Multistakeholder Perspectives on the Transition to a Graduate-Level Athletic Training Educational Model

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Context: The decision has been made to move away from the traditional bachelor's degree professional program to a master's degree professional program. Little is known about the perceptions about this transition from those involved with education.

Objective: To examine multiple stakeholders' perspectives within athletic training education on the effect that a change to graduate-level education could have on the profession and the educational and professional development of the athletic trainer.

Design: Qualitative study.

Setting: Web-based survey.

Patients or Other Participants: A total of 18 athletic training students (6 men, 12 women; age = 24 ± 5 years), 17 athletic training faculty (6 men, 9 women, 2 unspecified; 7 program directors, 5 faculty members, 3 clinical coordinators, 2 unidentified; age = 45 ± 8 years), and 15 preceptors (7 men, 7 women, 1 unspecified; age = 34 ± 7 years) completed the study.

Data Collection and Analysis: Participants completed a structured Web-based questionnaire. Each cohort responded to questions matching their roles within an athletic training program. Data were analyzed following a general inductive process. Member checks, multiple-analyst triangulation, and peer review established credibility.

Results: Thirty-one (62%) participants supported the transition, 14 (28%) were opposed, and 5 (10%) were neutral or undecided. Advantages of and support for transitioning and disadvantages of and against transitioning emerged. The first higher-order theme, *advantages*, revealed 4 benefits: (1) alignment of athletic training with other health care professions, (2) advanced coursework and curriculum delivery, (3) improved student and professional retention, and (4) student maturity. The second higher-order theme, *disadvantages*, was defined by 3 factors: (1) limited time for autonomous practice, (2) financial concerns, and (3) lack of evidence for the transition.

Conclusions: Athletic training students, faculty, and preceptors demonstrated moderate support for a transition to the graduate-level model. Factors supporting the move were comparable with those detailed in a recent document on professional education in athletic training presented to the National Athletic Trainers' Association Board of Directors. The concerns about and reasons against a move have been discussed by those in the profession.

Key Words: educational reform, evidence, reputation

Key Points

- Perceived advantages of moving to a graduate-level degree include student maturity, improved retention, and increased professional respect.
- Beliefs about the best educational model are mixed among athletic trainers.
- The perceived disadvantages of a transition include cost, limited chances for autonomy, and a paucity of documented benefits.

Discussions about the most appropriate degree for professional preparation as an athletic trainer (AT) have ebbed and flowed over the past 2 decades without much action. The most recent debate centers on the move away from the traditional bachelor's degree professional program (333 programs to date)¹ to a master's degree program. (We conducted our study before the 2015 decision was made to establish the master's as the professional athletic training degree.) In athletic training, a master's degree was added in the early 1990s, and to date, 27 programs are awarding professional degrees at the master's degree level.¹ Fundamentally, no differences exist between the 2 professional programs, as they are both designated to deliver the same knowledge, skills, and abilities based on the Commission on Accreditation of Athletic Training Education (CAATE) standards² and lead to eligibility to sit

for the Board of Certification (BOC) examination, yet they award different degree levels. The heightened discussions over preparing students for professional practice in athletic training appear to mirror current trends because many health professionals, such as physical therapists, occupational therapists, and most physician assistants, receive training at the graduate level. Whereas no action has been taken, the discourse continues formally and informally about the next step for athletic training.

The dichotomy between the best options for professional education of ATs is apparent; members of the profession continue to write editorials and to dialogue, and the National Athletic Trainers' Association (NATA) Executive Committee for Education has published a commentary.³ Moreover, debate continues among many stakeholders within the profession, which is evident from the educational

forums hosted by the Executive Committee for Education and the informal and formal surveys on perceptions of the best degree program. William Prentice, PhD, PT, ATC, FNATA (written communication, June 5, 2014), released findings from his informal Web-based survey regarding ATs' perceptions on the possible move to graduate-level education. The e-mail survey was designed to obtain ATs' reactions to the possible change and to be an open format for people to share their beliefs. Before his informal survey, others^{4,5} had shared editorials about the advantages and disadvantages of graduate-level education. As many were commentaries, however, the information provided was often directed toward one opinion over another.

In December 2013, the NATA Board of Directors was presented with the findings of a working group charged with examining professional education in athletic training.³ The document was to be unbiased and provide the findings the group collected. Recommendations were based on a review of the existing data. This document has been referred to as the *white paper*³ throughout the profession because it highlights the group's recommendations for the most appropriate professional degree given to ATs. We also refer to the document as the *white paper* throughout this article. The hope is that the information presented in the *white paper*³ will help CAATE determine the best educational model to position ATs to provide optimal, positive patient outcomes and safeguard the longevity of the profession.³ The debate will center on the transition of the current undergraduate structure to a postbaccalaureate model. As Pitney⁴ suggested, the move can have positive and negative implications for the profession and the development of future ATs. The implications, however, have not been explored fully.

Professional retention has emerged as problematic within professional bachelor's degree (PB) athletic training programs (ATPs), mostly because the degree can be viewed as a stepping stone toward another professional degree.^{6,7} Limited information exists on the retention differences between PB ATPs and professional master's degree (PM) ATPs, but PB ATPs have lower retention rates and lower athletic training career-placement rates than PM ATPs.⁸ This observation was noted in the *white paper*³ and is one area in which evidence supports a transition. Potential reasons for the retention differences are the PB students' discovery that the athletic training profession is not appropriate for them,⁶ whereas the PM student selects the ATP because of a commitment to a career in athletic training.⁹ The PB ATP provides a suitable educational degree for the move to a graduate-level degree, such as physical therapy, physician assistant, or medical school.⁷

Retention factors are only some of the considerations when determining the best degree to award athletic trainers. Economic effects on students, qualifications of faculty, and disbanding of existing ATPs are negative ramifications of the transition to a PM model.⁴ Most negative feedback comes from the loss of graduate-assistant positions,⁴ as many colleges and high schools use this position to staff their sports medicine departments; ATs in this role learn autonomous practice while being mentored appropriately. Improving professional preparation, selection, and retention of highly qualified students and aligning athletic training educational preparation with peer health care professions are positive aspects of the move toward the PM model.⁴ As

the debate continues and as CAATE, with input from the supporting stakeholders, investigates the best model, having the perspectives and opinions of those who will be affected by the educational reform is important. To this point, their perspectives have not been investigated empirically. Gaining their perspectives is necessary as, in the end, they are the athletic training stakeholders whom the educational reform will affect. Therefore, the purpose of our study was to examine the perspectives of multiple stakeholders within athletic training education on the effect that a change to graduate-level education could have on the profession and the educational and professional development of ATs.

METHODS

Research Design

We used a basic interpretive¹⁰ qualitative study design following the asynchronous interviewing approach and a multiple case-study design to evaluate our study's purpose. The qualitative paradigm allows the researcher to holistically investigate a phenomenon within its real-life context and to understand the meaning of a situation. In this case, we tried to understand the perceptions of various stakeholders involved in the transition from a bachelor's degree to a master's degree offering. We used a basic inductive approach to identify common patterns within the data as they related to the potential transition to a graduate-education model. Finally, we selected the Web-based, asynchronous method to enhance anonymity for our participants because the topic of educational reform is personal and sensitive in the profession.

Participant Recruitment

We purposefully recruited potential participants from a representative sample of professional ATPs ($n = 14$). The sample included participants from large state and research-intensive schools, small private and public liberal arts schools, and institutions that were classified in the middle. Each selected school was paired with a similar school to ensure homogeneity of the findings, such as program type (PM and PB) or institution level (research intensive and liberal arts). The institutions that we recruited were accredited by CAATE (range, 9–19 years). Eleven schools offered undergraduate degree programs, and the remaining schools awarded a PM. The lead researchers (S.M.M. and T.G.B.) contacted the program directors of each identified institution to obtain contact information for potential participants, including preceptors, students, and athletic training faculty. Given our qualitative design, we opted to study a small sample of contacts to provide a manageable data set for evaluating our purpose. Each program director supplied the names and e-mail addresses for 1 athletic training faculty member, 2 preceptors (1 on campus and 1 off campus), and 2 students of different levels (eg, junior, senior).

Participants

A total of 18 athletic training students (6 men, 12 women; age = 24 ± 5 years) completed the study. Of the 16 students who indicated the type of ATP in which they were

enrolled, 10 (62.5%) were enrolled in PB ATPs (3 juniors, 7 seniors) and 6 (37.5%) were in PM ATPs (3 first-year students, 3 second-year students). Half of our student participants (50%, $n = 9$) had not read the white paper,³ 27.8% ($n = 5$) had read the document, 11.1% ($n = 2$) were unsure or unaware of the document, and 11.1% ($n = 2$) had read part of it. Of our 18 participants, 7 (38.9%) indicated that they would have pursued a different degree program or career path if the current path to certification for ATs had been at the graduate level. All students who indicated a different career path were enrolled in PB ATPs.

Seventeen athletic training faculty completed the study (7 program directors, 5 faculty members, 3 clinical coordinators, 2 unidentified; 6 men, 9 women, 2 unspecified; age = 45 ± 8 years). The faculty had been in their current positions for 7.0 ± 6.5 years and had been athletic training faculty for 14.5 ± 6.0 years. Most ($n = 15$, 93.3%) had earned a terminal degree, and 6 participants (35.3%) had experience working in a PM ATP. The majority of participants ($n = 14$, 82.4%) had read the white paper³ on professional education in athletic training.

Fifteen preceptors completed the study (7 men, 7 women, 1 unspecified; age = 34 ± 7 years). The preceptors were employed in either a college ($n = 13$) or secondary school ($n = 2$) setting, had been ATs for 11 ± 7 years, and had 9 ± 5 years of experience as preceptors. Three (20%) preceptors were currently supervising students in a PM ATP. Seven (46.7%) of the preceptors had read the white paper,³ 3 (20%) had read a portion of the document, and 4 (26.7%) had not read any of the document. Recruitment began when we secured institutional review board approval at the host institutions. Volunteers who opted to participate indicated informed consent by clicking on the link and completing the questionnaire.

Data-Collection Procedures

All participants completed a structured interview guide (Appendix), which we developed to address the primary purpose. Initially, participants were asked a series of background questions (eg, age, role within the program). After completing the background questions, they were asked a set of similar questions regarding the possible transition to PM education, including whether they had read the white paper.³ Each cohort of participants was asked a different set of questions that reflected their stakeholder role in athletic training education. The questions were initially developed during a brainstorming session between the primary authors over the telephone. Next, using our knowledge of the discussions about the transition, the information presented in the white paper,³ and available literature on educational reform in athletic training, we added questions to the interview protocol. A peer evaluated the instrument. Before recruitment and data collection, 3 stakeholders (1 from each subgroup: student, preceptor, faculty) completed the study to ensure content and fluidity of the data-collection process. No changes resulted from the pilot study, and the data were included in the final analysis.

The open-ended questions were stored on the QuestionPro (Seattle, WA) Web site. We selected asynchronous, Web-based interviewing to allow participants time to respond, to reduce the burden on participants of scheduling a one-on-one telephone interview, and to provide an

enhanced sense of confidentiality and anonymity.¹¹ An individual e-mail was sent directly to each participant from the host Web site, explaining the purpose of the study and steps for study completion. We sent a reminder e-mail approximately 10 days after the initial request to those who had not completed the survey and an additional request 10 days later. After 2 weeks had passed from the last reminder e-mail, we sent a final invitation to all those who had not completed the study. Recruitment of participants ceased when data saturation was reached. The data generated were downloaded for analysis directly from the Web site, reducing the possibility of error.

Data Analysis

Data were analyzed following a general inductive process borrowed from the principles described by Thomas.¹² We evaluated transcripts from each subgroup (students, preceptors, faculty) holistically by reading each thoroughly to gain a rich understanding of the data. Subsequent readings included a more specific attempt to capture and categorize the findings. We accomplished this by tagging textual data with labels within the transcripts that defined the underlying meaning. When commonalities were identified in the data, approximating data were grouped and categorized accordingly. Before analysis, we also used reflective journaling to reduce our biases as researchers while evaluating the data. In this process, we as researchers and athletic training educators identified our views on the advantages and disadvantages of the possible educational reform. We used the journal to provide reflexivity to the process, whereby we acknowledged our personal assumptions and preconceptions before engaging in the interviewing and data-analysis procedures. By combining this process with our other data-credibility strategies, we believe we were able to provide trustworthiness and rigor to the data and analysis.¹³

Data Credibility

We used member checks, multiple-analyst triangulation, and peer review to establish credibility within our study's findings. Member checks, a common technique used in qualitative research, can provide context and support to the data-analysis process. We recruited 3 participants (1 in each subgroup) to help complete the process. Each was given the initial coding sheets completed by the 2 lead investigators along with a presentation of the initial descriptions of the themes. Feedback was evaluated and considered when finalizing the presentation of the data. Multiple-analyst triangulation was selected, as prescribed by Yin,¹⁴ to help ground the data and promote truth to the findings. Two investigators (S.M.M., T.G.B.) independently coded the data following the procedures previously discussed. A similar process as outlined in the member-check description was completed to ensure consistency and agreement on the major themes found within the data. An independent researcher (W.A.P.), our peer, was the final step in the credibility process. The peer is an experienced researcher with knowledge and educational training in qualitative and case-study research methods and has used this method in published articles. The peer was not involved in the recruitment or data-collection procedures to avoid bias in the review of the data. Our peer review was completed before data collection, whereby he provided a review of the

Table 1. Support for Transitioning to Graduate-Level Education

Stakeholders	Yes	No	Undecided
Students (n = 18)	12	6	0
Preceptors (n = 15)	7	5	3
Athletic training faculty (n = 17)	12	3	2

interview questions, and we used his feedback to clarify the questions and improve the flow. The second part of the peer review was completed after the multiple-analyst triangulation process. The peer confirmed the findings of the analysis and supported the presentation of those findings.

RESULTS

Fifty participants completed our study. Examination of the appropriate professional degree to award an AT is complex, and the final decision will ultimately satisfy some but upset others within the profession. Evidence is driving a large portion of the decision for transition, yet limited understanding is available as to certain stakeholders' perceptions. Thirty-one participants (62%) were in support or favor of the transition, 14 (28%) were opposed, and 5 (10%) were neutral or undecided. We provide the breakdown in responses per stakeholder group in Table 1.

It is interesting that only 6 (33.3%) of the 18 students stated that they would not have pursued athletic training if the degree had been at the master's level. Thirteen students (72.2%) believed a transition to master's degree education would improve student commitment to the athletic training profession. The athletic training faculty identified the greatest challenges the transition could pose as financial (n = 6, 35.3%) and institutional support (n = 4, 23.5%). Additional personnel (n = 8, 47.0%) would be the most important resource for the transition, followed by financial resources (n = 5, 29.4%). Eighteen of 50 participants (36.0%) believed the transition would improve student commitment to the profession. Five athletic training faculty members had experience (range, 5–34 years) working in a PM model; of those, 2 were against a change mostly due to salary concerns for ATs, and 1 was neutral. Ten preceptors (66.7%) believed transitioning to master's degree education for entry-level clinicians would improve student commitment to the profession, whereas 9 (60.0%) believed the transition would improve student retention rates in programs due to a more rigorous selection process. One of the 3 preceptors who were currently working in a PM model were opposed to the transition mostly due to concerns about clinical independence.

Four reasons for supporting the transition to graduate-level education emerged among the 3 groups of participants (Table 2), whereas 3 opposing reasons materialized (Table 3). Our participants believed positive and negative

Table 3. Disadvantages of and Reasons Against the Transition to a Professional Master's Degree Model^a

Stakeholders	Autonomous Clinical Practice	Financial Concerns	No Evidence to Support Move
Students	15	13	9
Preceptors	13	7	7
Athletic training faculty	8	11	10

^a Indicates the subgroup of participants who acknowledged the disadvantages of the move and the number of participants who identified that issue.

implications could exist for a transition to a graduate-level education model. Those implications were intertwined into the reasons for moving or not moving the current educational model to the graduate level (Figure). Each reason is presented in the next section with supporting quotations. Tables 4 and 5 provide additional quotes to support each theme presented in the following section.

Advantages of and Support for the Transition to a PM Model

Alignment of Athletic Training With Other Health Care Professions. The *athletic training and health care* theme spoke to the comments of our participants that reflected current trends in health care education and respect that the change would bring within the community. Those favoring a transition to graduate-level education believed the change would reflect the current trend in health care education. One preceptor said: "I feel that in order to keep up with other allied health care professions, it [a change] is needed." A faculty member stated that "professional master's [degree] programs will align athletic trainers with other health care professionals." A student, comparable with the other stakeholders, commented, "[The change] will align athletic training education with other health care professions and add credibility to the degree earned."

Concerns about the understanding of and respect for the role of ATs in health care have been a focal point for the profession and emerged as a possible benefit and, thus, a reason to transition. Participants discussed the transition to a PM program as a way to promote increased respect within the health care community. For example, 1 student provided this reflection on the possible change: "Currently ATs are one of the few health care professionals who can practice with just a bachelor's degree." One athletic training faculty member simply noted that the transition will improve the profession's "national respect." Preceptors and students agreed on the positive effect the transition could have, as illustrated by 1 preceptor's comments:

Table 2. Advantages of and Reasons for Supporting the Transition to a Professional Master's Degree Model^a

Stakeholders	Alignment of Athletic Training With Other Health Care Professions	Advanced Coursework	Improved Retention	Student Maturity
Students	17	9	14	0
Preceptors	9	0	10	14
Athletic training faculty	17	9	14	13

^a Identifies the subgroup of participants who indicated each reason for the transition and the number of participants who identified that reason.

Figure. Reasons for and against the transition to a professional master's degree model.

I believe it will [be a benefit]. I think it can only help our profession. Making education uniform for all athletic trainers gives the profession a better reputation. The move to a graduate degree would help the profession become more recognized and respected.

A program director noted that the possible change was “hugely important for the profession,” and added: “We need to equal the playing field with other medical professions, we often let ourselves get thrown around; we need to be considered equals—this cannot be done with an undergrad[uate] program.” He continued, sharing his support: “Yes. I believe it sends a clear message to other health care providers and associates that athletic trainers are well-educated professionals.”

Many responses to an improved reputation were purely speculative, and participants realized that no evidence was available to support the claims of improved respect for athletic trainers.

Advanced Coursework and Curriculum Delivery. A perceived advantage and reason to support a move was that it allowed improved educational delivery and time to engage in more focused athletic training content. One supportive faculty member commented:

Yes, I am in favor. I believe that it will allow us as a profession to really rethink the model of how athletic training education should be delivered. If students come in to a program with the foundational knowledge and prerequisites, we could provide students more clinical immersion and thus better prepare students for clinical

practice, and it may also allow us to obtain and track more patient-outcome data.

An undergraduate student expressed similar reasons for supporting the transition to a PM program, as being able to complete general education requirements before focusing on content specific to athletic training can benefit learning and retention of material:

Yes, I am in favor of the change. I don't think undergrad[uate] programs have enough time with other general education classes to properly prepare students for the responsibilities of an athletic trainer.

Improving the general educational experience for the student was also discussed as a benefit of the transition to graduate-level education. One preceptor focused on the practical application of skill. Regarding the possibility of the change, she wrote: “Hopefully, more hands-on experience can be built into the educational program.” Preceptors who were in support believed the transition would allow for more time to develop clinical skills, as other learning would have been completed in their undergraduate studies. For example, 1 preceptor stated:

I think the advantage of the change will be you enter the profession more prepared to independently practice in the field. It allows for 2 more years of specialization and a broader knowledge base at the beginning of one's career.

Table 4. Advantages to and Support for a Transition to a Professional Master's Degree Model

Category	Response
Alignment of athletic training with other health care professions	<p>"I think in order to continue to be well-respected allied health care professionals, we need to progress our education, just as other allied health care professionals have done." (student)</p> <p>"I do believe this transition will elevate our reputation amongst others." (athletic training faculty)</p> <p>"I think that it will take a step forward in the profession and other health care professions will recognize us more because we will have more education and similar to what they have to practice professionally." (student)</p> <p>"This transition is very overdue, our profession needs the respectability of a graduate-level professional degree." (athletic training faculty)</p> <p>"All athletic trainers have same degree/education, which can lead to more respect for the profession." (preceptor)</p>
Advanced coursework and curriculum delivery	<p>"Yes, the size and scope of our curriculum has outgrown a traditional bachelor's degree. We can use the bachelor's to get all the pre-reqs [prerequisites] and gen-eds [general-education requirements] completed. But, the AT-specific material can happen in a 3-year DAT program. I strongly favor moving to a DAT program instead of a professional master's [degree]." (athletic training faculty)</p> <p>"I believe the advantages to a master's level education would be in the increase in knowledge and experience that athletic training students would get." (student)</p> <p>"[The change will allow for] more time to learn and develop skills." (preceptor)</p>
Improved student and professional retention	<p>"More students will complete the [graduate] program and be more likely to continue on as athletic trainers. The 4-year programs do not have as good of [a] completion rate and those who do complete it may use it as a stepping stone to other fields." (preceptor)</p> <p>"[Transitioning to a PM model] would certainly weed out the students who are not committed to the program and students who select the graduate-level program would be more certain on their decision in the profession, whereas most undergraduate students are still trying to find themselves as human beings in the world." (student)</p>
Student maturity	<p>"I think students, in the graduate model, will be more mature and prepared for clinical rotations. I think that would develop a better relationship with student, preceptor, and patient." (preceptor)</p> <p>"Hopefully those students who will pursue a master's [degree] will be those who want to make athletic training their primary career path (rather than using it as a stepping stone). [It will also bring a] more mature student, and possibly a higher quality student." (athletic training faculty)</p>

Abbreviations: AT, athletic training; DAT, doctor of athletic training; PM, professional master's degree.

The increased time to complete a degree program may affect student retention in a program, as well as the profession itself.

Improved Student and Professional Retention. Our participants shared that a benefit to a PM would be a more mature and committed student, creating another reason to transition. A clinical coordinator highlighted the positive aspect of the transition to a PM program as removing the stepping-stone mentality of some undergraduate students:

I think that obtaining a master's degree will be a fairly smooth transition. I also like the fact that we will (hopefully) only obtain students who want to make athletic training their primary career (rather than athletic training as a stepping stone to physical therapy).

A program director had similar concerns about retaining students in programs and the profession: "We need to stop being a feeder program for physical therapy and physician assistant programs; we need to stop the high attrition rate in the profession." Comparably, an undergraduate student noted: "Yes (I support it), it will also help eliminate those who chose to take the athletic training path to another health care career and separate the ones who really wish to do athletic training." A preceptor believed an advantage to the move was "that students entering a master's [degree] level program can be of higher caliber and will be more dedicated to their education and the field in general."

All participants believed a positive effect would be greater retention, as a senior athletic training student commented:

I think if a student is willing to commit 5 or 6 years to their education, even to be considered an entry-level professional, they are going to be more committed than an individual who is getting their degree in athletic training [and] then going on in another field for their postbaccalaureate degree. I don't think you'd see as many leave the profession, and while we may have less graduate[s] with a degree in athletic training, I think in the long run we would have more committed professionals to athletic training specifically and not getting degrees in other related fields (and don't get me wrong, those other fields are beneficial to the field as well!).

Student Maturity. As discussed earlier, participants also believed a positive, direct effect would be in the maturity of the students completing degree programs, as well as the increased commitment to their field. We observed this belief only among the athletic training faculty and preceptors. A clinical coordinator communicated her perspectives on the positive aspect of a move to the graduate level: "The student is older, an 'adult learner,' more focused and committed to the profession of athletic training. [This means] more mature and greater ability to

Table 5. Disadvantages to and Support Against a Transition to a Professional Master's Degree Model

Category	Response
Limited time for autonomous practice	<p>"Less actual work experience at the completion of a master's degree." (student)</p> <p>"I don't think it has been well thought out from an education perspective. I think students will lose valuable hands-on observation during their undergraduate degree and it will end up being a similar program to existing bachelor's degrees with watered-down content and extended time frames to earn a master's degree." (preceptor)</p> <p>"As graduate assistants, ATs are able to get a lot of clinical experience while getting their master's degree, and I feel that this will be harder in a professional master's program, especially with all the restrictions on athletic training students already this may be a clinical hindrance." (preceptor)</p> <p>"I feel as if there would not be enough time to have the student gain the clinical experience as well as the evaluation and rehabilitation knowledge that an undergraduate program can give a student." (athletic training faculty)</p> <p>"The proposed model has no advantage. Current model promotes independent development and additional experience." (student)</p> <p>"In the proposed [graduate] model, nothing [is advantageous]! In the current model, [students gain] independent experience." (student)</p>
Financial concerns	<p>"No I am not in favor of the change. . . . Other professions that did it have not seen the reported salary increase to offset the cost of the education (ie, PT, NPR)." (student)</p> <p>"No [not in support for the transition]. I think it adds unnecessary cost to the student for minimal, if any, benefit. I am not aware of any other profession that has made such a transition that has seen salaries rise proportionate to the increased cost of their education." (student)</p> <p>"I am not in favor for the transition to master's level education because I feel as if it will not benefit the profession. It will become more money for the students to have a desired outcome of [being an] athletic trainer. Along with more school, we as a profession will ask for more money for the same jobs there are now. While this seems like a good thing for the athletic trainers themselves, it does not benefit the target population we treat on a daily basis. It would be detrimental to our profession because as our profession pushes for legislature to require athletic trainers in secondary schools and other settings, those jobs become government jobs in that there will need to be a budget for them which is not there and then the pay for those jobs will not be what we want as a profession." (student)</p>
Lack of evidence for the transition	<p>"Unfortunately for right now, the PM model for AT, and the associated benefits with such a change, are more based on assumptions than grounded in evidence. The 'couldn't hurt' mentality is short-sighted without evaluating the true harm that might come from such a dramatic change." (athletic training faculty)</p> <p>"Of great concern to me is the manner in which this 'idea' has been presented to us via an 'a priori' White Paper that is poorly written, poorly supported and agenda/initiative driven. Further, having CAATE reps sell the concept to the profession represents a clear conflict of interest, and the other chief spokespeople from the Executive Committee for Education and Professional Education Committee have obvious biases towards the move as well." (athletic training faculty)</p> <p>"The white paper [is] a good start but more evidence based research is needed before a transition is mandated." (student)</p>

Abbreviations: AT, athletic trainer; CAATE, Commission on Accreditation of Athletic Training Education; NPR, nurse practitioner; PM, professional master's degree; PT, physical therapist.

synthesize, critically think, and make good decisions regarding patient care." One preceptor's comment summarized the positive implications of a move on the type of student: "a more mature [student]. [Meaning] more serious about their choice of career."

Disadvantages of and Support Against the Transition to a PM Model

Limited Time for Autonomous Practice. Concerns related to the amount of clinical experience gained in a PM program were discussed as a disadvantage and a reason not to move to graduate-level education. Specifically, participants voiced concerns about the development of independent thinkers who have been able to gain experience practicing clinically and making decisions. A student worried about a reduction in experiences, despite a longer time spent in school:

It will decrease autonomy for the athletic training student who will be in the same place for 6 years. Rotations and

graduate-assistant spots will stop, resulting in lack of coverage and putting out athletic trainers with little experience.

Questions pertaining to clinical independence surfaced among the preceptors as well. When asked about the possible transition, 1 preceptor noted, "I am concerned about the amount of clinical experience that the students will have." Preceptors appeared to be the group most concerned with the effect the transition could have on the clinical education aspect.

Another preceptor stated:

The more we limit exposure and decrease the years of education and clinical exposures, the less prepared I think the athletic trainer will be once certified and practicing. A master's [degree] level only perpetuates this, and we will have a market full of more educated clinicians with no real-world experience and no sense of what it is [like to work] as athletic trainers.

An athletic training faculty member also discussed her trepidation about the transition:

Currently, an identified problem in ATs [athletic trainers] who are entering the workforce as (postprofessional) graduate students is that they “can’t work,” meaning that these new ATs do not know how to practice independently. The graduate-student status of the PM does not equate to a graduate assistant working independently. What are the positive consequences of changing to a PM on the issues related to direct supervision, transition to practice, and autonomy as health care providers? In literally hundreds of interviews we’ve conducted over the years with potential graduate students trying to secure spots in postprofessional programs, the number-one answer given to the question “Why do you want to go to graduate school?” has consistently been “to get more clinical experience because I don’t feel confident yet working clinically on my own.” I do not see how the PM model will change this.

Gaining independence through clinical education was discussed as a limitation to the current educational framework, something several participants noted would spill over into the graduate-level model. More specifically, participants discussed the value of the graduate-assistant role, a position that would be eliminated with the move to graduate-level education.

Financial Concerns. Financial concerns reflected a student’s costs to attend graduate school, particularly with the removal of the graduate-assistant role. A current undergraduate athletic training student said the move would “eliminate graduate-assistant positions, that will in turn hurt clinical care for athletes and not allow athletic trainers the opportunity to get a master’s degree which can be paid for.” One preceptor shared concerns with the removal of the graduate assistantship in relation to the financial costs: “eliminating the graduate assistantships, the monetary disadvantage.” An athletic training faculty member was candid about what she believed to be a negative effect of a transition to the graduate-level model:

SERIOUS increased financial burden on students, especially those in private institutions. Thus considered, this provides a competitive market advantage (for recruiting students) to ALL the public schools that can provide “the same curriculum” at a much lower cost. In time, many private schools (several with top-notch, long-standing AT [athletic training] programs) will see their AT programs cut faculty and eventually drop their programs when student enrollments drop. Without significant and rapid salary increases in the profession, private school ATPs won’t have a chance to recruit potential AT students. State schools will prevail, REGARDLESS of quality.

The faculty member’s comments indicated an attempt to make the change and described her reflections that were associated with the choices. She explained:

I was leaning toward converting our program a few years ago (even mapped out the curriculum and changes

needed), but decided against it because of the increased costs that another year of required private college tuition and associated debt would place on young professionals, without any promised increase in salary or earnings. I just can’t sell another year in school for \$54K to parents, knowing full well that students will get out and make \$40–45K, with limited potential to exceed \$60K in a reasonable time period.

Institution type appeared to manifest as a main barrier to the transition when the costs were provided to the student, especially when factoring in private versus public institutions.

Many participants, largely the student subgroup, were concerned about the increased cost of educational training, which would not likely be recouped in salary. One student said, “No, I am not, in favor for the change.” The student’s reason was simple: “It will cause students to be in undergrad[uate programs] longer and spend more money for a profession that doesn’t have great starting salaries. This move will not guarantee salaries will go up.”

Preceptors and faculty also discussed the financial hardship the transition may place on students. One preceptor noted his rationale for seeing the change to graduate-level education as a disadvantage: “You are increasing the cost to become an AT, [a career] that doesn’t pay well enough as it is!” An athletic training faculty member pointed to “more money and time for students and this leading to lower recruitment and retention at our institutions.” The financial cost related to completing the educational component of becoming an AT was clearly a concern for the participants, as the cost to become an AT is not matched in eventual salary.

Lack of Evidence for the Transition. Given that the current educational model was viewed as effective or “good enough,” opposition to the change was rationalized. For example, 1 student said: “No, I am not in favor [of] the transition. We have more than enough knowledge with a bachelor’s [degree].” A preceptor also believed the knowledge gained in an undergraduate program was adequate and gave the following reason for not changing the educational model: “No, I am not supportive, because I believe you can successfully obtain the knowledge necessary during undergraduate studies.” Other students were against the move, and their reasons against it were primarily supported by the current educational structure.

Furthermore, many participants mentioned that evidence showing the need for or benefit of the move is lacking. Those in a decision-making capacity did not have solid evidence for the need to transition and acknowledged the lack of evidence to support a move in the white paper.³ An athletic training faculty member voiced apprehension about the lack of evidence that the transition will improve outcomes, salaries, and the profession’s overall stature in health care: “Most importantly, we don’t have any ‘good’ evidence to support that a professional master’s—Master of Science—will make any significant improvements.” Other educators were skeptical about the evidence for the move. A program director said, “It is needed in the long term, but I do not know if we fully have all of the evidence many people want to support the move.”

Whereas some participants applauded the white paper,³ others were extremely critical of the document, especially

the lack of evidence to support many of the findings. The most critical party was the faculty. One program director stated:

I thought that many of the statements were “pie in the sky” and unfounded by evidence. Too many assumptions [were] being made about what “could” happen without presenting any of the negative implications. Actually, from the standpoint of a researcher, I was very concerned about the number of assumptions made. EBP [evidence-based practice] is being pushed to the forefront of AT [athletic training] clinical practice, education, and research. Therefore, this skill set should also be influencing the decisions for the future educational models for our profession.

Preceptors and students were also critical of the document but to a lesser degree. One preceptor remarked that the white paper³

Appears to be very one sided and not a true representation of the profession as a whole. It seems to be a railroaded decision at this point, a decision made by the minority for the majority because they will benefit from the change. Meaning their programs will have a direct benefit should the change occur. It was a self-serving document.

Opposition to the PM model was apparent and focused on the missing rationale behind the move to the model.

DISCUSSION

Educational reform has occurred before in athletic training, as when the internship route to certification was eliminated and accreditation of educational programs was mandated in 2004. Now we are faced with a transition to a graduate-degree model as our means to deliver athletic training education. Professional discourse on the topic among various stakeholders appears to yield a dichotomy between those supporting and opposing the transition. The divide is evident, particularly as presented during a peer-to-peer discussion hosted at the NATA Annual Meeting and Clinical Symposia in June 2014, when these peers did not determine or agree upon the best educational model.

The white paper,³ which articulates and summarizes 11 key findings regarding the degree level for the entry-level AT, suggests that professional education should occur at the master's degree level. Our findings highlighted that a dichotomy does exist between those who support and those who oppose the move as recommended in the white paper.³ Specifically, our findings were consistent with the white paper's³ findings that graduate-level education will (1) align better with other health care professions, (2) influence our standing within the health care arena, (3) enhance the retention of students who are committed to the profession, and (4) prevent competition with basic general-education courses. Our data also provided support to an editorial⁴ outlining the positive and negative aspects of transitioning to a graduate model. Furthermore, similar to recently released data (William Prentice, PhD, PT, ATC, FNATA, written communication, June 5, 2014), individuals who did not favor the move to graduate-level education opposed the

transition because of the (1) paucity of evidence that a move is necessary, (2) financial concerns about the student's cost and salaries for the AT, and (3) concerns about the development of an independent, autonomous practitioner. The divide continues to be clear, and apprehension regarding the change is fundamentally rooted in the lack of evidence related to several key aspects, including improved patient care, improved salary and recognition, and professional commitment and career longevity.

Advantages of and Support for the Transition to a PM Model

The landscape of comparable health care professions, such as occupational and physical therapy, speech and language therapy, and nursing, has been a major discussion point and a supporting argument for the transition to graduate-level education. Consistent with the discussion in the white paper,³ our participants recognized that a move to graduate-level education can be the means to mitigate ATs being viewed as “auxiliary” or “frontline” workers, a classification that appears to limit respect and the opportunities for third-party reimbursement or other means to gain footing in the health care community. Our participants believed a move to graduate-level education or a PM model could improve the reputation of ATs in the health care community because it aligns with current trends in health care education. Pitney⁴ discussed a supporting sentiment, suggesting that the move will align well with our peers in health care. Concerns about respect have been a central focus for the profession, as the role of the AT in health care and sport has traditionally been misperceived. In fact, the lack of respect for the profession has been a facilitator for students departing athletic training programs.^{7,15} Furthermore, as highlighted by our participants' perceptions, a move to graduate-level education may improve the reputation of the profession and help retain students. However, we acknowledge that evidence to support some of these claims may be lacking.

Separating foundational coursework (general education classes, science courses) from professional content was viewed as positive and a reason for the move to a PM model. Henning¹⁶ suggested the PM model could provide a “stronger foundation to build upon.” The foundation, which includes general-education coursework and is established before the student arrives in the PM program, allows more time to be spent on athletic training. As outlined in the white paper,³ students have the chance to engage in learning, digest introductory coursework, and not compete with the general-education requirements that promote the development of a well-versed student. Furthermore, after students are enrolled in a PM program, the educational focus, as described by our participants, could be on learning athletic training-specific concepts at a level that may be difficult for undergraduate students to understand due to their ages and abilities. Participants who supported the move also believed the PM model would allow for more hands-on training. This observation can be partially supported by a survey of professional athletic training program directors that was presented in the white paper,³ which indicated that PM programs offer more time in clinical education than do undergraduate programs. How-

ever, other data have supported the beliefs of those opposed to the transition; undergraduate programs require more clinical education hours than PM programs,^{17,18} although these are simply requirements and not actual comparisons of time spent engaged in clinical education. The rationale behind increased clinical education time for PM students is the removal of nonprofessional coursework that can compete for clinical education time. For example, graduate-level students may be enrolled in only 9 credits per semester compared with typical undergraduates, who enroll in 15 to 18 credits per semester. Whereas the number of hours spent engaged in clinical education may vary among program types, the PM model appears to afford flexibility and immersion into the role of the AT due to a reduced course load and time spent completing didactic learning. Furthermore, borrowing from the physical therapy course structure, the PM model may allow the student to become immersed in clinical education for an extended period (ie, weeks) without attending class, which can also allow for greater role exposure and inductance. Therefore, the quantity of time may not be as important as the quality, which may be better at the PM level given the full immersion and socialization as an AT due to reduced outside or competing responsibilities (ie, nonprofessional courses).

Concerns about using the athletic training undergraduate degree as a “stepping stone” or conduit to other professional studies have been discussed anecdotally and documented empirically.^{6,7} Our participants believed a move to graduate-level education would foster professional commitment and retention because graduate students would select this degree as their intended career rather than still exploring career options, as undergraduate students would be. The finding corroborates previous observations that program directors believe students persist in PM programs due to commitment to the profession⁹ and that program directors of undergraduate ATPs have said they would like to transition their programs to the graduate level to increase student retention.¹⁹ Furthermore, researchers have recently found that PM programs have higher retention rates than PB programs.^{3,8} Intuitively, students who have time to explore options during bachelor’s degree studies will have time to reflect on the best careers for them and time to explore the field of athletic training, which may improve role understanding and commitment to the degree program. A recent investigation of the characteristics of PM students revealed the attraction to a career in athletic training developed during academic studies and the decision on graduation from a PM program to pursue full-time employment as ATs.²⁰ Moreover, based on our findings, the number of students who indicated that they would leave or would not have pursued a graduate-level athletic training degree mirrors retention rates previously reported.^{3,8}

Student maturity was also discussed as a reason to move to the graduate level, despite a paucity of research to support this claim. Fundamentally, this speaks to the ideology that with age comes maturity and better decision making, which are likely major contributors to success and commitment to one’s selected field.²⁰ Further support for the theory of student age or maturity can be drawn from the hierarchy of knowledge, which Noyes et al²¹ initially proposed. As suggested by Wilkerson et al,⁵ Noyes et al²¹ proposed that graduate-level education provides the chance

to develop level I knowledge, which, reflects a deeper understanding of the fundamentals of the discipline and research evidence. The notion of student maturity as a positive aspect of the move has been discussed by people involved in the educational hierarchy for athletic training and those who have considered the move.⁴ However, some support can be garnered when comparing BOC pass rates among programs, which indicates that the PM model demonstrates greater success (only 3.7% of PM programs did not meet the 70% BOC pass rate standard; 43% of undergraduate programs did not meet the standard).³ Instinctively, differences in abilities, especially pertaining to critical reasoning and confidence, can be seen between undergraduate and graduate students, as maturity may be a factor in success on the examination. Student age has been linked to greater use of critical-thinking strategies,²² which may explain why some of our participants and others promote the transition to a PM model due to student maturity. On average, students enrolled in the PM model are almost 25 years old,²⁰ which supports the notion of chronological age and retention, commitment, and maturity.

Disadvantages of and Support Against the Transition to a PM Model

Similar to the concerns voiced within the recent survey supervised by Prentice (William Prentice, PhD, PT, ATC, FNATA, written communication, June 5, 2014), our participants who opposed the move to a PM model did so because of limited time for autonomous practice, financial concerns, and lack of evidence to support the move. Specifically, the effect on the graduate-assistant model and the economic effect on students, which were cited by Pitney⁴ as threats or barriers to a move to the PM model, concerned our cohort. For our participants, the removal of the graduate-assistant position was linked to clinical practice and financial concerns. The position is often viewed as a rite of passage²³ and as a means to gain continued autonomous clinical experience and more advanced skills without increased financial burden because they are compensated for the clinical practice assistantship. Professional master’s degree programs will supply ATs with a master’s degree without autonomous practice, as direct supervision is mandated by the CAATE standards.² Therefore, to receive additional autonomous experience before entering the workforce, students would be required to complete some type of additional education (eg, doctorate in athletic training, residency) or an internship, which typically does not pay well. Basically, our participants believed a larger investment of time would be needed to achieve the autonomous practice they believe is necessary to find employment. Most (88.5%) PM graduates find employment as ATs¹⁸; however, the types of positions (eg, full time, internship, setting) and the salaries those students accept remain unknown. The financial effect for the profession has emerged as a key concern and barrier for the move to a graduate-level model.

Our participants also discussed the negative return on investment, as first described by Pitney⁴ as a roadblock to and a reason for opposing the move to a PM model. According to some estimates, students could spend approximately \$100 000 on their education in the PM

model, which was addressed by several New Hampshire program directors in a rebuttal letter to the white paper (Daniel Sedory, PhD, ATC, written communication, April 2014). Paying large tuition expenses is not necessarily unusual for a student pursuing a health care profession; however, the salaries earned by ATs are substantially lower than those for other allied health care professions.³ Athletic trainers' salaries appeared to be of greatest concern for those opposing the move, as they continue to lag behind other professionals with comparable roles. Given that no evidence exists to suggest that the move to a PM approach would improve salaries, especially because most ATs already have master's degrees, our participants believed the increased cost to become an AT might not be appropriate. Perhaps if they believed compensation would improve, faculty and preceptors would be more willing to encourage students to invest, and students would be willing to invest themselves additional money to become ATs. If prospective students believe the postgraduation salary will be adequate, they will also likely think the cost of education will be worth the investment.

In a profession that is attempting to secure its standing within the medical and health care community with evidence, the lack of support for or against the move was apparent for our respondents. The white paper³ outlined key points regarding the transition and the benefits and advantages, but, as pointed out by our participants and those surveyed in a recent investigation (William Prentice, PhD, PT, ATC, FNATA, written communication, June 5, 2014), limited information exists on improving patient outcomes and advancing clinical practice. The data that are available center on BOC examination passing rates and student retention, which support the PM model over the current model. Despite this information, little is known about PM students' professional preparation, confidence, and transition to independent practice after graduation. As we identified, a barrier was the lack of evidence for improved salaries; therefore, determining if compensation improvements would be likely is important in making an informed decision about a move. Moreover, information regarding employer satisfaction or understanding related to the degree type is missing, and this is another key piece in the decision on the best educational model for athletic training.

Limitations and Future Considerations

We examined the perceptions and opinions of a specific set of members within the athletic training education platform; thus, our findings can only be applied to athletic training faculty members, students, and preceptors. Whereas our sample size was small but guided by data redundancy, we found reasons for and against the transition

to a PM model that may not encompass all the factors. Therefore, generalizing our results to the beliefs of all stakeholders nationwide is not appropriate. Other reasons to support or refute the transition were mentioned in the data but were not well supported by our participants overall. Moreover, we did not evaluate the opinions of higher administration (eg, department chairs, deans) about the effect a transition could have on their willingness and attitudes toward the possibility of educational change. We also did not garner data from ATs who were not working as program directors, faculty, or preceptors. Although we believed these were the primary stakeholders in the decision, we believe those not included in our data have important thoughts on the transition and should be included in the professional discourse.

As the profession prepares to transition to a graduate-degree model, more information is necessary from other stakeholders, as well as from a larger subset of the population sampled in our study. Specifically, as our participants noted, patient outcomes evidence and salary data would greatly assist in the discussion about transitioning to graduate-level education for entry-level athletic training professionals. Furthermore, studying current PM students would be worthwhile to learn more about their perceptions and backgrounds. The thoughts of students who could be potential recruits for PM programs would also be noteworthy. Perhaps some of the disadvantages of or opposition to transitioning could be refuted by exploring the thoughts of these important stakeholders.

CONCLUSIONS

The best educational model for preparing ATs is unclear according to our participants. A PM model, as viewed by our participants, would allow for greater time spent on athletic training content, would improve student commitment and retention, and would facilitate greater respect for the profession because the educational training would align with that of similar health care professions. The possible negative implications for the move centered on concerns about clinical independence and the financial effect on the student, which may not be counterbalanced by compensation. Continued research will be needed as we transition to the new model, particularly in the area of the current PM model. Researchers should focus on students completing the PM model to examine the socialization process, determine their experiences, and garner feedback on their time in the program. Employers and patients should also be factored into the equation; that is, are they able to identify differences in care and productivity based on program type? Finally, evidence to suggest how a transition to graduate education would affect salaries is also justified based on the increased expense to become an AT through the PM model.

All:

1. What are your initial perceptions on the transition from the PB to PM based education for the AT?
2. Are you in favor of the transition to a PM model? Please explain/support reason.
3. What challenges do you foresee at your institution in regards to the transition to a PM based education?
4. What are the implications of a transition to PM for the profession within the greater health care context? In other words, will the move to PM education change the profession's reputation among other health care providers?
5. What are the implications of a transition to PM on patient care? In other words, will the move to PM education improve patient outcomes?
6. What impact would you see the move to PM education have on athletic training students? Please explain.
7. Have you read the white paper on Professional Education in Athletic Education?

Students:

1. How would the transition from the undergraduate level to PM influence your decision to pursue AT?
 - a. Would you still have been interested in pursuing an AT degree?
 - b. How would your decision to pursue athletic training be influenced had the transition already occurred?
2. What concerns do you have regarding the transition?
3. What impact do you think it can have on the ability of the AT to care for patients?
4. What impact do you think it can have on the professional training of athletic training students?

Athletic Training Administration/Athletic Training Program Faculty:

1. Is your ATP in favor of the transition to PM education?
2. What considerations (preparations or actions) has your ATP taken regarding the possible transition?
3. How would your administration respond to the change?
4. What would your ATP need to make the transition to the PM model?
5. What impact do you foresee the transition to PM based education having on your student's development?
6. What impact do you foresee the transition to PM based education having on recruitment and retention of students?

Preceptors:

1. What impact do you see the transition to a PM based education having on athletic training students and your interactions in the clinical education setting?
2. What recommendations would you make to your institution/CAATE regarding the change to PM education?
3. Do you feel that the transition will help us to train better clinicians? Why or why not? Please explain.
4. What implications will this transition have for providing healthcare to your population of patients?

Abbreviations: AT, athletic training; ATP, athletic training program; CAATE, Commission on Accreditation of Athletic Training Education; PB, professional bachelor's degree; PM, professional master's degree.

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