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Challenges to and Resources for Participation in Interprofessional Collaborative Practice: Perceptions of Collegiate Athletic Trainers

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Context: Health care systems are increasing their emphasis on interprofessional collaborative practice (IPCP) as a necessary component to patient care. However, information regarding the challenges athletic trainers (ATs) perceive with respect to participating in IPCP is lacking.

Objective: To describe collegiate ATs' perceptions of challenges to and resources for participation in IPCP.

Design: Qualitative study.

Setting: College and university.

Patients or Other Participants: The response rate was 8% (513 ATs [234 men, 278 women, 1 preferred not to disclose sex], years in clinical practice = 10.69 ± 9.33).

Data Collection and Analysis: Responses to survey-based, open-ended questions were collected through Qualtrics. A general inductive qualitative approach was used to analyze data and establish relevant themes and categories for responses. Multianalyst coding and an external auditor confirmed coding saturation and assisted in triangulation.

Results: Challenges were reported in the areas of needing a defined IPCP team structure, respect for all involved health care parties, and concerns when continuity of care was compromised. Communication was reported as both a perceived challenge and a resource. Specific resources seen as beneficial to effective participation in IPCP included communication mechanisms such as shared patient health records and educational opportunities with individuals from other health care professions.

Conclusions: As ATs become more integrated into IPCP, they need to accurately describe and advocate their roles, understand the roles of others, and be open to the dynamic needs of team-based care. Development of continuing interprofessional education opportunities for all relevant members of the health care team can help to delineate roles more effectively and provide more streamlined care with the goal of improving patient outcomes.

Key Words: communication, interdisciplinary, continuing professional education

Key Points

- Athletic trainers perceived communication as both a challenge and a resource to enhancing participation in interprofessional and collaborative practice.
- Institutional factors including accessibility to other health care providers, shared medical records, and support from administrators were viewed as resources for interprofessional practice.
- Continuing education offered alongside other health care professionals may help all parties to better understand each other's scope of practice while also delivering instruction on effective collaborative methods to increase participation in interprofessional practice.

Patient care has evolved to emphasize interprofessional collaborative practice (IPCP), which requires health care professionals to work together in a coordinated approach to clinical decision making.[1,2] This collaborative process is grounded in effective communication, teamwork, and the merging of the knowledge and skills of each health care team member to benefit patient care.[3–5] In efforts to achieve this cohesive health care approach, promotion of interprofessional collaboration encourages professionals to learn with, from, and about each other, while respecting the contribution of each discipline.[6]

Authors[4–7] have described the health care benefits of IPCP as multifaceted and patient centered. Effective components of IPCP have been cited as open communication, coordination of care, cooperation, and trust and respect among the team members.[4,8] Specifically, the Interprofessional Education Collaborative[1,3] has identified competency domains for collaborative practice in the areas of (1) interprofessional teamwork, (2) communication, (3) values and ethics, and (4) roles and responsibilities. Further aspects that benefit team effectiveness include (but are not limited to) members viewing their roles as valuable to the team, accountability, shared health records, and availability of resources.[8]

In agreement with these identified benefits of IPCP, the aim of increasing patient-centered care in athletic training through collaboration of integrated teams has been emphasized by the Interprofessional Education and Practice in Athletic Training Working Group[9] as well as the 2020 standards for professional programs from the Commission on Accreditation of Athletic Training Education.[10] Our profession has an inherent structure for working with other health care providers,[9,11] not only because our practice

requires collaboration with physicians[12] but also because of our cooperative efforts with pharmacists, physical therapists, nurses, and other health care professionals.[13] Despite these health care collaborations, previous researchers[14] found that fewer than half of athletic trainers (ATs) reported practicing in an interprofessional manner.

Although collaborative practice is understood to strengthen health organizations and advance health outcomes, how ATs perceive IPCP, particularly in the collegiate setting, is unknown. According to National Athletic Trainers' Association membership statistics,[15] the collegiate setting employs nearly 23% of all ATs, making it one of the largest employment settings for the profession. Within the collegiate setting, each institution has the flexibility to operate as a more traditional athletic model or a medical model.[16] The *athletic model* positions the AT as reporting to either a coach or an athletic director,[16] whereas in the *medical model*, the AT reports to an appointed physician or health center affiliated with the institution, and in the *educational model*, the AT reports to an academic department chair, dean, or other academic administrator. Considering the large proportion of ATs in the collegiate setting along with the recommendation that ATs actively engage in IPCP[7,17] and the varying care models, more information regarding how ATs perceive and participate in IPCP is needed. Therefore, the purpose of our study was to identify the perceptions of collegiate ATs in regard to their participation in IPCP. To date, no investigators have described collegiate ATs' perceived challenges to and resources for participation in IPCP.

METHODS

Participants

After obtaining institutional review board approval, we purchased a census sample of members of the National Athletic Trainers' Association practicing in the collegiate setting (N = 6313). Exclusion criteria were ATs not certified by the Board of Certification, Inc, and those not employed in the collegiate setting. Recruitment e-mails were sent to 6313 ATs in the collegiate setting, and a total of 739 ATs completed the survey. Participants were excluded from qualitative data analysis if they self-identified as not participating in direct patient care: that is, if they identified their role as a full-time academic or administrative appointment without patient contact. Based on this exclusion criterion, 223 participants were removed from the analysis, leaving a total of 513 participants included in the analysis of qualitative responses (8% response rate). Although the response rate was low, this was one of the first assessments of collegiate ATs' perceptions of IPCP and therefore may serve as a foundation of knowledge in this area of research.

Procedures

The researchers (D.A.H., S.A.M.) contacted potential recruits via e-mail about participating in this study. The purpose of the study, informed consent procedures, a hyperlink to the online survey, and contact information for the researchers were included in the e-mail invitation. Recruits were offered the opportunity to enter a drawing for 1 of 23 cash prizes as an incentive to participation.

Instrumentation

The Clinician Perspectives of Interprofessional Collaborative Practice survey was used to collect participant responses.[14] This survey has 2 primary sections: (1) perceptions of IPCP and (2) clinical setting perspectives. The clinical setting perspectives section evaluates the experiential aspects of IPCP as assessed via a combination of Likert-scale items and 4 open-ended questions. These open-ended questions aim to capture ATs' perceptions of the challenges to, resources for, benefits of, and drawbacks to participation in IPCP. In this manuscript, we present the responses to the open-ended questions related to challenges to and resources for participation in IPCP. Further details regarding survey development and reliability (Cronbach $\alpha = 0.698–0.854$ for all constructs) are available in a previous study.[14]

Data Analysis and Management

Data were collected in Qualtrics software (Provo, UT) and stored on a secure university server. Responses to the open-ended questions were analyzed using a general inductive approach. Initially, we conducted open coding by identifying recurrent words within responses. These key words were then compared to established guiding codes for the next review of responses. In subsequent readings of the data, we assigned labels to responses according to the established coding guide. This process continued until all data were categorized into appropriate thematic areas.[18,19] An outside auditor reviewed the responses and corresponding thematization.[20] The few discrepancies were discussed among the research team and the auditor until consensus was reached.

During the data analysis, strategies to improve the trustworthiness of the data included determination of coding saturation, external auditing of themes and categories, and triangulation. The research team and the outside auditor agreed that the emergent themes were in fact evident throughout all aspects of the data set, thereby establishing coding saturation. For triangulation, multianalyst evaluation occurred as both members of the research team were involved in all aspects of the data analysis, and the outside auditor provided added perspective for consideration.[19,20] Additionally, Likert-scale items[21] were compared with open-ended responses to confirm the connection[18] of the related information on perceptions and perspectives of IPCP.

RESULTS

Of the 513 participants, more than half (54%, n = 278) were female. On average, participants had 10.69 ± 9.33 years of experience in clinical practice, mostly in the athletic model (n = 325). Further demographic information is reported in Table 1. Responses to the Likert-scale items suggested that ATs perceived IPCP as beneficial to patient care but did not consistently practice in this manner; these results are presented in a separate manuscript.[21] Responses to the open-ended questions relating to perceptions of challenges to and resources for participation in IPCP revealed several themes, categories, and subcategories related to each topic. Emergent themes and associated categories are identified in the following paragraphs;

Table 1. Participant Demographics

Characteristic	Participants, No.
Sex	
Female	278
Male	234
Preferred not to answer	1
Total	513
Highest degree earned	
Bachelor's	69
Master's—CAATE-accredited program	156
Other master's degree	263
PhD or EdD	19
Doctor of athletic training	2
Doctor of physical therapy	2
Doctor of chiropractic	1
Other	1
Athletic training employment setting	
Athletic model	325
Medical model	151
Educational model	20
Combination of models	16
Unknown	1
Type of athletic training appointment	
Full-time clinical appointment providing patient care	371
Split clinical patient care/academic appointment	88
Split clinical patient care/administrative appointment	36
Other	18
Current work setting	
National Collegiate Athletic Association Division	
I	193
II	93
III	125
National Association of Intercollegiate Athletics	48
2-y Junior or community college	44
Other	10

Abbreviation: CAATE, Commission on Accreditation of Athletic Training Education.

thematic frameworks with sample quotations from participants are also included by topic in table format.

Challenges to Participation in IPCP

Four themes emerged from the topic of challenges to participation in IPCP: (1) ability to engage in IPCP, (2) knowledge of roles and scope of practice, (3) factors affecting team collaboration, and (4) time to participate in IPCP (Figure 1). Within the theme of ability to engage in IPCP, 2 categories were identified: access to other health care professionals and structure of the health care team (Table 2). Within the category of access, participant descriptions related to geographic location and opportunities (or both) to meet and collaborate with each other. The category of structure of the health care team was further delineated into 2 subcategories: a defined IPCP process and continuity of care. Participant responses within the theme of knowledge of IPCP related to a perceived lack of knowledge of the roles and scope of AT practice by other health care professionals. For the theme of factors affecting team collaboration, responses were divided into the categories of communication, opinions, and respect for those on the health care team (Table 3).

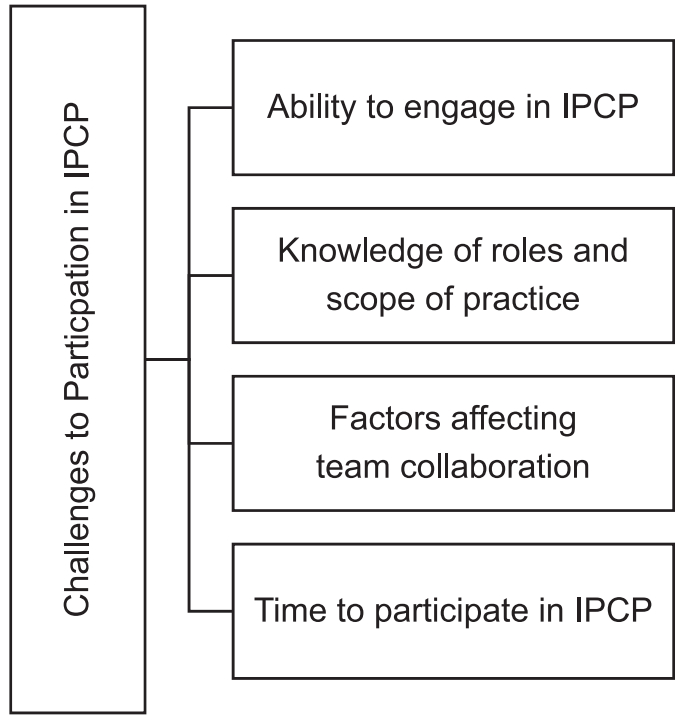

Figure 1. Framework of results for perceived challenges to participation in interprofessional collaborative practice (IPCP).

Resources Perceived as Helpful to Participation in IPCP

Analysis of participant responses revealed 2 primary themes related to resources perceived as helpful to participation in IPCP: (1) means for improved communication and (2) educational opportunities (Figure 2). Participants' responses indicated that accessibility to other members of the health care team, shared medical records, and improved communication strategies would be helpful as they pursue IPCP. Within the area of shared medical records, an electronically based documentation system that was accessible to all members of the health care team was beneficial to keeping members of the team on the "same page" regarding patient care. In relation to resources for IPCP development opportunities, collegiate ATs noted that education for other professionals regarding the scope of practice of ATs as well as opportunities to participate in interprofessional education alongside other health care professionals would be beneficial (Table 4).

DISCUSSION

The purpose of our study was to describe collegiate ATs' perceptions of the challenges to and resources for participation in IPCP. When considering IPCP, participants perceived the areas of communication, knowledge, time, and opportunities as both challenges and resources. Although these findings are the first established data regarding IPCP among the collegiate athletic training population, the results are similar to those of previous authors[14] among a larger, more generalized population of ATs.

Table 2. Thematic Results Related to Athletic Trainers' Ability to Engage in Interprofessional Collaborative Practice

Theme	Supporting Quotations
Access to other health care professionals	"I am employed at a community college as the head and only AT. My student-athletes come from both local and out-of-state areas with a hodgepodge of medical insurance coverages that may or may not be compatible with our preferred 'team' physician. The referral process is unclear."
	"Some of the greatest challenges in interprofessional collaboration is [sic] location of the medical providers. Athletic trainers are typically located on campus, whereas physicians and other health care professionals are located off campus in clinics. The most common challenges to interprofessional collaboration are location, time, and inconsistency with the medical team."
	"I'm located at a college in a small town. Our team physicians are relatively local; however, we don't hold any doctor's visits on campus unless the physician is on campus for a football game or to do physicals. If we send them to a specialist, they're even farther away. We also don't transport our athletes to appointments. Because of this, we rely on either the athlete remembering and being able to communicate with us or the office sending us the necessary paperwork. Our team physician is usually extremely good with communicating with us via telephone and records, but when we refer to different physicians, they're a little more difficult to reach and communicate with."
Structure of the health care team	
Defined interprofessional collaborative practice process	"Student-athletes refer themselves to other professionals (chiropractors, massage therapists, etc)—when this happens there is little interprofessional collaboration."
	"Health care providers that student-athletes can see don't always communicate their plan to the ATs. Many times, we don't receive a written diagnosis, plan, or protocol from a physician from outside of our regular health care team (athletes can choose to go anywhere for treatment). The athlete then expects us to do what their physician or surgeon 'says' when we have had no conversation about what the expected health care plan is for the athlete."
	"There is a separation between the ATs and our team physicians' group and associated physical therapy practice because the ATs work for the university and the physicians and PTs work with an outside company. While we are able to communicate regarding patient care, it is time consuming and often difficult to arrange full collaboration due to scheduling conflicts and lack of commonality in record keeping. Additionally, the physicians and PT clinic have their own patients in the community and several other schools at both the high school and collegiate levels that they provide care for, which also takes up much of their time."
Continuity of care	"The greatest challenge is attempting to integrate an outside practitioner (athlete's own/home PT/MD, etc) into our system and goals."
	"Often an athlete will see 1 AT, disappear for a week or 2 or their regular AT is on vacation, and the next time [next visit to a health care provider], they see another AT. Meanwhile they have also seen the team physician. . .the physician has a difficult time figuring out which AT to communicate with."
	"Occasionally, a postop[erative] patient will choose to do their rehab[ilitation] at an outside clinic. My staff is always understanding of this [decision], and supportive; however, it has been very difficult to get the physical therapists to communicate progress and return to activity."
	"When athletes see health care professionals that are in their home town and we do not have access to all their medical records from those professionals."

Abbreviations: AT, athletic trainer; MD, medical doctor; PT, physical therapist.

Knowledge: Roles and Scope of Practice

Health outcomes are typically influenced by more than 1 profession or practitioner.[22,23] Therefore, health care professionals should appreciate their own skills, knowledge, and abilities and be able to describe these characteristics to others, while also learning this information about peer professions, with the aim of improving patient outcomes.[24] This goal of collaborative practice is relevant to participants in this study who identified a lack of knowledge as a challenge to IPCP. More specifically, these collegiate ATs cited a lack of knowledge by other health care professionals regarding the AT's scope of practice as a challenge. This perceived lack of knowledge was similar to previous findings in athletic training[14] and various disciplines that showed professionals were not well versed in the skill set, roles, and practice patterns of other health care professions.[25] The Interprofessional Education Collaborative[1] domain of roles and responsibilities encourages health care providers to not only know their own role but also to understand the roles of others in order to best address patient needs. Early clarity about what each member of the team brings to the table, as well as the expectations for collaborative practice, should help to determine an effective patient care plan.[26,27] When participating in IPCP, ATs should capitalize on the opportunity to educate our health care counterparts about our professional scope and skills. Perrin[17] summarized the challenges related to the scope-of-practice knowledge at the local or institutional levels as including patterns of clinical practice within teams and varying perspectives of team members regarding health care provider status, authority, and power, all of which may be present within the collegiate practice setting.

Although initiatives for improving awareness of the athletic training profession may occur at the local, regional, and national levels, individual efforts by ATs within their personal practice networks may be the best place to begin to see change. It is unrealistic to expect health care professionals to become fully knowledgeable about all other health care professions on their own, so ATs need to purposefully communicate their specific skill set within the IPCP team while advocating for the profession. Collegiate ATs typically work regularly with a structured health care

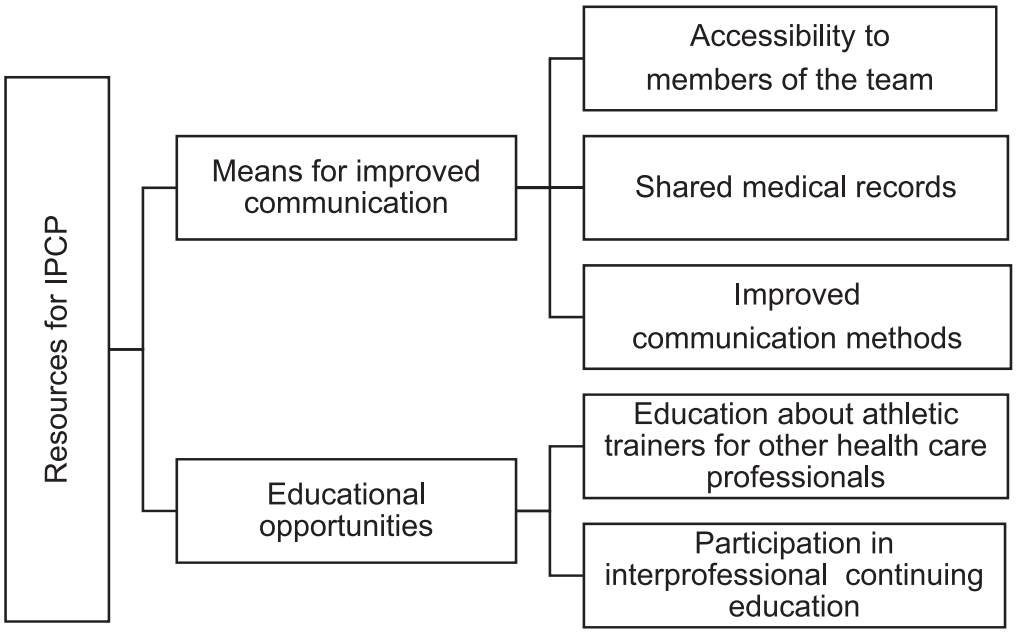

Figure 2. Resources perceived as helpful to participation in interprofessional collaborative practice (IPCP).

Table 3. Challenges to Participation in Interprofessional Collaborative Practice

Theme	Supporting Quotations
Knowledge	"Lack of knowledge of what an AT is among other health care professionals—this leads to poor communication/trust."
	"Physicians do not have a full understanding of the role of an AT and their scope of practice. . .it is helpful when other health care professionals have a full understanding of sports medicine."
	"Other health care professionals either do not fully understand or acknowledge the capability, knowledge, or professional opinion of an AT."
Factors affecting team collaboration	
Communication	"There is separation between the ATs and our team physicians' group and associated physical therapy practice because the ATs work for the university and the physicians and PTs work with an outside company. While we are able to communicate regarding patient care, it is time consuming and often difficult to arrange full collaboration due to scheduling conflicts and lack of commonality in record keeping."
	"Communicating with all parties in a timely fashion due to busy schedules/availability."
	"Lack of communication. We are a small athletic training facility at a small university. We don't have the time or resources to interact with our team physician on a regular basis. We rely heavily on written doctor's notes."
	"Communication. We seldom have the opportunity to meet with other providers face to face. We try to make up for this by talking to the other providers by phone."
Opinions	"Some medical practitioners do not always value the input and expertise of ATs."
	"In my specific clinical practice, administrators have inserted themselves into the medical decision-making process, which is not appropriate because when there is a differing opinion in treatment or care, the administrator's voice is usually the loudest and is not always in agreement with the rest of the health care team."
	"Honestly, for me, it is my team physician not getting offended when I suggest to refer out. . .if I were to suggest a different plan of attack or a second opinion then that's when they get offended."
Respect for those on the team	"While other health care professions say they respect ATs, I feel that they do not. They only see ATs as a triage [option] and only useful as the source for referrals for physical therapy clinics. I often feel that other health care professionals do not think I am capable of doing much more."
	"Being respected as a professional when talking to another health care provider from another field."
	"Lack of understanding of each other's responsibilities, job description, and skill sets. This lack of understanding often leads to a lack of respect for each other's fields of expertise. The relationship and collaboration between ATs, PTs, and doctors works well and is a respected relationship regardless of disagreements on patient care, because each respects the other enough to listen to the different points of view and to come to an agreement on what is best for the patient."
Time	"Having the time and means necessary to meet face to face with all members of the interprofessional team."
	"Having time to effectively plan and implement the collaborative plan of care."
	"Getting every member of the health care team together to discuss a patient's plan."

Abbreviations: AT, athletic trainer; PT, physical therapist.

Table 4. Resources Perceived as Helpful to Participation in Interprofessional Collaborative Practice

Theme	Supporting Quotations
Means for improved communication	
Accessibility to members of the interprofessional team	"More structure within our system. . ..I am working on creating a more recognized network."
	"More access to specialists in the area that we can refer an athlete to so that they are not tempted to go to another physician or specialist that I have little ability to collaborate with."
	"If the individuals involved in the patient(s) care worked in close proximity."
Shared medical records	"A shared software system to obtain physician notes or view X-rays on shared patients."
	"An EMR that ties in with the team physicians', allowing our treatment notes and their notes/diagnostic results to be shared more freely."
	"Shared documentation system."
Additional communication tools	"A forum where all parties involved can communicate effectively."
	"Face-to-face meeting with other local health care providers."
Educational opportunities	
Education about athletic trainers	"Educating other health care professionals about the profession (of athletic training) and our qualifications."
	"Athletic trainers continuing to work on PR and get the word out nationally and individually in our communities about what we do and can offer."
	"Regular flyers on behalf of local/state athletic training organization promoting current/newest standard of practice for injuries commonly seen by athletic trainers in order to educate nearby health care providers on current research and practice standards."
Participation in interprofessional continuing education	"I think it would be helpful to implement collaborative education between HCPs. Different HCPs would have a better understanding of the skills and limitations of different professions."
	"Education about professions amongst health care professionals. Encouragement and respect for athletic trainers in clinic/hospital health care settings."
	"Making sure all health care professions understand each other's roles."

Abbreviations: EMR, electronic medical record; HCP, health care provider; PR, public relations.

team, which should increase the opportunities to inform the other members of the team about the athletic training skill set. In alignment with the interprofessional competencies, communication of these roles and responsibilities should be part of the early discussions on team expectations.[26,27] These discussions may lead to identified areas of overlap in care, which may result in role confusion rather than role clarity if appropriate modifications are not made.[28]

One aspect of the AT's role in many situations, particularly in the collegiate setting, involves serving as the primary health care provider for the patient and the primary point of contact for the other members of the health care team.[13] Furthermore, the AT often serves as the referral point for the rest of the health care team, thus enabling the AT to educate these other professionals on our scope of practice, skill set, and appropriate involvement in patient care. Ideally, ATs should make a distinct effort to discuss these roles early and often in an effort to achieve increased quantity and quality of interactions among members of the interprofessional team.[29] This emphasis on interprofessional knowledge should help to foster a respectful and collaborative approach to patient care.[17]

Communication

Interprofessional collaborative practice emphasizes a team approach to patient care that accentuates communication and cooperation.[3] The ability of an interprofessional health care team to provide quality care is directly linked to the extent to which the members of this health care team work well together; if communication is a problem during team interactions, patient care may be negatively influenced.[30] In our study, communication was identified not only as a challenge to team collaboration in the collegiate setting when it was lacking but also as a resource for enhancing participation in IPCP when performed consistently.

Respondents in this study referenced personality differences and the perception of egos within the interprofessional team as communication-related challenges to IPCP. Previous literature[31] supports these findings by identifying challenges and barriers to interprofessional communication as including (though not limited to) personal values and expectations, personality variances, and varied levels of preparation and qualification among professions. An additional communication challenge that exists in IPCP is the need for all members of the team to establish and use a shared language.[23,32] It is vital for all members of the health care team to understand each other's professional language, communicate using common terminology, and work in a coordinated manner to accomplish patient care goals.[23] For ATs at the collegiate level, mechanisms targeted at enhancing this common language and communication are seen in the recommendation for regular interprofessional meetings to reinforce collaboration through targeted verbal communication.[33]

Collegiate ATs in this study also identified a common meeting space, shared medical records, access to electronic forms of documentation, and other communication tools as perceived resources for IPCP. Participants desired closer access to members of the team, including on-site interactions and space for collaboration. These results closely overlap with the World Health Organization's environmental recommendations for working culture, such as shared facilities and space design.[6] In regard to shared medical records, information technology that is available to all members of the interprofessional team has also been cited[17] as a way to increase collaboration and communication. Furthermore, this framework[6] suggests that improved communication may be actualized through institutional support, a working culture that values IPCP, and environ-

mental mechanisms that emphasize appreciation of IPCP. Specific to institutional support, structured protocols, administrative-level support, and shared operating resources may serve as positive contributors to collaborative practice.[6,16] This institutional support was recognized by our participants as a potential resource in terms of more accessibility to the IPCP team, shared medical records, support from administrators, and a more structured network of care providers. Consideration may be given to adjusting the working culture of the institution by defining communication strategies and policies for IPCP.[6]

Such policy development may entail a structural evaluation of the interprofessional teams to permit 1 entry point for the patient to access the care team.[33] Given the current structure of most collegiate athletic training departments, the AT may serve as this common entry point for patients to receive care from the interprofessional team.[33] Having 1 common entry point, as well as consistent communication among all members of the health care team, could help to enhance the continuity of care, which was cited as a challenge in this study. As IPCP in the collegiate setting increases, it will become more important for the reporting structure for ATs and other members of the health care team to follow the guidelines set forth by the National Collegiate Athletic Association for independent medical care.[34] Too often, collegiate ATs report to individuals who do not possess knowledge of medical decision making and health care administration.[16,34] When this occurs, communication is challenged, and patient safety is put at risk.[16]

Additional communication concerns were that participants perceived conflicting opinions and a lack of respect for all members of the team as challenges to IPCP. Challenges to communication may occur in the form of a perceived threat to one's professional identity or the perceived hierarchy of professionals on the health care team.[35,36] Headrick et al identified "fears of diluted professional identity"[32(p773)] as a barrier to interprofessional collaboration, and this closely matches the previously mentioned potential for perceived power and authority imbalances to manifest as challenges to successful interprofessional collaboration.[17] We propose that a strategy to decrease the perceived threat to professional identity may be to educate health care professionals early regarding roles and responsibilities, clearly defining such roles in the beginning of team-based patient care, thus enhancing the established trust among team members. Establishing trust is vital to the success of the health care team.[27] All members of the team must be willing and able to overcome personal differences, put the needs of the patient first, and work toward the common goal of improved patient care,[27] even if that means recognizing that another professional may have a more appropriate skill set relevant to the patient's goals. In concert with regular meetings to reinforce collaboration, more consistent opportunities to work together, while advocating for the role of the AT, should enhance the overall confidence, respect, and trust among the team members.

Time

To overcome each of these perceived challenges, time is needed. As time was identified as a perceived challenge to ATs' participation in IPCP, collegiate ATs should consider how they might dedicate time to accomplishing IPCP. Although few participants specifically delineated which aspects of time were relevant to their perception, we suggest that time is a concern on multiple levels. Specifically, ATs may have difficulty identifying ample time to meet and collaborate with others, communicate, build relationships, and learn about the roles and responsibilities of other disciplines. One way to combat this challenge may be to set regular meeting times for the health care team aimed at enhancing member collaboration.[33] Also, explicitly making time for collaboration, thereby increasing contact time among team members, may increase the level of trust and confidence among providers.[27] For ATs who want to provide patient-centered care, collaborative practice will need to become a dedicated priority as they take the time necessary to establish relationships with other members of the IPCP team. Although it may be more time consuming at the beginning, ultimately it should allow for a more streamlined and effective delivery of patient care once the roles of each of the team members are established.

Continuing Professional Education Opportunities

Our findings indicate significant potential for developing continuing professional education opportunities for ATs and other health care providers that may address the gap in knowledge of other professions' roles and responsibilities[32] while increasing awareness of and participation in IPCP. Similar to other literature,[32] these findings support a broader vision of continuing professional education by establishing practice-focused sessions with the goal of directly affecting specific outcomes for patients. Expanded opportunities to bring interprofessional teams from health care organizations at the state, regional, or national level to participate in cross-organizational, collaborative focused education sessions on a specific topic, such as concussion management, could be evaluated. Such interprofessional learning opportunities that allow health care professionals to better understand the scope of practice of others while addressing effective collaborative methods could be beneficial in enhancing ATs' participation in IPCP.[9]

Resources for IPCP

As the results of this study show, collegiate ATs perceived access to the health care team, shared medical records, and communication mechanisms as resources beneficial to IPCP. When IPCP opportunities are identified and available, they may be facilitated via proximity to other providers, dedicated time to collaborate,[27] and mechanisms by which to collaborate.

In an effort to expand collegiate ATs' participation in IPCP, several possibilities may be examined regarding resources. In addition to the previously identified areas of institutional support, working culture, and environmental mechanisms, health care providers and policy makers may consider performing an internal evaluation of their health services.[6] A needs analysis to ascertain the local, or internal, capabilities and requirements of their institution would be useful to begin this process. The World Health Organization framework[6] also recommends making a commitment to fostering IPCP opportunities within both newly developed and existing programs. Establishing

management practices that support IPCP while recognizing champions of IPCP initiatives may help to shift the culture and attitudes toward IPCP. Specifically, supporting and recognizing successful collaborations, teams, and collaboratively achieved patient outcomes should help to further foster IPCP practices and participation by ATs. An example of this successful collaboration may be seen in the medical model, where ATs report directly to a health care entity or physician rather than having direct oversight from an athletic department.[16] The medical model may directly benefit participation in IPCP, as it would provide ATs with more consistent opportunities for integration into the health care team.[9,17]

This study had limitations. Given the self-report structure of the questions, we assumed that participants' responses were honest and represented their perceptions of IPCP. Although some participants referenced their personal experience with IPCP, we do not know if respondents were reporting their perceptions based on actual IPCP experience or projected perceptions on practicing in an interprofessional manner. The low response rate is also a concern because of the possibility of sampling bias. Although the level of error resulting from those who responded to the survey is unknown, we note that this study is the first of its kind among the collegiate athletic training population and provides insight into how ATs perceived participation in IPCP. Future researchers may benefit from increasing the number of participating ATs in the collegiate setting to more broadly capture the perceptions of this population.

CONCLUSIONS

Participation in IPCP by a health care team is being emphasized nationally. Athletic trainers in the collegiate setting perceived challenges and benefits to participating in IPCP. Specifically, challenges were cited in the areas of the ability to participate in IPCP due to physical location, available members of the team with whom to communicate, and general knowledge of the AT skill set by other health care professionals. Advocacy by ATs regarding their own skill set and role on the interprofessional team should occur with their direct health care team members. One resource for IPCP is administrative support by way of shared medical records. In general, these findings lend support to the need for continuing interprofessional education opportunities aimed at increasing knowledge of the skill sets of other health care professions, especially other professionals' knowledge of the AT skill set.

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