

# Interprofessional and Collaborative Practices of Athletic Trainers in the Secondary School Setting

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**Context:** Interprofessional and collaborative practice (IPCP) is thought to improve comprehensive patient care but is often hindered by a lack of knowledge about the scope of training of other providers, inadequate communication, and structural barriers. The secondary school setting may pose unique challenges to IPCP.

**Objective:** To investigate the perceptions and practices of secondary school athletic trainers (SSATs) regarding IPCP.

**Design and Setting:** Cross-sectional, Web-based survey.

**Patients or Other Participants:** Secondary school athletic trainers (N = 379, age = 35 ± 11 years, experience = 12 ± 10 years).

**Intervention(s):** We used a modified version of the Clinician Perspectives of Interprofessional Collaborative Practice Survey, a validated survey consisting of 6 sections representing 6 different constructs (48 items) and 4 open-ended response questions focused on perceived challenges, resources, drawbacks, and benefits relative to IPCP.

**Main Outcomes Measure(s):** We calculated descriptive statistics, including a composite mean, to characterize the scores on each construct. We analyzed the open-ended, qualitative data using general inductive coding and used multiple analysts and auditing to establish trustworthiness.

**Results:** We contacted 4666 SSATs to complete the survey. We had 507 (10.9%) SSATs respond, and 379 (74.8%) completed the survey in its entirety. Secondary school athletic trainers agreed with or marked that statements were either always true or sometimes true for all constructs. Three main themes emerged from the open-ended data: (1) communication, (2) infrastructure, and (3) learning. Communication was deemed critical, and having access to shared information improved collaboration. Secondary school athletic trainers were often responsible for initiating communication. A strong infrastructure that enhanced access to other providers, incorporated parents, and improved efficiency helped support IPCP. Interprofessional and collaborative practice resulted in learning between providers, including roles and responsibilities, which yielded stronger trust and respect. Interprofessional and collaborative practice resulted in idea sharing and potentially improved patient outcomes.

**Conclusions:** Although SSATs described regular use of IPCP in practice, barriers exist that diminish IPCP including communication, infrastructure, and learning between professions.

**Key Words:** Communication, infrastructure, interprofessional education

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# Interprofessional and Collaborative Practices of Athletic Trainers in the Secondary School Setting

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## KEY POINTS

- Secondary school athletic trainers have positive perceptions and regular engagement in interprofessional and collaborative practice.
- Secondary school athletic trainers perceive many challenges to interprofessional and collaborative practice including communication, trust and respect, and health care providers identifying secondary school athletic trainers' roles.
- Secondary school athletic trainers report interprofessional and collaborative practice can be a benefit to patient outcomes.
- Communication is critical to interprofessional and collaborative practice, and a unified software system may help to enhance the network of communication with health care providers.
- Interprofessional and collaborative practice is thought by secondary school athletic trainers to create idea sharing to identify issues or limitations in patient care.

## INTRODUCTION

Collaborative practice, according to the World Health Organization, “happens when multiple health workers from different professional backgrounds work together with patients, families, careers and communities to deliver the highest quality of care across settings.”<sup>1(p7)</sup> Interprofessional and collaborative practice (IPCP) has gained greater focus in health care since the Crossing the Quality Chasm report in 2001<sup>2</sup> along with the development of core competencies for IPCP by the Interprofessional Education Collaborative.<sup>3</sup> Interprofessional and collaborative practice is thought to increase quality patient-centered care and improve patient outcomes and quality of life.<sup>1-3</sup>

Previous research on IPCP has spanned across health care professionals (HCPs) and among athletic trainers across settings, specifically in the college and university setting. In nursing and medicine, IPCP has been shown to improve patient outcomes and health care efficiency.<sup>4-6</sup> Among primary care teams, frequent informal communication has been vital for effective IPCP.<sup>7</sup> Collaboration allows teams to offer more comprehensive care,<sup>8</sup> and often patients experience greater levels of satisfaction.<sup>9</sup> Athletic trainers in the collegiate setting reported they had opportunities to collaborate with HCPs and found those experiences beneficial to patient care but inconsistent.<sup>10,11</sup> Athletic trainers across 8 different practice settings identified benefits of IPCP such as comprehensive care, building understanding of other HCPs, and professional growth.<sup>12</sup> The athletic trainers also reported knowledge limitations about other HCPs, inadequate communication, work setting, scheduling, and attitudes as barriers to collaboration.<sup>12</sup> While this research did incorporate secondary school athletic trainers (SSATs), the results were generalized across several different practice settings, and

noted specifically that setting may impact the ability to deliver IPCP.<sup>12</sup>

There may be more nuanced differences between SSATs' practices and perceptions of IPCP and other athletic trainers' practice and perceptions of IPCP due to specifics of the practice environment. SSATs that have been credentialed for less than 1 year experience a sense of isolation and little support, likely because they do not have other HCPs in proximity.<sup>13</sup> The growing demand for SSATs<sup>13,14</sup> and the benefits of IPCP demonstrated in other health care disciplines<sup>4-6</sup> highlight a need to better understand SSATs' current perceptions and use of IPCP. The unique combination of high patient load, sense of isolation, lack of support, and increased demand in a different practice environment may alter SSATs' ability to practice IPCP. Currently, no researchers have specifically explored IPCP with SSATs, and we do not know to what extent they are practicing in a collaborative manner. The purpose of this study was to investigate the perceptions of SSATs regarding IPCP and determine how and if they engage in IPCP in the secondary schools. Additionally, we explored how formal interprofessional education, having a directing physician affiliated with the clinical site, and working directly with other HCPs at the clinical site affected perceptions and implementation of IPCP.

## METHODS

### Study Design

We used a cross-sectional design with both open- and closed-ended survey items to assess the perceptions and practices of IPCP with SSATs. The study was deemed exempt research by the Institutional Review Board at Indiana State University. We consulted the Standards for Reporting Qualitative Research to ensure the highest quality design and reporting of qualitative research.<sup>15</sup>

### Participants

We used the Research Survey Service of the National Athletic Trainers' Association to distribute an email with a survey link to members who were certified and who listed the secondary school as their employment setting. Of the 4666 SSATs reached through email, 507 responded (response rate = 10.8%), and 379 (74.8%) completed the survey in its entirety. Participants provided informed consent before completing the survey. All participants were SSATs and treating patients daily.

### Instrument

We used a modified version of the Clinician Perspectives of Interprofessional Collaborative Practice Survey (CPICP), developed, and validated to investigate IPCP within athletic training.<sup>11</sup> Survey constructs within the valid tool were

designed to align with Interprofessional Education Collaborative core competencies.<sup>16</sup> The first section of the survey focuses on perceptions of IPCP and uses 4 constructs based on Likert scale items to evaluate IPCP perceptions of SSATs. The 4 constructs are *working with other HCPs* with 11 items, *athletic trainers engaged in collaborative practice* with 5 items, *influences on collaborative practice* with 8 items, and *influences on roles, responsibilities, and autonomy in collaborative practice* with 11 items.<sup>11</sup> The first section is scored using a 5-point Likert scale of (1) *strongly disagree*, (2) *disagree*, (3) *agree*, (4) *strongly agree*, and (5) *unfamiliar with this concept*. Positive perceptions were associated with higher scores in the Perceptions of IPCP section.

The second section focuses on Clinical Setting Perspectives and uses 2 constructs based on Likert scale items to evaluate SSATs' current perspectives and practices of IPCP in their present setting.<sup>11</sup> The 2 constructs are *impact of communication on collaborative practice* with 7 items and *patient involvement in collaborative practice* with 6 items.<sup>11</sup> This section is scored using a 4-point Likert scale as a statement related to current clinical practice: (1) *this statement is always true in regard to my clinical setting*; (2) *this statement is sometimes true in regard to my setting*; (3) *although I am familiar with the concept, this statement is not reflective of activity in my setting*; and (4) *I am not familiar with the concept in this statement*. In the Clinical Setting Perspectives section, lower scores indicated a concept happening more often in a participant's practice setting. The instrument concludes with a subsection of 4 open-ended questions. Participants are asked to identify their challenges, resources, benefits, and drawbacks to participation in IPCP.<sup>11</sup> With the authors' permission, we adjusted the CPICP demographic questions for use with SSATs.

## Procedures

Participants received an initial recruitment email in spring 2020 detailing the purpose of the study, inclusion criteria, and were provided a hyperlink to participate. Once participants entered the Web-based survey (Qualtrics LLC, Provo, UT), they confirmed they were clinically practicing in the secondary school setting and then consented to participate. We sent a reminder email every 2 weeks to all potential participants who had not yet completed the survey and 1 final reminder email 1 week before the survey closed. We concluded data collection after 6 weeks.

## Data Analysis

We used descriptive statistics to compute the mean, standard deviation, and frequency of the demographic data and independent variables. The independent variables included prior formal interprofessional education (*yes* or *no*), number of HCPs collaborated with on patient care (*physician, physical therapists, occupational therapists, nurse, chiropractor, or physician assistant*), and relationship with directing physician (*no directing physician, directing physician working for the same educational and/or health care organization as SSAT, or directing physician not working for the same organization as SSAT but has/does not have formal relationship with the school where SSAT provides care*). For each construct, we calculated composite scores by averaging the Likert scale scores of all items in 1 construct. We compared construct scores from

different groups (of unequal sizes) of those who have engaged in formal interprofessional education, their directing physician's structural affiliation to the clinical site, and the number of different HCPs the athletic trainer collaborates with using Mann-Whitney *U* and Kruskal-Wallis nonparametric tests. When appropriate, we used Mann-Whitney *U* tests for post hoc comparisons. Significance was set at  $P < .05$  a priori (SPSS, Chicago, IL).

The data analysis team composed of 2 experienced qualitative researchers and the primary investigator (a novice qualitative researcher) analyzed participant responses to the open-ended questions using a general inductive coding approach. The data analysis team conducted open coding by identifying recurrent words and phrases within 50 surveys. The team then compared key words and phrases to establish coding guidelines. The primary investigator used the coding guidelines to label all the remaining participant responses. The remaining members of the data analysis team reviewed the labeling and met to meet consensus. An external auditor reviewed the responses and themes, and the research team then discussed discrepancies until the research team and auditor reached a consensus. The data collection and analysis process is depicted in Figure 1.

## RESULTS

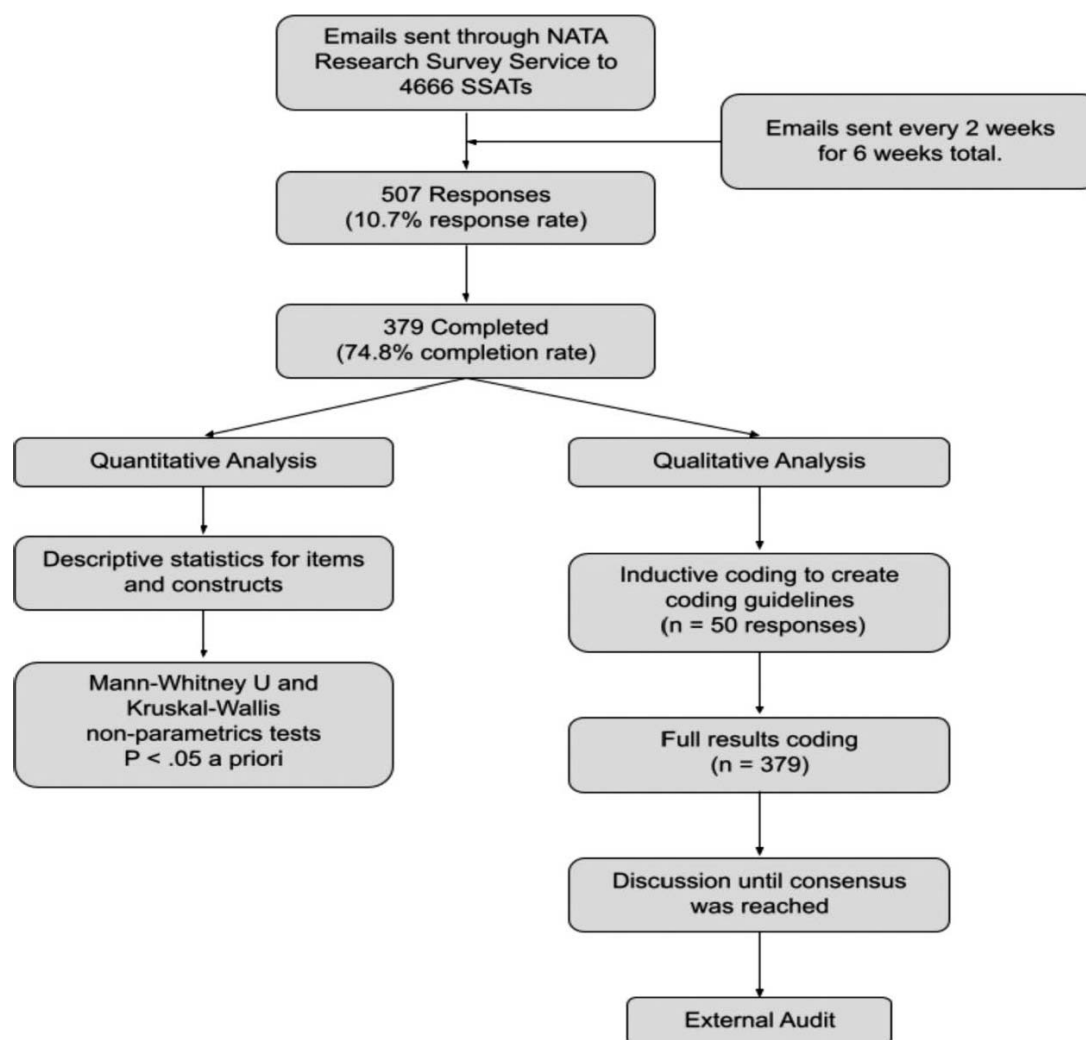
Of the 379 SSATs that completed the survey in its entirety, 232 (61.2%) were female, and 257 (67.8%) had earned a master's degree (Table 1). Secondary school athletic trainers reported that  $65.0 \pm 21.9\%$  of patient care was independent, and  $20.2 \pm 14.9\%$  was done collaboratively with another HCP that was not an athletic trainer. Secondary school athletic trainers agreed to statements regarding athletic trainers' perceptions of working with other HCPs (construct 1 =  $3.4 \pm 0.3$ ), engaging in collaborative practice (construct 2 =  $3.3 \pm 0.4$ ), influence on collaborative practice (construct 3 =  $3.4 \pm 0.4$ ), and influence on roles, responsibilities, and autonomy in collaborative practice (construct 4 =  $3.1 \pm 0.3$ ; Table 2). Secondary school athletic trainers marked statements indicating their perspective about their practice of communication in collaborative practice (construct 5 =  $2.1 \pm 0.5$ ) and patient involvement in collaborative practice (construct 6 =  $1.9 \pm 0.5$ ) were either always occurring or sometimes occurring in their clinical setting (Table 3).

We found no significant differences for each of the constructs between those with and without formal interprofessional education training ( $P = .151-.963$ ) and between those with no relationship, same-system, or external-system relationship with their physician ( $P = .070-.866$ ). We identified a significant difference for SSATs' perceptions of working with other HCPs (construct 1) based on the number of different HCP associations ( $P = .033$ ). Secondary school athletic trainers that work with more than 4 and 5 different kinds of HCPs shared a significantly higher perception of working with other HCPs than those having relationships with 1, 2, or 3 different kinds of providers. While the clinical usefulness of this data is minimal, as the differences are nominal and within the standard deviation, this finding is beneficial for discussion on how to possibly increase IPCP perceptions with SSATs.

The research team identified the 3 main themes of communication, learning, and infrastructure from the 4 open-ended



Figure 1. Research methodology flow chart.



questions. We used specific subthemes to build the 3 main themes outlined in Figure 2.

## Communication

Participants discussed communication often in all 4 of the open-ended questions, most often regarding challenges and resources needed for IPCP. Frequency of communication with HCPs can be challenging for a variety of reasons. One SSAT noted, “Communicating with providers that I don’t have an established relationship with” was a challenge. Similarly, SSATs reported they need to initiate the conversation with the provider. One participant expressed:

*However, communication is nonexistent between me and other MDs/PAs/NPs, both in my hospital and those at other institutions, unless I initiate the conversation, and even then, it is limited.*

Participants also described access to confidential patient information as challenging:

*HIPAA [compliance]; if an athlete of mine is receiving physical therapy from a different health care entity, they are not always eager to collaborate, and they cite confidentiality concerns. The same can be true of physicians that are not familiar with me.*

Secondary school athletic trainers suggested a unified software was a needed resource, as SSATs also discussed having different software systems as a drawback. One participant stated:

*Using electronic methods of communication can help, but we all tend to be on different systems. We need continuity of [electronic health records or electronic medical records] and other HIPAA compliant communication tools (texting/emailing).*

## Learning

Secondary school athletic trainers identified more challenges to IPCP in the theme of learning, while also recognizing some benefits. Participants recognized role clarity as a challenge in IPCP. One SSAT stated, “Other [HCPs] do not understand what athletic trainers do and the education we have.” Participants also expressed underutilization of SSATs’ expertise. One participant noted, “Our expertise is not always being utilized due to inadequate education of athletic training scope of practice.” Participants described another challenge as lack of trust and respect from HCPs. One SSAT shared, “Professionals that academically ‘outrank’ [athletic trainers (higher credentials)] sometimes do not convey courtesy or respect to the [athletic trainers’] thoughts.” One participant

**Table 1. Demographic Characteristics**

Parameter	Value, No. (%)
Years BOC certified, mean $\pm$ SD	12.04 $\pm$ 10
Gender	
Male	146 (38.5)
Female	232 (61.2)
Transgender	1 (0.3)
Highest degree earned	
Bachelor's	110 (29)
Master's	257 (67.8)
Doctorate (eg, PhD, EdD)	1 (0.3)
Clinical doctorate (eg, DAT, DPT)	10 (2.6)
Other	1 (0.3)
Description of employment	
School district employee	104 (27.4)
School district employee with teach responsibilities	38 (10)
Medical or university employee	142 (37.5)
Independent employee	9 (2.4)
Other	85 (22.4)
Have you had formal interprofessional education (eg, classes, workshops, CEU courses)?	
Yes	339 (89.4)
No	40 (10.6)
Which of the following health care providers do you collaborate with on patient care?	
Physician	346 (91.3)
Chiropractor	75 (19.8)
Physical therapist	287 (75.7)
Occupational therapist	30 (7.9)
Nurse	134 (35.4)
Physician assistant	157 (41.4)
Other	52 (13.7)

Abbreviations: BOC, Board of Certification; CEU, continuing education unit.

**Table 2. Highest and Lowest Rated Statements for Participant Selections in CPICP Survey Section 1<sup>a</sup>**

	Mean $\pm$ SD	Mode	Frequency of Mode
Construct 1: Athletic trainers' perceptions of working with other HCPs			
High—Teamwork between athletic trainers and other HCPs is an essential component of effective patient-centered practice.	3.72 $\pm$ 0.46	4	275
Low—Individuals in other healthcare professions respect the work done by athletic trainers.	2.74 $\pm$ 0.62	3	245
Construct 2: Athletic trainers' perceptions of athletic trainers engaged in collaborative practice			
High—Athletic trainers value other HCPs on interprofessional health care teams.	3.34 $\pm$ 0.54	3	231
Low—Athletic trainers strive to understand the abilities and skills that other professions can contribute to interprofessional health care teams.	3.17 $\pm$ 0.57	3	256
Construct 3: Athletic trainers' perceptions of influences on collaborative practice			
High—Medical, athletic training, and other HCP students should be engaged in collaborative or interdisciplinary learning experiences during their professional preparation to understand the others' professional roles.	3.6 $\pm$ 0.53	4	228
Low—I have had the opportunity to share formal learning opportunities with other HCPs.	3.12 $\pm$ 0.74	3	210
Construct 4: Athletic trainers' perceptions of influences on roles, responsibilities, and autonomy in collaborative practice			
High—Athletic trainers are advocates for their patients.	3.73 $\pm$ 0.48	4	277
Low—Physicians ultimately are responsible for collaborative practice patient outcomes in situations in which athletic trainers are involved.	2.65 $\pm$ 0.79	3	166

Abbreviations: CPICP, Clinician Perspectives of Interprofessional Collaborative Practice Survey; HCP, health care professional.

<sup>a</sup> Based on 5-point Likert scale: 1, *strongly disagree*; 5, *unfamiliar with this concept*.

Table 3. Highest and Lowest Rated Statements for Participant Selections in CPICP Survey Section 2<sup>a</sup>

	Mean ± SD	Mode	Frequency of Mode
Construct 5: Effect of communication on collaborative practice			
High—When engaging in collaborative practice, there is an established process for conflict management.	2.61 ± 0.81	3	184
Low—When engaging in collaborative practice, the final decision in patient care rests with the patient’s physician.	1.6 ± 0.66	1	186
Construct 6: Patient involvement in collaborative practice			
High—When engaging in collaborative practice, HCPs meet as a group in face-to-face meetings with patients.	2.55 ± 0.69	3	205
Low—During collaborative practice, at the patient’s request, the patient’s family and support system are included in care planning.	1.54 ± 0.63	1	193

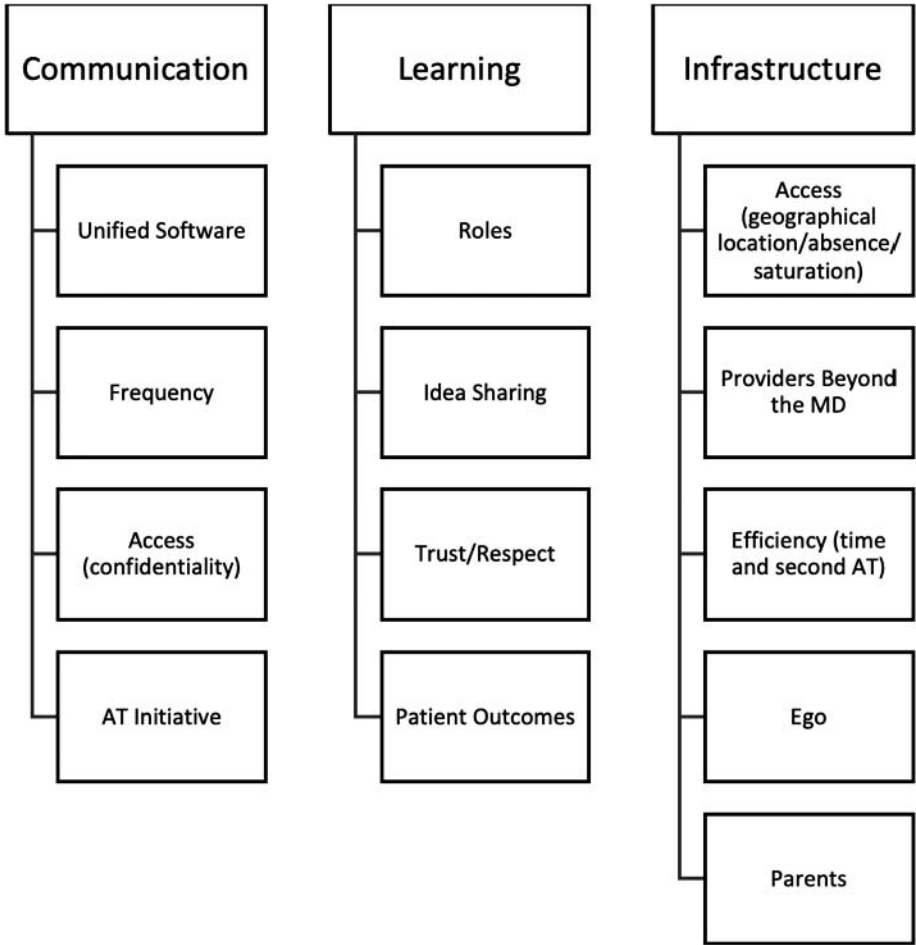
Abbreviations: CPICP, Clinician Perspectives of Interprofessional Collaborative Practice Survey; HCP, health care professional.  
<sup>a</sup> Based on 4-point Likert scale: 1, *statement is always true regarding my clinical setting*; 4, *I am not familiar with the concept in this statement*.

mentioned education as a potential resource needed to overcome these challenges. The participant explained:

*Increased continuing education for local physicians regarding the practice of athletic training, education for secondary schools on the roles of an athletic trainer, and guided information from the state department of secondary education. . .*

is a resource needed. While there are resources needed to overcome challenges, participants noted patient outcomes and idea sharing as benefits to IPCP. One SSAT specified, “Different points of view can identify problems or weaknesses in overall treatment. It is easier to overcome problems when patients can rely on more than 1 person for help.” Another participant stated:

Figure 2. Main themes and subthemes from open-ended questions.



*Interprofessional collaborative practice benefits the patient by giving them a comprehensive treatment and plan. As an athletic trainer, I know a little about a lot of things, and I am thankful to work collaboratively with [colleagues] who have more expertise in order to provide the best patient care possible.*

## Infrastructure

Participants expounded on external challenges affecting IPCP in the theme of infrastructure. Secondary school athletic trainers in both rural and urban areas cited access as a challenge but for opposite reasons. One SSAT in rural areas illustrated geographical location as a challenge of access by stating, “Also, having access to other professionals but being in a small rural town, you almost have to travel 2 hours to get any other type of specialization.” Access was a challenge in urban areas because of saturation, as a participant described:

*Working in a major city, my athletes have access to a variety of HCPs. It is difficult to build [rapport] to have good interprofessional collaboration when each injury is being treated by someone new.*

Collaborating with providers other than the directing physician was another challenge stated by SSATs. One participant admitted, “There is little interprofessional collaboration. Getting other medical providers other than the team physician to collaborate has been challenging.” Additionally, SSATs mentioned some drawbacks of ego, such as being in turf wars. One SSAT explained ego as a drawback by admitting, “[HCPs] stepping on each other’s toes and 1 group thinking they are better than the others, this could create tension that could affect the outcome of the patient care.” A final challenge identified by participants was parents. One SSAT expressed, “There can be unwillingness of parents of secondary school athletes to prioritize safety over playing time.” Secondary school athletic trainers distinguished 1 possible resource needed for IPCP was a second athletic trainer to increase efficiency and allow for more time to develop IPCP. Secondary school athletic trainers recognized many external challenges to infrastructure.

## DISCUSSION

The purpose of our study was to investigate the perceptions of SSATs regarding IPCP and determine how and if they engage in IPCP in the secondary school setting. Overall, participants agreed with statements in all 4 constructs of the first section discussing perceptions of IPCP, like previous research conducted on athletic trainers in the collegiate setting.<sup>10,11</sup> Participants had higher levels of agreement about working with other providers when they worked with more than 4 different kinds of HCPs. In previous research, SSATs reported a significantly lower frequency of interactions with other HCPs than other athletic training settings such as the college, clinic, and nontraditional settings.<sup>12</sup> The SSATs occasionally interacted with strength and conditioning coaches, Doctor of Osteopathic Medicine, general surgeons, and registered nurses,<sup>12</sup> while participants in our study also interacted with physical therapists and physician assistants consistently. However, SSATs reported less than a third of the time spent in patient care was collaborative with another HCP or athletic trainer. Current literature has shown that HCPs have benefitted from IPCP through increased efficiency and

better patient care,<sup>4-6</sup> and because SSATs report low IPCP, there is the potential for SSATs to not access the benefits of IPCP while SSATs’ patient loads increase.<sup>14</sup> The low reported IPCP frequency is likely from the many challenges and drawbacks that SSATs experience in their practice setting.

Participants identified a lack of frequent communication with HCPs as a challenge, and communication was harder with no prior relationship with the HCP. Improved communication between nurses and physicians can help provide better care to patients.<sup>17</sup> Similar outcomes, hypothetically, could be achieved with athletic trainer and physician communication, but athletic trainers need to take on a bigger role of initiating the relationship building and IPCP. With 33% of secondary schools not having an athletic trainer either full time or part time on staff,<sup>18</sup> SSATs need to embrace initiating IPCP with other HCPs. Secondary school athletic trainers need to become comfortable with initiating conversations with over-seeing physicians because it is a poor assumption that the physician will know the SSAT is available. Previous research has supported this concept, with athletic trainers stating that an effective strategy for implementing IPCP was to reach out, initiate, and develop the relationships with providers.<sup>12</sup> Athletic trainers indicated face-to-face meetings during the year are important to start and maintain IPCP, and these meetings could then be used to help educate other HCPs on the athletic trainer’s scope of practice and role in patient care.<sup>12</sup>

Medical errors have a direct effect on patient health, and they are often the result of poor communication.<sup>19,20</sup> In previous research, SSATs strongly agreed inadequate communication with other health care providers hindered collaborative practice.<sup>12</sup> Similarly, Kraemer et al<sup>12</sup> found athletic trainers strongly agreed interprofessional meetings foster communication among members from multiple professions or disciplines, and working interprofessionally improved the efficiency and quality of patient care. Meaningful and intentional communication is needed for collaborative care.<sup>21</sup>

Secondary school athletic trainers identified that a unified software system would be a helpful resource to improve communication. Previous researchers also found athletic trainers agreed inadequate access to non-athletic trainer HCPs hinders collaborative care, which could be remedied with a unified software system.<sup>12</sup> Researchers have found athletic trainers use both electronic and paper documentation, and there are many barriers to the use of electronic documentation in secondary schools.<sup>22-24</sup> Secondary school athletic trainers have noted privacy issues in communication with HCPs. The use of a system-wide electronic medical record (EMR) could diminish both perceived challenges. Reduced documentation time, higher quality of documentation, and improved communication are benefits of EMR use.<sup>17,25,26</sup> Traditionally, SSATs and school nurses have shared responsibilities of treating concussions, evaluating orthopaedic injuries, and communicating with physicians and other HCPs.<sup>27</sup> Secondary school athletic trainers have the potential to engage school nurses in interprofessional care, and the use of similar or compatible systems to improve communication and documentation could increase quality of patient care and IPCP. Previous researchers used an EMR to improve communication between the school nurses and physicians for an asthma care plan.<sup>17</sup> For students whose



nurse used the EMR to communicate to the physician, there was a decrease in hospital admissions.<sup>17</sup> A system-wide EMR would provide a resource SSATs need to improve communication and could integrate SSATs as part of the health care team, potentially diminishing the privacy concerns that result from the perception that the athletic trainer is ancillary to the team.

Sharing an understanding of roles can help communication and collaboration.<sup>3</sup> Participants stated HCPs do not understand SSATs' roles, which can lead to their underutilization. Participants identified education as a resource needed to help HCPs understand the roles and utilization of SSATs. Interprofessional education seminars have benefitted others HCPs with developing professional identity,<sup>28</sup> role clarity,<sup>28,29</sup> and better attitudes toward HCPs.<sup>28</sup> When examining a 10-week interprofessional gross anatomy dissection course with students from medicine, midwifery, nursing, physician's assistant, physiotherapy, and occupational therapy programs, researchers found improvements in professional identity, role clarity, and attitudes toward other health professions.<sup>28</sup> However, while SSATs identify a need for more interprofessional education and the Interprofessional Education Collaborative<sup>16</sup> identifies the need for role clarity to help develop IPCP, we found the interprofessional education did not result in significant differences in perceptions of IPCP in SSATs. In this research, we focused on the general completion of interprofessional education with SSATs and further research should be conducted on the specifics of interprofessional education sessions with SSATs to identify the specific effects on perceptions of IPCP.

Participants identified access to HCPs as a challenge to IPCP. While this study did not compare experiences of SSATs in different geographical locations, participants stating they worked in an urban environment experienced saturation of providers and difficulty finding consistency in collaboration, and participants stating they worked in a rural environment indicated a concern about accessing providers. The use of telehealth has the potential to help with both challenges of access. Previous researchers have identified telehealth can help HCPs improve systems in remote areas, reduce costs, improve clinician efficiency, have better communication, and increase convenience for providers.<sup>30–32</sup> Telehealth benefits of improving communication and improving clinician efficiency have the potential to also reduce the challenge of communicating with physicians outside of the team physician.

### Limitations

Sampling and recruiting for this study occurred within the first 6 months of the SARS-CoV-2 pandemic impacting the United States, and the overall impact on the profession, secondary school employment setting, and health care collaboration is unknown. In addition, participants with an affinity or positive impression of IPCP may be more likely to participate in a survey like this. Finally, we did not include a definition for interprofessional education in the survey. The lack of a definition could potentially have confused participants about interprofessional education and limited their ability to accurately respond in accordance with their perceptions. That said, the tenets of IPCP have been part of the athletic training vernacular for over 2 decades, so a definition may be assumed as commonly understood.<sup>33</sup>

### Future Research

As participants described the challenges and barriers to IPCP, their issues seemed largely external, meaning the SSATs did not perceive they did not have influence or control over IPCP. Although the SSATs were able to identify that they were being expected to initiate communication with the other HCPs, they did not see that as a reasonable responsibility but a burden. There is the potential for future research to explore possible internal limitations SSATs have that inhibit the use and integration of IPCP in their practice. Specifically, interventions aimed at teaching SSATs how to initiate IPCP with other providers in their community should be evaluated and shared. Future research should also explore the implementation of solutions like interprofessional education sessions and telehealth communication specifically in the secondary school setting to monitor improved perceptions of IPCP.

### CONCLUSIONS

Secondary school athletic trainers could use IPCP to benefit patient care and increase efficiency as demand for them grows. We discovered SSATs have low reported collaborative practice with other HCPs along with perceived challenges to implementing IPCP, but they also proposed resources like EMRs, telehealth services, and interprofessional education sessions to increase access to other HCPs and improve role clarity, trust, and respect between providers. Secondary school athletic trainers should focus on implementing EMR and telehealth systems to overcome many of the challenges and drawbacks of IPCP. Additionally, SSATs must become more comfortable in initiating IPCP with HCPs around them to develop relationships and improve IPCP for the benefit of their patients.

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