervision of students as well as students' own perceptions of their clinical supervision.

Key Words: clinical education, clinical experience, field experience, clinical instruction

Athletic training students need clinical experiences that include the appropriate type and amount of clinical supervision. Athletic training education programs accredited through the Commission on the Accreditation of Allied Health Education Programs (CAAHEP) are subject to strict adherence to standards and guidelines, including types of clinical supervision.¹ Although both clinical-education experience and field experience are parts of clinical education,² clinical instructors must recognize a definite distinction. Clinical-education experience applies to the instruction and evaluation of clinical proficiencies under the direct supervision of an approved clinical instructor (ACI).² This requires constant visual and auditory interaction between the student and ACI. Field experience, on the other hand, applies to the application and practice of clinical proficiencies in the clinical environment under the supervision of a clinical instructor. This requires daily personal and verbal contact at the site of supervision between the athletic training student and the clinical instructor. The clinical instructor must be physically present to intervene on behalf of the athlete or patient in both types of

supervision. Students who are unsupervised are restricted to first-responder activities.

Athletic training education programs have the responsibility to provide the proper clinical supervision so that athletic training students can obtain an appropriate clinical education and meet National Athletic Trainers' Association Board of Certification (NATABOC) certification requirements. Previous research³ assessing the supervisors' and students' perceptions of the quality of athletic training supervision via the internship route versus the National Athletic Trainers' Association (NATA)-approved/CAAHEP-accredited athletic training education program revealed few differences in how students rated their supervisors. Other research⁴ has revealed that supervising athletic trainers' behaviors can positively or negatively affect the professional growth and development of students.

Clinical-supervision guidelines today represent a shift in how athletic training students complete their clinical education. Unsupervised students may not perform the services that only a certified athletic trainer (ATC) should provide.⁵ The student should not make decisions regarding injuries without having a thorough knowledge base or sufficient experience to

deal with such injuries. Athletic training students in many places are still regarded as part of the athletic training staff.⁵ In the new guidelines, students must be placed in learning situations, not positions of responsibility. To amplify this situation, an NATA task force recently developed recommendations for appropriate medical care coverage for intercollegiate athletics.⁶ Consistent with CAAHEP standards and guidelines¹ and the NATABOC requirements,⁷ the task force recommended that athletic training students not be considered or used as substitutes for ATCs or other equally qualified health care professionals in the medical care of student-athletes.

The purpose of our study was to assess the type and amount of clinical supervision athletic training students received during clinical education. An additional purpose was to determine the extent to which athletic training students are used beyond the scope of clinical education (ie, providing medical care services). The results of this study may assist clinical education coordinators, athletic training clinical instructors and staff, and athletic department administrators in becoming more aware of the clinical supervision currently being provided for athletic training students at colleges and universities. With this information, clinical education for athletic training students may become more appropriately designed and supervised.

The following research questions were addressed in this study:

1. Is there a difference in the athletic training clinical-education supervision of athletic training students at National Collegiate Athletic Association (NCAA) Division I, II, and III institutions?
2. Is there a difference in the athletic training clinical-education supervision at CAAHEP-accredited and Joint Review Commission on Athletic Training (JRC-AT) candidacy programs or institutions that offer the internship route?
3. Are head ATCs distinguishing among direct supervision of clinical-education experiences, supervision of field experiences, and unsupervised experiences?
4. Are athletic training students receiving the appropriate type and amount of supervision during clinical education?
5. Are athletic training students being misused to help meet the recommended athletic medical care coverage guidelines established by the NATA task force?

METHODS

Subjects

Subjects consisted of a stratified sample of 261 head ATCs representing National Collegiate Athletic Association Division I (107 ATCs), II (64 ATCs), and III (90 ATCs) institutions. This listing was obtained from National Collegiate Directories, Inc (Cleveland, OH), and provided the e-mail and postal service addresses of every NCAA head ATC.

Instrumentation

We designed a 21-item online survey instrument containing closed-ended questions for the specific research questions in this study. The instrument consisted of 3 sections. The first section concerned education program and athletic program demographics (ie, status of the athletic training program, number of athletes, number of sports, number of athletic training students). The second section concerned athletic training student

clinical education (ie, number of athletic training students certified in cardiopulmonary resuscitation [CPR] and first aid and educated on disease transmission; percentage of time students spent in clinical supervision, supervised field experience, and unsupervised experience per NATA Education Council definitions). The third section concerned ATC health care coverage (ie, team practices, home athletic events, and team travel for specific moderate- and increased-risk sports). Content validity was established through committee review. We conducted a pilot study of the instrument with 8 ATCs to further validate its content and make sure that its presentation was clear and the computer software program was operating correctly. Revisions of the instrument were made accordingly. Because data analyses focused on single items that addressed single concepts, internal consistency measures were not deemed appropriate.

Procedures

We received institutional review board approval before conducting this study. A cover letter, which explained the purpose of and the need for the research project, was e-mailed to the selected head ATCs. The subjects were free to assign a more informed designee to complete the survey. The respondents were instructed to e-mail the researchers back if they were willing to participate in the study. The uniform resource locator (URL) address to complete the survey online was returned to those head ATCs. We followed up with all nonrespondents.

Data Analysis

Data analyses consisted of descriptive statistics, trend analysis, and nonparametric Pearson chi square. Frequencies and percentages were calculated for each question. Not all questions had responses; therefore, data analyses were based on the responses for that particular question. Chi-square analyses were completed to examine associations in the responses to questions in section 2 of the instrument (eg, number of athletic training students certified in CPR and first aid and educated on disease transmission; amount of direct clinical supervision, supervised field experience, and unsupervised experience) and the type or status of the athletic training education program, the NCAA division affiliation, and whether the institution had football. Responses to the demographic questions from section 1 of the instrument (eg, number of ATCs, number of student-athletes, number of sports, number of athletic training students) were divided into quartiles according to the distribution. Differences between the upper and lower quartiles of these responses and the questions in section 2 of the instrument were analyzed. Chi-square analyses were also completed to explore associations among section 3 questions regarding ATCs' response to moderate- and increased-risk sports within 4 minutes and the NCAA division affiliation and status of the athletic training education program. A trend analysis was performed to reveal the mean percentage of time freshman, sophomore, junior, and senior athletic training students spent in direct clinical supervision, supervised field experience, and unsupervised experience. For this trend analysis, the Mauchly test of sphericity was used to determine a violation within the data, and the correction factor, the Huynh-Feldt test, was used in the event of a violation. The alpha level was set at .05. The target sample size of respondents from each of the NCAA division

Table 1. Demographic Data*

Variable	Frequency	Percentage
NCAA Division (n = 92)		
I	28	30.4
II	34	37.0
III	30	32.6
Status of program (n = 89)		
Accredited	34	38.2
Candidacy	20	22.5
Internship	35	39.3
Number of staff ATCs (n = 93)		
1–2	25	26.8
3–4	34	36.6
5–7	19	20.4
8–10	9	9.7
11–12	3	3.2
13–14	2	2.2
15+	1	1.1
Number of athletic training students (n = 92)		
1–10	33	35.9
11–20	29	31.5
21–30	20	21.7
31–40	9	9.8
40+	1	1.1
Number of sports (n = 93)		
1–10	4	4.3
11–15	38	40.9
16–20	32	34.4
21–25	14	15.0
26+	5	5.4
Number of athletes (n = 93)		
0–150	5	5.4
151–300	31	33.3
301–450	33	35.5
451–600	16	17.2
601–750	6	6.4
751–900	1	1.1
901+	1	1.1
Football (n = 93)		
Yes	66	71.0
No	27	29.0

* NCAA indicates National Collegiate Athletic Association; ATCs, certified athletic trainers.

affiliations was 30, which yields a power of .92 for detecting a large effect. The Statistical Package for the Social Sciences (version 10.1, SPSS, Inc, Chicago, IL) was used to analyze the data.

RESULTS

Demographics

A total of 93 NCAA Division I, II, and III head athletic trainers responded to the survey, for a response rate of 35.6%.

Table 3. Reported Student Activities Allowed by Head Athletic Trainers Who Authorize Unsupervised Experience*

Coverage for strength and conditioning workout	29 (39.2)
Individual skill session	26 (35.1)
Informal summer workouts	13 (17.6)
Home athletic events	4 (5.4)
Team practices	54 (73.0)
All coverage during team travel	51 (68.9)

*Values are number (percentage).

Academic institutions from all areas of the United States were represented, of which 28 (30.4%) were Division I, 34 (37.0%) were Division II, and 30 (32.6%) were Division III. One respondent did not report the NCAA division and was not included in data analyses relative to NCAA division. Regarding the type or status of the athletic training education program, 34 (38.2%) were accredited athletic training education programs, 20 (22.5%) were in JRC-AT candidacy, and 35 (39.3%) offered the internship route. Four respondents did not report the type or status of their athletic training education program and were not included in data analyses relative to type or status of education program. Demographic characteristics of the respondents are seen in Table 1.

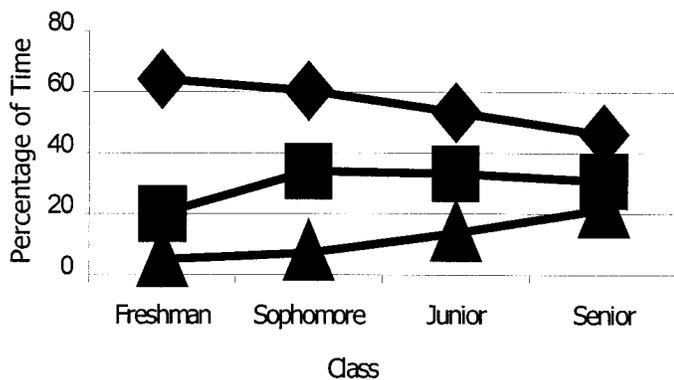
Athletic Training Student Clinical Education

Seventy-seven (83.7%) of the head ATCs indicated that their athletic training students were CPR certified, first-aid certified, and educated in the prevention of disease transmission. Of the 16 head ATCs (16.3%) who indicated that their athletic training students did not possess all 3 qualifications, 9 (56.3%) reported that 20% or fewer of their students did not have all 3 qualifications, 4 (25%) reported that 21% to 40% of their students did not possess all 3 qualifications, and 3 (18.8%) reported that 41% or more of their athletic training students did not possess all 3 qualifications. In the programs and internship routes in which students did not possess all of these first-responder qualifications, 15 (100%) of the head ATCs indicated that fewer than 20% of those students were permitted to cover team practices, and 14 (87.5%) indicated that fewer than 20% of those students without all 3 qualifications were permitted to cover athletic events without the direct supervision of an ATC. Fifty-five (59.8%) of the head ATCs indicated that athletic training students were permitted to provide medical care and athletic training duties (eg, modalities, rehabilitation) without the direct clinical supervision of an ATC (Table 2). Sixty (65.2%) of the head athletic trainers indicated that they allowed athletic training students to cover athletic events and practices as supervised field experience. Thirty-two (34.8%) head ATCs indicated that they do not allow athletic training students to have experiences with athletic events and practices without direct clinical supervision (Table 3). Twenty-seven (29.3%) of the head ATCs indicated that state practices limited the health care athletic training students can provide without direct clinical supervision or clinical supervision.

Table 2. Head Athletic Trainers Reporting Student Time Spent in Unsupervised Activities and Supervised Field Experiences*

	≤20%	21–40%	41–60%	61–80%	81–100%
Unsupervised activities beyond first-responder role	10 (17.2)	7 (12.1)	2 (3.4)	19 (32.8)	20 (34.5)
Supervised field experience	29 (48.3)	11 (18.3)	16 (26.7)	4 (6.7)	0 (0)

*Values are number (percentage).



Percentage of time athletic training students spent in direct supervision, supervised field experience, and unsupervised experience. ♦ = Direct clinical supervision; ■ = Supervised field experience; ▲ = Unsupervised experience.

Table 4. Mean Percentage of Time Spent in Supervised and Unsupervised Activities

	Direct Clinical Supervision	Supervised Field Experience	Unsupervised Experience
Freshmen	64.1	20.08	5.0
Sophomores	60.4	33.9	7.3
Juniors	53.3	33.2	13.7
Seniors	46.0	30.8	21.6

Thirty-eight (41.3%) indicated that there were no state practices that limit the health care athletic training students can provide, and 27 (29.3%) were unsure about their state laws regarding the health care coverage athletic training students can provide.

Chi-square analyses revealed an association between institutions that have football and whether or not they allow athletic training students to cover home athletic events unsupervised. Those institutions that have football were less likely to have athletic training students unsupervised for home athletic event coverage ($X^2_1 = 4.15, P = .04$).

Chi-square analyses revealed a significant association between the type or status of the athletic training education program and whether the athletic training students were CPR and first-aid certified and educated on the prevention of disease transmission. Athletic training students at accredited athletic

training education programs were more likely to possess these qualifications, and more athletic training students in the internship route did not possess these qualifications ($X^2_2 = 11.20, P = .004$). A significant association was noted between the NCAA division affiliation and whether athletic training students covered individual skill sessions and informal summer workouts unsupervised. Division I head ATCs more often allowed athletic training students to cover individual skill sessions ($X^2_2 = 14.41, P = .001$) and informal summer workouts unsupervised ($X^2_2 = 6.18, P = .04$). No significant association was shown among the type or status of the education program, number of ATCs on staff and number of student-athletes, number of sports, and number of athletic training students and the type and amount of clinical supervision.

A decreasing linear trend was found through class standing with respect to the percentage of time spent in direct clinical supervision ($F_{1,71} = 16.61, P = .001$). As seen in the Figure, quadratic trends were identified with respect to the amount of time in supervised field experience ($F_{1,67} = 10.04, P = .002$) and unsupervised experience ($F_{1,62} = 12.02, P = .001$) (Table 4).

Certified Athletic Trainer Medical Care Coverage

Certified athletic trainer coverage for team practices, home athletic events, and team travel varied by sport. An ATC most often covered home athletic events for both the moderate- and increased-risk sports (Tables 5 and 6).⁶

Seventy-five of the head ATCs (84.3%) indicated that if an ATC was not physically present during the practices or games, one would be able to respond to 81% to 100% of the moderate-risk sports within 4 minutes. Seven (7.9%) indicated that an ATC would be able to respond within 4 minutes to 61% to 80% of the moderate-risk sports, and 7 (8.8%) indicated that an ATC could respond to less than 60% of the moderate-risk sports. Regarding increased-risk sports, 76 of the head ATCs (81.7%) indicated that if an ATC was not physically present during the practices or games, one would be able to respond to 81% to 100% of the increased-risk sports within 4 minutes. Five (5.9%) indicated that an ATC would be able to respond within 4 minutes for 61% to 80% of the increased-risk sports and 4 (4.7%) to less than 60% of the increased-risk sports. Chi-square analyses revealed that athletic training education programs that are accredited or in candidacy were more likely to respond to 81% to 100% of the moderate-risk sports within

Table 5. Certified Athletic Trainer Coverage of Moderate-Risk Sports*

Sport	Frequency (n = 93)	Team Practice	Home Events	Athletic Team Travel
Baseball	81 (87.1)	48 (59.3)	79 (97.5)	23 (28.4)
Women's basketball	93 (100.0)	71 (76.3)	93 (100.0)	53 (57.0)
Cross-country	86 (92.5)	5 (5.8)	71 (82.6)	5 (5.81)
Field hockey	16 (17.2)	9 (56.3)	15 (93.8)	5 (31.3)
Women's ice hockey	9 (9.7)	8 (88.9)	9 (100.0)	6 (66.7)
Women's lacrosse	17 (18.3)	11 (64.7)	17 (100.0)	5 (29.41)
Women's soccer	82 (88.2)	48 (58.4)	80 (97.6)	31 (37.8)
Swimming and diving	46 (49.5)	3 (6.5)	42 (91.3)	2 (4.4)
Tennis	83 (89.2)	4 (4.8)	46 (55.4)	2 (2.4)
Indoor track	64 (68.8)	14 (21.9)	44 (68.8)	7 (10.9)
Outdoor track	71 (76.3)	19 (26.8)	60 (84.5)	8 (11.3)
Women's volleyball	87 (93.5)	46 (52.9)	82 (94)	23 (26.4)
Water polo	4 (4.3)	0	2 (50.0)	0

*Values are number (percentage).

Table 6. Certified Athletic Trainer Coverage for Increased-Risk Sports*

Sport	Frequency (n = 93)	Team Practice	Home Events	Athletic Team Travel
Men's basketball	93 (100.0)	72 (77.4)	93 (100.0)	52 (55.9)
Cheerleading	61 (65.6)	5 (82.0)	41 (67.2)	7 (11.5)
Football	66 (71.0)	64 (97.0)	66 (100.0)	65 (98.5)
Gymnastics	12 (12.9)	8 (66.7)	12 (100.0)	7 (58.3)
Men's ice hockey	12 (12.9)	12 (100.0)	13 (100.0)	9 (75.0)
Men's lacrosse	12 (12.9)	11 (97.1)	12 (100.0)	5 (41.7)
Skiing	3 (3.2)	0	2 (66.7)	0
Men's soccer	64 (68.8)	42 (65.6)	64 (100.0)	21 (32.8)
Wrestling	22 (23.7)	13 (59.1)	21 (95.5)	6 (27.3)

*Values are number (percentage).

4 minutes or less, compared with the internship route ($X^2_8 = 16.11, P = .04$). There was no difference regarding increased-risk sports.

DISCUSSION

Our results suggest that athletic training students are receiving the same type and amount of clinical supervision, no matter the NCAA division affiliation or the status of the athletic training education program at the institution. However, we could only generally determine the appropriateness of clinical education through the type and amount of clinical supervision. Accredited and nonaccredited institutions apparently provide the same supervision, but the quality of that supervision in which there is a “student” and “instructor” relationship was not determined. For example, ATCs at accredited institutions may provide more instruction during clinical supervision than those at nonaccredited institutions.

One would expect to find that athletic training students in the freshman class received more direct clinical supervision than those students in the senior class. One would also expect to find that students in the senior class were given more time in supervised field experience than freshmen. As the education of athletic training students progresses from their freshman to senior years, they acquire more knowledge through the athletic training curriculum and more skills through the clinical experiences. Our results support these notions. Freshman and sophomore athletic training students completed more directly supervised clinical-education experiences. Junior and senior athletic training students more often completed field experiences that were less supervised, likely because of their additional knowledge and experience. Head ATCs reported that unsupervised experiences were more often completed by junior and senior athletic training students. Previous research⁴ indicates, however, that the unavailability of the supervisor leads to missed learning opportunities for students. Students need frequent feedback on their clinical performance and want to be included more often in the application of clinical skills.

Certainly anything beyond first-responder duties during unsupervised experiences is never appropriate with regard to clinical education.¹ Rather high percentages of head ATCs indicated that some of their athletic training students were unsupervised during practices (73.0%) and during out-of-town travel with a team (68.9%). It is extremely important that these students complete first-responder duties only. Although all but 1 head ATC indicated that their athletic training students were not permitted to be unsupervised without first-responder qualifications, most (59.8%) permitted these students to provide

athletic training responsibilities (eg, modalities, rehabilitation) without supervision.

Consistent ATC monitoring of injury records, update reports, etc, completed by these students becomes particularly imperative. As a class, freshmen spent an average of 5.0% (SD = 14.3) of their time in unsupervised experiences; sophomores, 7.3% (SD = 10.0); juniors, 13.7% (SD = 13.8); and seniors, 21.6% (SD = 21.6). We feel that head ATCs are distinguishing among direct clinical supervision, supervised field experience, and unsupervised experience. However, athletic training students completing unsupervised experience are not receiving appropriate clinical education.^{1,7} Certainly, though, until athletic department athletic training staffs are large enough, appropriate supervision of athletic training students in the college and university clinical setting will be difficult. The only way to correct this situation is to either increase the number of ATCs on staff who function as clinical instructors or reduce the number of athletic training students in clinical education. Furthermore, because nearly one third of the head ATCs (29.3%) were not familiar with the athletic training practice acts in their states, it would behoove them to learn this information because they may be in violation of the law regarding those students who are completing unsupervised experiences.

A nonparticipant observation study⁸ regarding supervision of baccalaureate nursing students also demonstrated that clinical supervision needs improvement. Researchers studied influences on student learning at the clinical site and observed that 75% of student time in the clinical-practicum experience was unsupervised. The researchers drew several conclusions:

1. Learning that occurred in clinical-practicum courses was largely unguided.
2. Students provided a service to the clinical agency (albeit a small one) and received scanty input from staff in return.
3. Without the support of staff, clinical instructors must focus more attention on the needs of patients and less on students.
4. Responsibility for patient care in several areas of the institution (with little day-to-day continuity) constituted questionably safe practice.
5. When student time is devoted to the independent provision of patient care, the opportunity to observe expert nursing practice is limited.
6. Time is not the equivalent of quality education in a clinical-practicum course.

These same problems are certainly known to confront athletic training students and educators alike. In another study,⁹

the views of students at a school of physiotherapy regarding clinical experiences were collected using qualitative approaches such as diaries, interviews, and questionnaires. The motivation and enthusiasm of the students were shown to be decreased or enhanced through the feedback they received and depended on whether the focus was on education rather than on service. There was resentment among the students about placements that they perceived as just using them to reduce patient waiting lists. During these placements, the staff did not have enough time to arrange a suitable learning environment for students. In these situations, they became “another pair of hands.” Students were often treated as junior members of staff, and there was little, if any, time available for critical reflection. Students therefore became bored and concentrated on the process of “getting the job done,” developing strategies to get them through the day. For example, they realized that regularly discharging patients would be judged as getting the work done; therefore, they would be seen in a more favorable light by the clinical educator. The danger in this situation is that students may learn to “fit in” to whatever seems to be expedient at the time and meet the expectations of those with whom they work, especially those in authority. Throughout the diaries, interviews, and questionnaires, the underlying need of the students to know how well they were doing was evident. Students learn not only from their mistakes but also from their successes, so long as they know when they are successful.¹⁰

Some clinical educators in this case study were unable to give the right quantity or quality of feedback, which is reported to be one of the main reasons that adult learning fails.¹⁰ In placements in which students felt the organization was poor or they received little supervision or feedback, their perception of the value of the clinical experience was mainly that of professional service. However, during this service time, students are socialized into the profession in which they acquire the group’s values and attitudes, interests, skills, and knowledge.¹¹ Although socialization is an important aspect of professional development, it may not be directed toward the student’s learning and understanding.¹² Without the appropriate clinical supervision, such as that identified in this study, athletic training students may also sometimes feel that they are being socialized into the profession rather than receiving clinical instruction.

Although our results revealed gaps in the students’ clinical supervision required in athletic training educational programs accredited by CAAHEP,¹ students overall were not being misused to comply with the current recommended medical care coverage guidelines established by the NATA task force.⁶ It appears that students in the CAAHEP-accredited programs were not having to take the lead role in meeting the health care needs of athletes. The task force recommendations stated that sports with moderate risk should have an ATC on site or able to respond to the site of the athletic event or practice within 4 minutes; sports with increased risk should have an ATC physically present at all times.^{6,13} Head ATCs reported that athletic training students were providing small amounts of unsupervised coverage in both of these situations (less than 8.0% and 5.0%, respectively). Certainly the clinical education of athletic training students should not be compromised to provide medical coverage. If an athletic training student is at a moderate-risk sport practice without supervision and an ATC is unable to respond to an emergency at that practice within 4 minutes, the athletic training student may be put in a situation that he or she is unable to handle and, consequently, put the welfare and well-being of the injured student-athlete in jeopardy.

The outcome could have negative ramifications for both the athletic training education program and the athletic department. Curiously, accredited athletic training programs and those in candidacy were more likely to respond to the moderate-risk sports within 4 minutes or less, compared with the internship route. Also, those institutions with football programs were less likely to have athletic training students unsupervised for home athletic-event coverage. However, athletic training students in Division I institutions covered informal summer workouts and individual skill sessions without clinical supervision more often than the other NCAA divisions. This may be due to the longer skill-instruction sessions and non-traditional seasons that are more common in Division I universities. Nonetheless, the results do suggest that Division I institutions are more likely to misuse athletic training students during their clinical education in order to provide this coverage.

The internship route has been viewed as the weak link in professional preparation in athletic training and has impeded licensure efforts needed to protect the profession and the public those athletic trainers serve.¹⁴ Accreditation is considered the gold standard and is consistent with other allied health care preparation programs. Accreditation is believed to lead to a consistency in the level of instruction, which results in a higher standard of professional care.^{14–16} Our results revealed that athletic training students at accredited athletic training education programs were more likely to possess CPR certification, first-aid certification, and education on the prevention of disease transmission compared with athletic training students in the internship route. As these results attest, the accredited programs offered more clinical-education opportunities, expectations, or requirements in terms of CPR and first-aid certifications and education on the prevention of disease transmission for athletic training students. Therefore, the athletic training students in these education programs are more appropriately trained to apply the skills of a first responder. These skills are particularly important during periods of reduced clinical supervision and for professional-preparation experience.

Our findings should be interpreted cautiously. It is plausible that the head ATCs responded to the questions the way they were “supposed to,” rather than providing valid information about the supervision of their athletic training students. Head ATCs may be supervising one way but responding to the questionnaire another way. This may result from their awareness of the important requirements today regarding supervision during clinical education. They may be reporting what is expected rather than how they actually supervise athletic training students. In the future, this research should include the perceptions of clinical supervision among athletic training students, which may differ from those of the head ATCs. Furthermore, clinical supervision of athletic training students in different settings (eg, high school and clinic) warrants investigation. Nonparticipant observation research methods should be employed for these studies. This study should be repeated after a 5-year period to note any changes in the type and amount of clinical supervision in athletic training education programs.

CONCLUSIONS

The results of this study suggest that the clinical supervision of athletic training students at colleges and universities needs improvement. Medical care coverage beyond that of a first responder is provided by unsupervised athletic training stu-

dents on a fairly regular basis. This unsupervised coverage is provided more often by senior athletic training students and typically not during moderate- and increased-risk sports. Athletic training students are appropriately receiving more or less direct clinical supervision, depending on their class standing. Division I programs particularly need to be more aware of the use of athletic training students. More educational requirements and expectations exist for those athletic training students in accredited athletic training education programs in terms of first-responder certifications. The type and amount of clinical supervision among accredited and nonaccredited programs were not associated. Our results of this study are intended to enhance the education of athletic training students by providing information to make clinical instructors, ATCs, and athletic directors at colleges and universities more aware of the extent to which they use athletic training students beyond appropriate clinical supervision and beyond the scope of clinical education.

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