

## The Athletic Training Student as a Core Member of an Interprofessional Student-Led Clinic: An Educational Technique

Ellanora Kraemer, PhD, LAT, ATC, CSCS\*†; Anne W. Vande Berg, DSW, MSW\*‡;  
Jennifer R. Timm, DNP, RN\*§; Charissa K. Eaton, PhD, MSW\*‡;  
Amy Reitmaier Koehler, PhD, RN\*||

\*College of Nursing and Health Sciences; †Department of Health, Exercise, and Rehabilitative Sciences; ‡Department of Social Work; §Department of Graduate Nursing, and; ||Department of Undergraduate Nursing, Winona State University, MN

**Context:** Athletic trainers (ATs) collaborate with other professionals to improve the health and well-being of their patients. To prepare ATs to care for individuals, communities, and populations, it is important for athletic training students to experience interprofessional (IP) education, social determinants of health (SDOH), and varying health conditions, in a variety of practice settings.

**Objective:** To describe an educational technique that provides athletic training students with an IP experience at a student-led clinic.

**Background:** Athletic trainers care for clients/patients who have limited resources for health care and personal needs. To care for these individuals, ATs must have collaborative practices that engage them with parents/guardians, school-based social workers, and nurses through a variety of settings, including free/low-cost clinics and social services. A purposeful educational strategy that provides direct clinical experiences using IP education and IP practice to address SDOH in multiple settings is important in preparing future health care providers. Student-led IP clinics provide community-based teaching and learning to prepare students for clinical practice.

**Description:** First-year graduate-level athletic training students enrolled in clinical courses participated in this educational technique. A clinical experience provided students the unique opportunity to learn and apply IP practice with students and faculty in multiple academic programs (undergraduate and graduate nursing, undergraduate public health, undergraduate and graduate social work) while caring for underserved individuals and communities in the rural Midwest region.

**Clinical Advantages:** This educational strategy positively impacts the community, students, faculty, academic programs, and the university. Participation in community-based IP student-led clinics prepares athletic training students to care for a variety of individuals, populations, and health conditions through a collaborative approach. This approach also addresses gaps in health care delivery, particularly among underserved groups with varying SDOH, while introducing students to practice settings they may not have considered previously.

**Conclusions:** Incorporating the athletic training student into an IP student-led clinic provides unique learning opportunities for students to care for underserved individuals, populations, and communities, preparing them to provide whole-person care as clinicians.

**Key Words:** Interprofessional education, interprofessional practice, community health, social determinants of health, community-based

*Ellanora Kraemer is an associate professor at Winona State University. Address correspondence to Ellanora Kraemer, PhD, LAT, ATC, College of Nursing and Health Sciences, Department of Health, Exercise, and Rehabilitative Sciences, Winona State University, 175 W Mark St, Winona, MN 55987. ekraemer@winona.edu.*

**Full Citation:**

Kraemer E, Vande Berg AW, Timm JR, Eaton CK, Koehler AR. The athletic training student as a core member of an interprofessional student-led clinic: an educational technique. *Athl Train Educ J*. 2023;18(4):265–273.

# The Athletic Training Student as a Core Member of an Interprofessional Student-Led Clinic: An Educational Technique

Ellanora Kraemer, PhD, LAT, ATC, CSCS; Anne W. Vande Berg, DSW, MSW; Jennifer R. Timm, DNP, RN; Charissa K. Eaton, PhD, MSW; Amy Reitmaier Koehler, PhD, RN

## KEY POINTS

- Athletic training students gain valuable interprofessional collaboration skills through participation in community-based clinics.
- These community-based clinics equip students to deliver holistic care to underserved populations with varied social determinants of health.
- This unique student-led faculty-guided clinical experience prepares graduates to work interprofessionally in a variety of practice settings.

## INTRODUCTION

Today's fast-paced and ever-changing environment requires health care professionals to be equipped in interprofessional practice (IPP) as they work together with multiple health care workers from different professions to provide comprehensive services and deliver the highest quality of care to clients/patients and their families, caregivers, and communities.<sup>1</sup>

As part of the interprofessional (IP) team, athletic trainers (ATs) collaborate with providers to improve the health and well-being of individuals, communities, and populations in various practice settings.<sup>2,3</sup> The role ATs play in access to health care will continue to grow with the increased shortage of primary health care providers, especially in the growing population of medically underserved individuals.<sup>3,4</sup> Depending on the practice setting and population, ATs may be the patient's first point of contact with the health system and effectively provide care coordination for their patients.<sup>4,5</sup> By building a network of community-based health, wellness, and social service organizations, ATs and their IP care teams can improve access to services where social determinants of health (SDOH) and health disparities impact quality of life.

Health care providers who participate in IP education (IPE) as students have higher rates of the knowledge, skills, and affective abilities needed to be effective in collaborative settings.<sup>6,7</sup> Interprofessional education is an educational process where "2 or more professions learn about, from, and with each other to enable effective collaboration and improve health outcomes."<sup>1</sup> Many accredited professional education programs have increased the emphasis on IPE by developing content standards for IPE training,<sup>8-10</sup> and there is consensus that athletic training students need exposure to a broader range of health professions and patient populations to better delineate roles in the health care team setting, enhance collaboration, and improve patient care.<sup>11</sup> In addition to profession-specific accreditation standards, the Interprofessional Education Collaborative (IPEC)<sup>12</sup> developed core competencies that are inclusive of multiple professions to improve individual and population health outcomes.

Academic programs are also charged with educating students on SDOH and health equity. The World Health Organization defines SDOH as "the conditions in which people are born,

grow, live, work and age and the wider set of forces and systems shaping the conditions of daily life."<sup>1</sup> Clear connections exist between SDOH, quality of life, and health equity through addressing individual and population health needs.<sup>13</sup> Exposure to SDOH in academic programs provides students with the knowledge and skills to identify social and environmental factors affecting individuals and communities and implement strategies to address them, and introduces students to community-based practice settings they may not have considered otherwise.

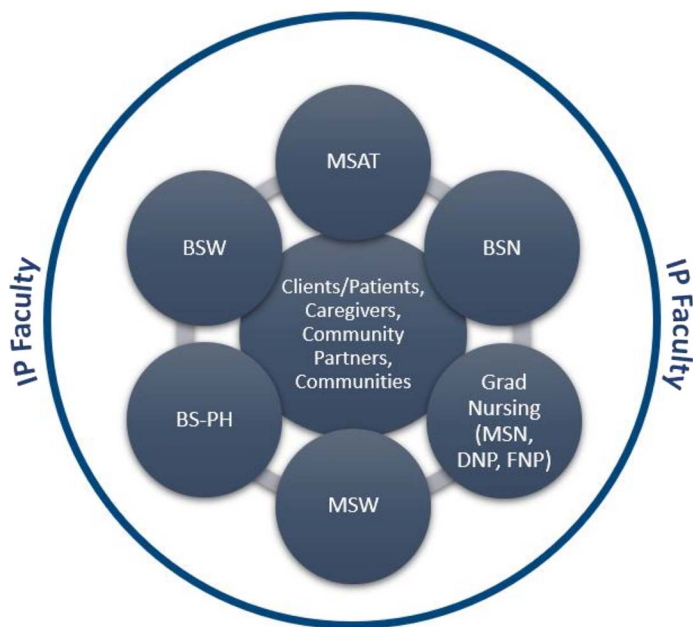
One way to increase student competence with IPP and SDOH is through student-led clinics, which are "health clinics where services are delivered by students under the supervision of qualified educators who are appropriately licensed or accredited."<sup>14</sup> These clinics connect education to practice and provide hands-on learning experiences while addressing gaps in health care services, especially for underserved groups.<sup>15</sup> Such experiences also build empathy and compassion for these populations<sup>16</sup> while developing leadership and IPP skills in students.<sup>17</sup>

Although there is an increased emphasis on IPE and SDOH, academic programs remain challenged in providing authentic experiential learning opportunities in IPP for underserved individuals, communities, and populations.<sup>13</sup> Academic programs may face obstacles when attempting to provide IPE themselves and have little control over the extent of such opportunities when placing students in external settings. For example, our university has multiple accredited health care education programs within a 90-mile radius, which limits the availability of clinical sites and requires creativity to meet the numerous university programs' clinical experience needs.

To address the Commission on Accreditation of Athletic Training Education (CAATE) 2020 Standards<sup>10</sup> and widen students' abilities to care for patients with complex needs, athletic training programs should strive to provide authentic clinical experiences. One such strategy is to collaborate with other health care professions for clinical experiences. In the educational technique described here, athletic training students are integrated into an existing community-based IP clinical education model (ICEM) operated by the college of nursing and health sciences within a public university in the Midwest. The ICEM is an essential component of the university's accredited academic programs and the college strategic plan, and connects to the university strategic plan and mission statement focused on providing a community of learners to improve the world.

Founded in 2017, the ICEM was developed to improve community health outcomes and promote wellness in rural and underserved communities while simultaneously preparing health profession students in IP collaborative practice.<sup>18</sup> The ICEM uses a student-led, faculty-guided framework that places the IP students in the role of planning, implementing, and evaluating services, care, and programs, under the supervision and guidance of licensed faculty. Accreditation standards and IPEC

**Figure. Interprofessional team.** Abbreviations: BSN, bachelor of science in nursing; BS-PH, bachelor of science, public health; BSW, bachelor of social work; DNP, doctor of nursing practice; FNP, family nurse practitioner; Grad, graduate; IP Faculty, interprofessional faculty; MSAT, master of science in athletic training; MSN, master of science in nursing; MSW, master of social work.



Core Competencies<sup>12</sup> are integrated into the model, which currently includes the professions of nursing, social work, public health, and athletic training (Figure). Evidence-based tools including Team Strategies and Tools to Enhance Performance and Patient Safety (TeamSTEPPS),<sup>19</sup> motivational interviewing, and continuous quality improvement processes are embedded throughout.

The ICEM operates 6 community clinics through partnership with community organizations and rural school districts, including K–12 public schools, food shelves, community and senior centers, and homeless shelters. Services are developed through ongoing community needs assessments and stakeholder engagement. The ICEM provides athletic training students and students in other professions with experiences caring for a variety of populations, such as immigrant families, non-English speaking populations, and populations with differing socioeconomic statuses and varying physical activity levels, and working across the lifespan with children, adolescents, families, and older adults. Programming focuses on addressing SDOH while providing preventive health, wellness, and social care specifically for these groups.

The purpose of this article is to share an educational technique for athletic training students that integrates IPE, IPP, and SDOH into a clinical education setting. The terms *patient* and *client* are used interchangeably throughout.

## EDUCATIONAL TECHNIQUE

The following steps provide an overview of the educational technique to integrate athletic training students into the ICEM (Table 1).

### Step 1: Enroll in Athletic Training Clinical Course

In a traditional clinical experience, health profession students learn under the supervision of a preceptor in their same profession. In the educational technique described here, athletic training students are supervised and assessed by an athletic training faculty preceptor while also learning from faculty and students in other professions (Figure).

First-year master’s-level athletic training students complete an 8-week clinical experience (50–80 clinical hours) once enrolled in the clinical course associated with the ICEM. Clinical course objectives focus on injury prevention and assessment, integrating best practices for clinical decision making, effective communication, and ethical and professional practice. The clinical course objectives are directly related to the CAATE Standards. Course objectives are evaluated through course assignments and preceptor assessment of students’ abilities to meet the standards. All CAATE curricular content standards are evaluated using the five-stage Dreyfus<sup>20</sup> model of skill acquisition. Students who do not meet a course objective complete a simulation or case study with the course faculty to achieve the remaining standard.

### Step 2: Participate in IP Clinical Onboarding

Before offering clinic services, students complete asynchronous online modules and in-person activities to prepare for community-based care and IPP. Online modules focus on introducing students to the ICEM framework, IPEC Core Competencies, and TeamSTEPPS. Students also complete modules on the Health Insurance Portability and Accountability Act and confidentiality, and are introduced to the electronic medical record system and the communication platform used by the ICEM.

As required by CAATE Standard 29,<sup>10</sup> athletic training students complete an orientation form with their athletic training faculty preceptor before the start of each clinical experience. Many components in the orientation form are also part of the ICEM orientation, such as a blood-borne pathogen exposure plan, communicable/infectious disease policies, documentation policies/procedures, the Health Insurance Portability and Accountability Act, patient privacy and confidentiality, emergency action plans, and name badges for proper identification.

Large-group orientation occurs after students complete the asynchronous modules. During the in-person orientation, students explore scope of practice and roles in a variety of IP socialization activities, such as profession-specific introductions by students and IP roundtables. Clinic services vary by site; therefore, during in-person orientation, faculty educate students on the services provided, populations served, and unique needs of their assigned clinical site. Students learn about SDOH when they work together to complete a brief needs assessment of the community in which their clinic is located. The assessment includes a windshield survey—a method of evaluation to visually assess social, economic, and health resources in a community—that students complete as they drive around the community, along with connecting with local resource agencies and searching websites to find demographic data and community-related data. Students look for a variety of community characteristics such as medical facilities, mental health services, housing, parks, public transportation, grocery stores, churches, and community assistance options.

**Table 1. Overview of Educational Technique**

Step	Components
Step 1: Enroll in athletic training clinical course	<ul style="list-style-type: none"> <li>Clinical course objectives</li> <li>Clinical course requirements</li> </ul>
Step 2: Participate in IP clinical onboarding	<ul style="list-style-type: none"> <li>Asynchronous orientation modules               <ul style="list-style-type: none"> <li>• Frameworks                   <ul style="list-style-type: none"> <li>○ ICEM framework</li> <li>○ IPEC core competencies</li> <li>○ TeamSTEPPS</li> </ul> </li> <li>• HIPAA and confidentiality</li> <li>• EMR</li> <li>• Electronic communication platform</li> </ul> </li> <li>In-person orientation activities               <ul style="list-style-type: none"> <li>• CAATE Standard 29 orientation checklist</li> <li>• IP socialization</li> <li>• SDOH in clinic communities</li> <li>• Introduction to IP holistic client care</li> </ul> </li> </ul>
Step 3: Participate in weekly IP clinics	<ul style="list-style-type: none"> <li>IP team prebrief               <ul style="list-style-type: none"> <li>• Review client schedule</li> <li>• Review client needs</li> <li>• Review needs for language interpretation services</li> </ul> </li> <li>Client services offered by the IP team               <ul style="list-style-type: none"> <li>• Screenings                   <ul style="list-style-type: none"> <li>○ Health</li> <li>○ Blood pressure</li> <li>○ Vision</li> <li>○ Fall risk</li> <li>○ Mental health</li> <li>○ Social needs</li> </ul> </li> <li>• Assessments                   <ul style="list-style-type: none"> <li>○ Biopsychosocial</li> <li>○ Musculoskeletal/orthopaedic</li> <li>○ General medical</li> <li>○ Well-child/school physical examinations</li> <li>○ School sports physicals</li> </ul> </li> <li>• Services                   <ul style="list-style-type: none"> <li>○ Foot and nail care</li> <li>○ Health promotion and education</li> <li>○ Preventative care</li> <li>○ Medication review</li> <li>○ Home exercise programs</li> <li>○ Ambulatory aid review</li> <li>○ Referral to community resources</li> </ul> </li> </ul> </li> <li>IP team debrief               <ul style="list-style-type: none"> <li>• Continuous quality improvement</li> <li>• IPE</li> <li>• Planning for the next clinic</li> </ul> </li> </ul>
Step 4: Participate in IP clinic offboarding	<ul style="list-style-type: none"> <li>Clinic site wrap-up               <ul style="list-style-type: none"> <li>• Inventory of equipment and supplies</li> <li>• Student handoff</li> <li>• Client handoff</li> </ul> </li> <li>Final debrief and reflection               <ul style="list-style-type: none"> <li>• IP team debrief</li> <li>• Preceptor/clinical site evaluations</li> </ul> </li> </ul>

Abbreviations: CAATE, Commission on Accreditation of Athletic Training Education; EMR, electronic medical record; HIPAA, Health Insurance Portability and Accountability Act; ICEM, interprofessional clinical education model; IP, interprofessional; IPE, interprofessional education; IPEC, Interprofessional Education Collaborative; SDOH, social determinants of health; TeamSTEPPS, Team Strategies and Tools to Enhance Performance and Patient Safety.



**Table 2. Services Offered at the Interprofessional Clinical Education Model Clinic**

- Biopsychosocial assessment
- Well-child/school physical exams
- School sports physicals
- Health screenings
- Blood pressure screenings
- Fall risk assessment
- Vision screenings
- Mental health screening and support
- Medication review
- Social needs screening and assessment
- Health promotion and education
- Review of proper fit and use of ambulatory aids
- Home exercise programs (ie, rehabilitation, fitness, fall risk prevention)
- Foot and nail care
- Socialization
- Linkage to community resources

To prepare for IP holistic client care, students review and practice conducting biopsychosocial assessments in IP teams during in-person clinical onboarding. Activities include practicing mock scenarios using the client intake form, assessments for specific concerns (ie, nutrition, activity level, tobacco use, emotional/mental well-being, caregiver role strain) and SDOH concerns in rural communities (ie, food, shelter, health care access, social support). Using the mock scenarios, students work together to conduct profession-specific consultations, propose referrals to community resources, and practice documentation using the situation-background-assessment-recommendation<sup>21</sup> method, a component of TeamSTEPPS. Students also review and practice skills under the supervision of their respective faculty. For example, athletic training and nursing students practice clinically based skills, such as blood pressure checks, physical exams, and foot and nail care. Additionally, social work and public health students work together to review screening tools and explore community resources (Table 2).

### Step 3: Participate in Weekly IP Clinics

The schedule of the clinic day varies by site and services provided; however, each clinic day starts with an IP team prebrief meeting, which includes an IP teamwork activity, review of previous clinic day, goal-setting for clinic day, and review of client schedule, records, and needs for language interpreters. The term *brief* is an element of TeamSTEPPS used to enhance communication and improve patient safety. At each clinic day, IP teams offer a variety of screenings, assessments, and services (Table 1). All students play an essential role on the team. Services focus on providing preventive health, wellness, and social care specifically for at-risk and underserved groups (Table 2). Athletic training students participate primarily in the clinics located in rural school districts and community centers, where they are embedded in all elements of the clinic day and bring unique expertise to the team in prevention, assessment, diagnosis, treatment, and rehabilitation of orthopaedic conditions. Throughout the clinic day, IP teams are responsible for documenting client care and athletic training student documentation is reviewed with the athletic training preceptor. Midbrief is typically at midday and is used to determine if any improvements need to be made for the day. At the end of each clinic day,

students engage in an IP debrief. Because the ICEM incorporates a student-led philosophy, IP team debriefs provide dedicated time for additional IP communication, IPE, continuous quality improvement, and planning for future clinic days.

### Step 4: Participate in IP Clinic Offboarding

At the end of the 12 weeks of each semester, students complete an IP clinic offboarding, which includes preparing each clinic site for the following semester. IP teams create a handoff video for the next group of students to review, with topics such as an overview of a typical day at that site and top 10 tips for IP team success at that site. To ensure continuity of care for clients, the IP team is also responsible for connecting clients to any resources they may need. All students participate in an in-person large-group IP team final debrief. The debrief may include topics such as semester highlights, challenges and successes, and takeaways regarding IPP in rural communities. Athletic training students participate in the final debrief and also complete a clinical site evaluation.

### Case Example 1: School-Based IP Clinic

One of the clinical sites is a school-based IP clinic held within a rural school district with a large population of immigrant families. This site provides students with rich clinical experiences in working with diverse populations to deliver preventive health services for children, adolescents, and families. Families in this school district encounter significant challenges related to SDOH (ie, food insecurity, transportation, education, employment, housing, and access to health services). Furthermore, immigrant families may avoid seeking health care services because of immigration status, language barriers, previous discrimination, or distrust of the health care system.<sup>5,22</sup>

The IP team meets with clients throughout the school day and after school to make services accessible to individuals and families. Before each client visit, the IP team completes a prebrief to review/discuss client records and formulate an initial plan for the appointment. Client assessments are completed by a team of undergraduate and graduate students (Figure) with the assistance of a Spanish-speaking interpreter. The athletic training student works with undergraduate students to screen each client for height, weight, vital signs, vision (Snellen eye chart), physical activity level, and anything else indicated by the presenting information. Initial findings are discussed among team members using the situation-background-assessment-recommendation communication method. Additional health and physical examinations are performed by the doctor of nursing practice–family nurse practitioner (DNP-FNP) student and athletic training student using age-specific Bright Futures assessments,<sup>23</sup> school physical or sports physical examinations, and examinations based on client needs.

Athletic training students lead the orthopaedic components of the physical examination and assist in performing the general medical assessment. They also collaborate with team members to screen and find resources for clients who have SDOH concerns. The IP team meets to discuss their assessment, determine if referrals are warranted, and create a care plan. They discuss their findings and recommendations with the client, guardian(s), and school nurse, as appropriate.

In one client case, a school-aged client was referred to the clinic by the school nurse for concerns regarding school performance and socialization with peers. The client was noted to be disengaged from peers, struggling academically and socially in the classroom, reporting frequent abdominal pain throughout the school day, and presenting to school with poor hygiene. With guardian consent and the assistance of a Spanish-speaking interpreter, the IP team (Figure) performed an assessment, which included physical examination to learn more about abdominal pain and other symptoms. Assessment findings indicated no pertinent physical illness concerns. However, the client was experiencing anxiety, had poor nutrition and hygiene habits, was obese per body mass index–for-age percentile, and was participating in 4 to 5 hours of screen time outside of school.

The IP team involved in the case, in collaboration with the client and guardian(s), developed a biopsychosocial plan of care addressing the client's needs, including providing mental health support, academic and social mentoring, nutrition and hygiene health promotion, screen time recommendations, and implementation of physical activity. In collaboration with the IP team, the athletic training student in this situation developed a plan for physical activity and healthy after-school snacks that were accessible to the family. The IP team also worked with the Spanish-speaking interpreter to develop bilingual education materials for the client and her family.

### Case Example 2: Community-Based IP Clinic

Another community-based clinic site of the ICEM is held in partnership with the local senior center in a small rural community. This site offers students rich clinical experiences in working with older adults and delivering preventive health services tailored to gerontologic considerations. At this weekly clinic, IP teams (Figure) complete comprehensive biopsychosocial assessments and deliver services to support client goals. Before and after client appointments, the IP team meets to review the client's records, discuss potential concerns and client care needs, and set follow-up appointments. At this clinic, athletic training students work with IP team members to perform health assessments and consultations, blood pressure screenings, medication review, foot and nail care, neck/shoulder massage, health education (nutrition, exercise, fall prevention), and home exercise programs. They also collaborate with team members to screen and find resources for clients who have SDOH concerns. The most common concerns related to SDOH at this location include social isolation, caregiver role strain, and food insecurity/nutrition.

A case example involves an older adult who originally came to the clinic for foot and nail care. During the biopsychosocial assessment, the man disclosed that he was having difficulty paying for food. The social work and public health student connected the client with the local food shelf while educating the other team members on community resources. The client also stated that he had fallen twice in the last couple of months. He explained that he did not have a reason for falling, he just fell. This was disclosed as a result of administering a fall risk screening at intake. While the client was receiving foot care services, the IP team was able to gather more information about the fall history and identify areas of risk. Further assessment by the athletic training student revealed the client had strength,

balance, and range-of-motion deficits. In collaboration with the IP team members and faculty, the athletic training student created a personalized home exercise program to address the deficits. The athletic training student was able to educate the IP team and the client at the same time on proper exercise techniques to address the client's needs. This client case also provided an opportunity for the students to work as IP team members to develop education materials regarding fall risk, fall prevention, and healthy physical activity for older adults.

### ADVANTAGES

The World Health Organization's<sup>1</sup> *Framework for Action on Interprofessional Education and Collaborative Practice* calls for action to invest in IPE models that support health and wellness. The educational technique described in this article provides athletic training students with experiential learning associated with several CAATE curricular content standards related to IPP; individual and community health care; diversity, equity, and inclusion; and caring for patients/clients with a variety of health conditions.<sup>6</sup> In addition to CAATE curricular content standards, the IP clinical experience assists in addressing multiple CAATE program-related standards related to IPE; diversity, equity, and inclusion; varied client/patient populations; and varying health conditions.

The inclusion of IPE in professional athletic training programs has increased over the past decade.<sup>24</sup> However, many programs have limited opportunities to provide IPE didactic and/or clinical experiences at their universities.<sup>11,24,25</sup> Because of the limited experiential opportunities in athletic training programs, IPE is often taught and assessed using short-term techniques such as simulation, case studies, and short-term projects.<sup>25–29</sup> The ICEM described here serves the athletic training student population with unique opportunities to learn side by side with professions that are not traditionally offered in other athletic training clinical experiences. It also delivers experiences that involve the learner in program development and quality improvement. These interactions allow students to focus on individual, programmatic, and organizational levels of practice. This type of exposure in the clinical setting prepares students to be patient advocates, coordinate care among professions, develop leadership skills, and use community resources.

Healthy People 2030 strives to increase the number of adults engaging in preventive health care.<sup>30</sup> Disparities in preventive health care exist, and team-based care is one solution to address these initiatives. Although ATs have ample opportunities to address SDOH in clinical practice, they may have limited knowledge of SDOH<sup>3,5,22,31,32</sup> and public health.<sup>32</sup> The addition of athletic training educational requirements related to SDOH, caring for medically underserved populations, public health, and health equity provides a valuable opportunity for students to become leaders and change agents in these areas of whole-person care.<sup>3,5,32</sup>

Athletic training programs have not historically required clinical experiences in community and public health.<sup>10,32</sup> In response, this educational technique is designed to prepare athletic training students in responding to health inequities in rural and underserved groups. Purposeful integration of these practice areas through real-time patient encounters will help students understand the role of an integrated health care provider who incorporates individual and community public health in clinical practice.<sup>3,22,31,32</sup>

This educational technique has successfully integrated the AT's role into the model over time. This has been a result of an engaged athletic training faculty champion with experience in IPE. In the clinical setting, we have found success when specifically pairing the athletic training student with the DNP-FNP student and demonstrating collaborative clinical supervision by the licensed DNP-FNP and AT. We have also found success in integrating designated time into the clinical day for each profession to explain their role, education, work settings, scope of practice, and licensing requirements. This is consistent with the IPEC competency of roles and responsibilities and has been particularly informative for nursing, social work, and public health students to learn about the athletic training profession, and for the athletic training student to learn about the other professions.

Before the athletic training program joined the ICEM, clients needing musculoskeletal and orthopaedic assessment and education were referred externally. This led to missed opportunities in preventive health and wellness services being delivered by the clinic. The addition of athletic training students to the ICEM has allowed more comprehensive care and depth to the clinical assessments and interventions delivered.

Students participating in this clinical experience have been impacted greatly by this type of clinical learning. Large-group debriefs completed at each semester end with participating IP students regularly yield 4 themes: IP teamwork, unique learning environment, new learning in primary/secondary prevention, and reaching underserved communities.<sup>18</sup> Over time, the model has extensively increased its capacity to serve IP students and community clients. Since inception in 2017, the ICEM has provided a learning opportunity for more than 1000 students from 17 academic programs.

Athletic training students complete an online preceptor/site evaluation at the end of each clinical experience. Athletic training students participating in the ICEM stated that they valued the opportunity to work with underserved populations and communities and practice communication and collaboration with clients, caregivers, students, and faculty. They felt the clinical experience helped them expand their comfort zone. They gained knowledge of other professions and were able to advocate for the athletic training profession while working side by side with students from other professions.

It is imperative that institutional leaders provide strategic and coordinated guidance to advance collaboration across academic programs<sup>32</sup> and that faculty interested in implementing this educational technique lay the groundwork for infrastructure to support IPE and IPP. Because of the positive impact of this educational technique, we recommend that all students in academic health care programs be required to participate in an IP clinical experience with clients in a community setting. If an academic program is unable to create a structured ICEM, we recommend exploring existing clinical sites to determine if there are potential opportunities to integrate IP collaboration into a current experience.

Currently, this clinical experience is one of several athletic training clinical experiences for the first-year master's-level athletic training students in our program. However, at present not all athletic training students participate in the ICEM because of AT faculty capacity and workload. In the future, it

is a goal that multiple athletic training faculty be engaged in the ICEM and that the number of clinic days be increased to offer additional athletic training students this valuable experience.

## LIMITATIONS

One of the challenges we have encountered when implementing the ICEM is the students' limited foundational knowledge of IPE and IPP. Currently the university does not offer an IP didactic curriculum on foundational concepts of IPE and IPP to any health profession academic programs. To maximize the impact of the ICEM and educational technique for athletic training students, an IP didactic curriculum would be beneficial. Depending on the academic structure of the university, one may need to create an IP course designator or cross-list courses within each academic program participating in IPE.

Another challenge has been the uneven distribution of students that participate in the ICEM, which is the result of varying sizes and clinical requirements of the academic programs that send students to the ICEM. For instance, undergraduate nursing is one of the largest majors at our university, and consequently, their students represent the largest subgroup of the IP team each semester. Athletic training, on the other hand, has a smaller program, and thus the athletic training students are one of the smallest subgroups of the IP team. However, the IP faculty are committed to the IP framework and have developed creative strategies to ensure that students from each profession work together with IP teammates.

Each academic program involved in the ICEM receives feedback from its students. This has provided valuable insight. However, one of our limitations is that we have used a variety of assessment tools throughout the inception of the ICEM instead of consistent tools. For those implementing a similar model, we recommend starting data collection right away for quality improvement and effectiveness. Examples of data collection may focus on the student experience, client experience, community partners, and/or faculty experience.

A final challenge is limited institutional support. At the university level, there have been barriers to changing systems and processes necessary to advance the ICEM. Also, differences between program structures and faculty workload have created varying levels of faculty time allocated to participating in the model. For example, athletic training faculty currently do not receive workload to participate in the ICEM and therefore must volunteer outside of their current faculty position. This limits the number of athletic training faculty available to participate in the ICEM, thereby limiting the number of athletic training students in the ICEM.

## CONCLUSIONS

Incorporating the athletic training student and their athletic training faculty into an existing ICEM has increased IPE and IPP teaching and learning opportunities for students and faculty involved in the model. When delivered through a student-led, faculty-guided clinic, students can collaborate to provide whole-person care to underserved and rural clients/patients. This educational technique presents an intentional process for IPP while creating an avenue for IPE teaching and learning strategies in



the clinical setting. Community-based clinical settings are suitable to engage the athletic training student in delivering care that mitigates challenges for clients/patients affected by SDOH while preparing the student for future practice.

## REFERENCES

1. World Health Organization. *Framework for Action on Interprofessional Education and Collaborative Practice*. World Health Organization; 2010.
2. BOC Standards of Professional Practice. Version 3.4. Board of Certification for the Athletic Trainer. Published January 2021. Accessed December 11, 2022. <https://7f6907b2.flowpaper.com/SOPP012022/#page=1>
3. Wetherington JJ, Pecha FQ. Medically underserved populations: the athletic trainer's role. *Athl Train Educ J*. 2020;15(4):289–294. doi:10.4085/1947-380X-19-92
4. Green W, Sauers E. Meeting personal health care needs in primary care: a response from the athletic training profession. *Athl Train Educ J*. 2020;15(4):278–288. doi:10.4085/1947-380X-82-19
5. Hernandez MI, Miller EC, Biese KM, et al. Secondary school athletic trainers' navigation of patient socioeconomic status challenges in care: a qualitative study. *Int J Environ Res Public Health*. 2022;19(24):16709. doi:10.3390/ijerph192416709
6. Frenk J, Chen L, Bhutta ZA, et al. Health professionals for a new century: transforming education to strengthen health systems in an interdependent world. *Lancet*. 2010;376(9756):1923–1958. doi:10.1016/S0140-6736(10)61854-5
7. Institute of Medicine. *Measuring the Impact of Interprofessional Education on Collaborative Practice and Patient Outcomes*. National Academies Press; 2015.
8. The essentials: core competencies for professional nursing education. American Association of Colleges of Nursing. Published April 6, 2021. Accessed December 11, 2022. <https://www.aacnursing.org/Essentials>
9. Council on Social Work Education. Educational policy and standards for baccalaureate and master's social work programs. Updated September 1, 2022. Accessed December 11, 2022. <https://www.csw.org/getmedia/94471c42-13b8-493b-9041-b30f48533d64/2022-EPAS.pdf>
10. 2020 standards for accreditation of professional athletic training programs. Commission on Accreditation of Athletic Training Education. Updated November 1, 2022. Accessed December 11, 2022. [https://caate.net/Portals/0/Documents/Standards\\_and\\_Procedures\\_Professional\\_Programs.pdf](https://caate.net/Portals/0/Documents/Standards_and_Procedures_Professional_Programs.pdf)
11. Armstrong KJ, Walker SE, Feld SD, Weidner TG. Athletic training students' engagement in interprofessional education in the classroom and during clinical education. *J Interprof Care*. 2021;35(1):101–106. doi:10.1080/13561820.2019.1707173
12. Interprofessional Education Collaborative. *Core Competencies for Interprofessional Collaborative Practice: 2016 Update*. Interprofessional Education Collaborative; 2016.
13. Flaubert JL, Menestrel SL, Williams DR, Wakefield MK, eds; National Academies of Sciences, Engineering, and Medicine; National Academy of Medicine; Committee on the Future of Nursing 2020–2030. *The Future of Nursing 2020–2030: Charting a Path to Achieve Health Equity*. National Academies Press; 2021.
14. Briggs L, Fronek P. Student experiences and perceptions of participation in student-led health clinics: a systematic review. *J Soc Work Educ*. 2019;56(2):238–259. doi:10.1080/10437797.2019.1656575
15. Lie DA, Forest CP, Walsh A, Banzali Y, Lohenry K. What and how do students learn in an interprofessional student-run clinic? an educational framework for team-based care. *Med Educ Online*. 2016;21:31900. doi:10.3402/meo.v21.31900
16. Wilson OWA, Broman P, Tokolahi E, Andersen P, Brownie S. Learning outcomes from participation in student-run health clinics: a systematic review. *J Multidiscip Healthc*. 2023;16:143–157. doi:10.2147/JMDH.S385709
17. Nagel DA, Naccarato TT, Philip MT, et al. Understanding student-run health initiatives in the context of community-based services: a concept analysis and proposed definitions. *J Prim Care Community Health*. 2022;13:21501319221126293. doi:10.1177/21501319221126293
18. Timm JR, Schnepfer LL. A mixed-methods evaluation of an interprofessional clinical education model serving students, faculty, and the community. *J Interprof Care*. 2021;35(1):92–100. doi:10.1080/13561820.2019.1710117
19. TeamSTEPS 2.0. Agency for Healthcare Research and Quality. Accessed December 11, 2022. <http://www.ahrq.gov/teamsteps>
20. Dreyfus SE. The five-stage model of adult skill acquisition. *Bull Sci Technol Soc*. 2004;24(3):177–181. doi:10.1177/0270467604264992
21. Cuchna J, Manspeaker S, Wix A. Promoting interprofessional communication through situation, background, assessment, and recommendation (SBAR): an educational technique. *Athl Train Educ J*. 2021;16(4):255–261. doi:10.4085/1947-380X-19-079
22. Picha KJ, Welch Bacon CE, Normore C, Snyder Valier AR. Social determinants of health: considerations for athletic health care. *J Athl Train*. 2022;57(6):521–531. doi:10.4085/1062-6050-0010.21
23. Hagan JF, Shaw JS, Duncan PM, eds. *Bright Futures: Guidelines for Health Supervision of Infants, Children, and Adolescents*. 4th ed. American Academy of Pediatrics; 2017.
24. Breitbach AP, Eliot K, Cuppett M, Wilson M, Chushak M. The progress and promise of interprofessional education in athletic training programs. *Athl Train Educ J*. 2018;13(1):57–66. doi:10.4085/130157
25. Manspeaker SA, Feld SD, Hankemeier DA, Kirby JL. Integration of interprofessional education within the didactic aspect of athletic training programs. *Athl Train Educ J*. 2020;15(3):168–176. doi:10.4085/150120015
26. Engelmann JM, Phillips LA, Swanchak LE, Ciesielski A. Implementation of an interprofessional education case study during the COVID-19 pandemic. *J Allied Health*. 2021;50(4):269–276.
27. Jutte LS, Browne FR, Reynolds M. Effects of an interprofessional project on students' perspectives on interprofessional education and knowledge of health disciplines. *Athl Train Educ J*. 2016;11(4):189–193. doi:10.4085/1104189
28. Manspeaker SA, Wallace SE. Creating an interprofessional education experience through short-term study abroad. *Athl Train Educ J*. 2019;14(4):315–322. doi:10.4085/1404315
29. Williams ML, Camel S, Ocker LB, Zinn K, Grahovec NE, Frazier H. Student perceptions of interprofessional valuing after a tabletop interprofessional education simulation. *Athl Train Educ J*. 2020;15(1):41–48. doi:10.4085/150119024
30. Office of Disease Prevention and Health Promotion. Increase the proportion of adults who get recommended evidence-based preventive health care—AHS-08. Healthy People 2030. Accessed December 11, 2022. <https://health.gov/healthypeople/objectives-and-data/browse-objectives/health-care-access-and-quality/increase-proportion-adults-who-get-recommended-evidence-based-preventive-health-care-ahs-08>



- 
31. Freiburger R, Picha KJ, Welch Bacon CE, Snyder Valier AR. Educational technique: incorporating social determinants of health into athletic training education. *Athl Train Educ J*. 2020;15(4):321–330. doi:10.4085/1947-380X-79-19
32. Winkelmann ZK, Games KE, Rivera MJ, Neil ER, Eberman LE. Athletic trainers' knowledge and practice application of public health topics. *Athl Train Educ J*. 2020;15(4):308–320. doi:10.4085/1947-380X-19-047
33. Health Professions Accreditors Collaborative. *Guidance on Developing Quality Interprofessional Education for the Health Professions*. Health Professions Accreditors Collaborative; 2019.