

## **Examining Athletic Trainers' Views on Enhancements in Quality of Care Post Continuing Education Conferences**

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### **Abstract**

*As a vital component of all practicing healthcare providers, continuing education serves as a professional resource in maintaining knowledge and skills. Quality of care improvements has been essential in daily practice for healthcare professionals. How continuing education conferences impact the quality of care improvements for athletic trainers remains unknown. This qualitative research study explores the perceptions of Certified Athletic Trainers on quality of care improvements following attendance at continuing education conferences, providing a greater understanding in this area to better utilize this formal continuing education format. Knowles's theory of Andragogy and Donabedian's quality of care model serves as the framework for this basic qualitative study. This study utilized a basic qualitative design, and data were collected through semistructured interviews to explore perceptions of quality of care improvements. Purposeful sampling was used to select specific participants who held the ATC credential and showed a record of attendance at National Athletic Trainers' Association conferences. Data analysis was conducted using deductive thematic analysis using general ideas, then creating themes, and progressing to specific deductions. Three themes emerged: inspiration and collaboration, conference efficacy, and patient and quality improvements. While the quality of care improvements has always depended on the individual healthcare provider in their respective settings and for their patient population, it is the perspective of the athletic trainers in this study that more implementation of these improvement measures and projects should be included in conference curriculums.*

**Key Words:** *Athletic training education, quality of care, continuing education, higher education, healthcare education, athletic training.*

### **Introduction**

All healthcare professionals are unique individuals who undergo formal education and training through a specific program designed to produce the advanced knowledge, skills, and tools needed to perform their role in the healthcare industry upon graduation. The next step for any healthcare provider as their career develops is continuing education (CE). CE begins when the provider starts their professional journey and continues for the remainder of their career. Because of this, CE has become the model for healthcare professional learning that spans the longest amount of time and serves two main functions: introduction and maintenance of new concepts and skills for the professional's current practice and translation of knowledge into practice (Institute of Medicine, 2010). CE has become the primary focus in response to improving the competency of the healthcare professional (Bastable et al., 2019). In other words, CE is the primary means of post-formal education to transmit knowledge and skills or refresh previously acquired knowledge and skills (Bastable et al., 2019).

Globally, healthcare industry professionals have investigated CE as an essential component of improving the quality of care (Ruadze et al., 2021). For the past three decades, quality of care improvement has driven education and knowledge development for healthcare professionals and the healthcare system nationally (Nash et al., 2019). As healthcare continues to evolve and improve, so does the need for continued improvements in the quality of care provided to patients. This emphasis on healthcare quality has become a focal point and a priority for many healthcare policies and procedures (Gracia-Perez & Gil-Lacruz, 2018). While continuing education for healthcare providers has improved, according to the research by Will and Essary (2021), comprehensive, highly valued quality of care focused on patient-centered outcomes is lacking in current continuing education programs. Healthcare professionals continue seeking CE activities to gain more knowledge and skills in this area to close potential gaps (Will & Essary, 2021). Certified Athletic Trainers are no different in seeking out CE activities to improve their quality of care and patient outcomes and maintain their knowledge and skills.

Continuing education and professional development (PD) are two terms that are often interchangeable; however, there is a distinct difference. Professional development primarily refers to the education that is gained by a professional through self-directed learning programs and quality improvement related to their current role or work setting. CE is often formatted through didactic learning methods and typically involves clinics, conferences, and webinars in traditional lecture-style, or auditorium-based settings focused on improving the professional's knowledge and skills needed to maintain their standards of practice (Institute of Medicine, 2010).

Continuing professional development (CPD) is another relatively new term modeled after CE, combined with other elements of professional development (Institute of Medicine, 2010). CPD is often used as an umbrella term for formal and informal activities encompassing a multi-use approach to continuing education (Samuel et al., 2021). These terms for improving or maintaining knowledge and skills may utilize various activities that the healthcare provider can choose. Conferences, conventions, seminars, lectures, congresses, workshops, meetings, publications, and research are standard educational and developmental methods healthcare providers use to enhance their self-efficacy and patient efficacy further. For this study, the term "continuing education" will refer to all approaches of any post-formal, education, or development process that healthcare professionals utilize to advance their knowledge and skills after graduating from formal training. Athletic trainers have CE requirements based on their certification standing and the state's professional practice rules and regulations (Board of Certification, 2022).

There are numerous avenues and programs that athletic trainers use to obtain CE, including webinars, workshops, home study courses, and annual conferences (National Athletic Trainers' Association, 2022). This study primarily focuses on the formal CE activity of conferences. Athletic training conferences typically provide a multi-day event including a wide variety of seminars, lectures, workshops, small group discussions, and panels covering topics intended to offer the professional options to fit their individual needs or topics related to their practice setting and patient population (National Athletic Trainers' Association, 2021). This comprehensive term, "conference," is often used to represent many similar terms. This umbrella term will be used in this study to represent all similar terminology, including conventions, large seminars, congresses, symposia, or annual meetings.

Continuing education is a beneficial and necessary means for athletic trainers to maintain and further improve their knowledge and skill development related to clinical practice standards. The profession of athletic training is relatively newer compared with the healthcare professions of nurses or physicians; however, it is a growing allied healthcare field, and the supporting research is catching up. Positive changes and improvements have been made in the realm of continuing education. In 2015, the National Athletic Trainers' Association introduced a structured framework to guide future advancements in athletic training education (Berry, 2021). The Institute of Medicine has stated that more improvements must be made globally to enhance healthcare deliverables, quality of care, and the skill level of healthcare practitioners through innovative educational programs to advance clinical practice (Anderson et al., 2020). Formal training and education are the primary methods for achieving advanced clinical practice (Anderson et al., 2020). Continuing education has become a necessity and a requirement for lifelong learning. It ensures the public and the provider meet the highest standards of competence and professionalism (Rabasco et al., 2021).

Research has been positive regarding the benefits of formal schooling in athletic training, from entry-level education to graduate-level education. However, there is little evidence in the literature to state the positive quality of care outcome improvements due to attendance at CE conferences. The healthcare industry uses education meetings as a critical component of continuing education to present information, new knowledge, and new types of care and to encourage improved practices (Forsetlund et al., 2021). Continuing education continues to expand with the increase in healthcare providers entering the workforce. According to the Accreditation Council for Continuing Medical Education (ACCME), healthcare providers have invested over 2.8 billion dollars in continuing education (Samuel et al., 2021). With the continued increase in healthcare services being provided and the ongoing growth of continuing education on an industry-wide level, more understanding is needed as to the efficacy of CE conferences for improvements in the quality of care by athletic trainers.

## **2. Purpose of the Study**

The purpose of this basic qualitative research study was to explore the perceptions of National Athletic Trainers' Association conference attendees about their experiences of improved quality of care in their work following their attendance at such continuing education conferences. Perceptions of quality of care improvements gathered from the efficacy of CE conference attendance may provide a better understanding of utilizing this formal continuing education format. More information was needed to bridge the literature gap in this area to supply more efficient tools that may improve the profession of athletic training from continuing education development and the healthcare professional's quality of care provided to patients. This qualitative study explored perceptions from Certified Athletic Trainers through semistructured interviews.

## **3. Research Question**

The RQ that guided this basic qualitative study is as follows:

**RQ1.** What are the perceptions of Certified Athletic Trainers regarding their experiences of improved quality of care in their work following attendance at National Athletic Trainers' Association conferences?

## **4. Theoretical Framework**

The conceptual framework for this study came from the foundation of the Donabedian model (Ayanian & Markel, 2016) and the theory of Andragogy (Pappas, 2014), which provided the theoretical grounding for the study. The theory of Andragogy by educator Malcolm Knowles (Pappas, 2014) links how effective learning can occur from CE activities for adult learners. The Donabedian model, named after the formative work of Avedis Donabedian, is a conceptual model used to identify three measures of quality care: structure, process, and outcomes (Ayanian & Markel, 2016). Research reveals that the concept of patient-centered outcomes, which originated from Donabedian's model, remains a goal of healthcare professionals. However, the inclusion of patient-centered outcomes in current healthcare curricula does not always translate successfully into the healthcare professional's practice (Santana et al., 2018).

As a primary component of quality of care, patient-centered outcomes should be embedded in continuing education programs, and curricula should be integrated with informal training, continued leadership, and development training through the utilization of mentors and role models in hopes of creating a continual change with patient outcomes (Santana et al., 2018). This founding principle of quality of healthcare improvement provides one component for the guiding theory of this qualitative study. The problem addressed revolves around the principle that it was unknown whether attending continuing education conferences improves the quality of care. To fully understand any improvements made in the quality of care, the elements of this essential process were examined and utilized. Donabedian's model of quality of care measurements provided the foundation to guide this framework.

According to Educational Psychologist Dale Schunk (2020), linking the behaviors educators seek with positive consequences is the foundation of behavior theories; this should be the ultimate goal of any theory trying to explain learning. Andragogy plays a vital role in a healthcare professional's continuing education. The intrinsic motivation and the choices made for learning are essential components of effective continuing education. One of the primary principles of andragogy is that learning is sought out for intrinsic value (Pew, 2007). Andragogy also calls for the adult learner to have specific measurables and performance outcomes (Pew, 2007). The reasoning behind what is chosen and the motivation behind that is the core of this research problem. This theory of adult learning provides the second component that guides this framework.

The foundation of continuing education for athletic trainers is guided by the essential elements of Malcolm Knowles's theory. The process by which adults learn and are motivated to learn is based on the theory that knowledge and skill development must be presented in a way directed to a specific goal for the learners (Flanagan, 2022). Adults also tend to learn intrinsically. Information can be presented in a multitude of formats; however, most adults lean toward intrinsic motivation to leverage the knowledge presented and be able to reinforce and apply that knowledge in practice (Flanagan, 2022). Athletic trainers' perspectives on improving the quality of care came from the challenges of how CE conferences present information and skill development to those adult professional learners. These concepts guide this qualitative study to examine the perspectives that may lead to a greater understanding of CE curriculum and programming to improve the quality of care in the athletic training profession. Another step must be taken to determine if the primary outcomes from CE conferences are reaching the perceived efficacy. Athletic trainers choose conferences for many reasons; however, the belief and thought process behind what is gained and learned from these CE conferences is the problem addressed.

## **5. Methodology**

### **5.1 Participant Sampling**

The population for this qualitative study involved Certified Athletic Trainers with experience attending continuing education conferences. Purposeful sampling was used to select certain participants that met the criteria of holding a current ATC credential and had a record of attendance at National Athletic Trainers' Association conferences within the last 5 years.

A sampling of 13 participants was used to reach saturation of the information gathered. Participant characteristics such as professional setting, age, gender, and geographical location were not exclusion criteria for this study. Perceptions were collected from these professionals to understand better the effect on the quality of care in their practice from their attendance at National Athletic Trainers' Association conferences. The professional athletic training population utilizes conferences to obtain a majority of the continuing education units needed each reporting period to maintain their national certification. For this research study, the perceptions of Certified Athletic Trainers provided information from conference experiences better to understand the potential impacts of quality of care improvements.

## 5.2 Data Collection Methods

This research study used three instruments: interview questions, the interview protocol, and the field notes. This interview protocol, often used in healthcare research, is flexible and still maintains a necessary structure for gaining the participants' perceptions. This research study utilized a semistructured interview approach that included three main structured questions and two to three open-ended follow-up questions. The questions were designed to be concise and clear, avoiding jargon and complex sentences or ideas. The interview questions were created using the conceptual framework of this study. The interview protocol guided and directed the conversation toward the research focus. This protocol keeps the focus of the interview questions on the subject matter while remaining aligned with the research questions and coding to facilitate a high-quality data collection process (Castillo-Montoya, 2016).

Interview field notes were also utilized to ensure that all information was accounted for, and that memory, self-reflection, and identification of any emergent themes were maintained (Phillippi & Lauderdale, 2018). Based on the research by Phillippi and Lauderdale (2018), interview field notes ensure that contextual information gathered from the data collection process is documented and remains beyond the initial collection. Field notes were utilized in this study to ensure that any additional information was not overlooked or forgotten during data collection.

## 5.3 Data Analysis

Analysis of the data obtained from the semistructured interviews began with transcribing all audio recordings. After all the interviews were transcribed into text, the data were then uploaded into Delve software tool. Applying descriptive codes was completed to look for themes and patterns to test the theory. Deductive thematic analysis was completed on the data, using general ideas first, then codes were developed, progressing to specific conclusions (Bingham, 2020). A thorough overview of the data occurred in the first step of the analysis process, which involved reading through the transcripts of the interviews and listening to the audio recording via the Happy Scribe transcription software. The second step consisted of identifying the codes within the data. *A priori* coding was used to validate the framework of Donabedian's model of quality of care and Knowles's theory of Andragogy. The *a priori* codes selected were outcomes, processes, collaboration, adult learning, motivation, and effective instruction. These codes were used to create a scheme to investigate information in the perceptions of Certified Athletic Trainers on quality improvements gained from attendance at continuing education conferences. This top-down approach helped to create sound, reasonable conclusions. This form of data analysis is often used to discover information from an individual's thoughts or perceptions. The literature is clear on the importance of accurate and efficient data collection and analysis and the role it plays in measuring the quality of care (Coombes et al., 2022). Delve software tool was used to select recurring patterns from the codes across the data set. Additional codes emerged: location, cost, and didactic and kinesthetic instruction.

## 6. Results

As the data were examined, three main themes emerged (Table 1): *inspiration and collaboration*, *conference efficacy*, and *patient and quality improvements*. Table 1 shows the subsequent categories and codes that also became evident. These three themes represent the opinions and perceptions of the Certified Athletic Trainers who participated in the study.

**Table 1**

*Description of Themes*

<b>RQ: What are the perceptions of Certified Athletic Trainers regarding their experiences of improved quality of care in their work following attendance at National Athletic Trainers' Association conferences?</b>		
Themes	Categories	Codes
Theme 1: Inspiration and Collaboration	Association, Networking	Location, cost, socializing, meeting new people
Theme 2: Conference Efficacy	Impact	Return on Investment, Didactic Instruction, Kinesthetic Instruction
Theme 3: Patient and Quality Improvements	Knowledge transfer, Skills	Improvements, Techniques

***Inspiration and Collaboration***

The participants in this study all chose to attend the NATA annual conference based on personal selection. None of the participants noted having a workplace or business requirement to choose the NATA conference to obtain their CEUs. A common perception that emerged from the majority of the participants was the importance of location and cost being a factor in their selection of attending the NATA annual conference compared with other choices for their CEUs. P4, P8, P9, and P12 all remarked that location was a key factor in their motivation for choosing the NATA conference. P4 stated, "Location is key for me. If the conference is in a spot that I want to visit, that goes into my consideration for attending the NATA conference that year." The cost was mentioned as another motivating factor for attending the NATA conference. While the majority of participants believed that the cost to CEU ratio was adequate, one participant noted that this return on investment was a significant motivating factor in attendance each year. P7 mentioned, "if the course content doesn't interest me, then I'm not going to spend my time and money."

The athletic trainers interviewed did mention other sources of obtaining their CEUs, including webinars, online quizzes, and even other conferences; however, 12 of the 13 participants stated that the NATA conference was their primary choice each year. The majority of the participants attended the NATA conference on an annual basis. P1 noted that in the entirety of their career, every NATA conference was attended except for one. The opportunity to network and socialize with former and current colleagues and friends was mentioned as a main inspiration behind attending the NATA conference. Every participant, with the exception of P3 and P13, said networking or collaboration with other professionals was a significant reason for attending the NATA conference. P6, P7, P8, and P10 all stated that networking was the main reason for their selection of the NATA conference as their primary method of obtaining their CEUs each year.

***Conference Efficacy***

A recurring theme that became evident was the effectiveness behind the NATA annual conference. While all participants viewed the NATA annual conference as a staple in how their CEUs were obtained during the reporting period, there were mixed responses on the effectiveness of the overall conference curricula. The majority of the athletic trainers viewed the Advanced-Track seminars and workshops to be of higher quality and more effective in learning a new technique or skill when compared to the traditional lecture-style, didactic model of instruction. P3 believed that there was a "higher quality of education" from attendance in the advanced track workshops and added that the "workshops are probably a little more effective than those larger lectures." P4 stated that the advanced track workshops are "good because the content provided is something new and easy to learn." P13 mentioned the workshops have a "bigger benefit and something that solidifies more of what you might want to use in a clinical versus sitting in a one-hour lecture session."

Additionally, the athletic trainers interviewed felt the value of the NATA conference was a top choice based on the variety of the course programming and the overall numbers of CEUs available to earn during the 3 to 4 days of the conference. P2, P4, P7, P11, and P13 all mentioned the large amount of CEUs available in a relatively shorter amount of time compared to obtaining CEUs through hourly online quizzes or webinar sessions.

***Patient and Quality Improvements***

As the participants expressed their perspectives on their attendance at NATA conferences, one theme that emerged primarily involved patient population and improvements in the quality of care provided to the respective patient populations. While each participant perceived the importance of quality of care, most athletic trainers interviewed were not currently utilizing any quality of care improvement or patient-related outcome tracking measures. The participants agreed that quality of care improvement was essential for the practicing clinician.

Regarding the efficacy of quality of care improvements directly from conference attendance, the majority of participants believed more could be included in the future. P5 stated,

“I feel like the idea of quality improvements within athletic training education hasn’t necessarily been implemented within the past couple of years. So, for practicing clinicians who graduated quite some time ago, I don’t think their perception of quality improvement is necessarily a thought within their clinical practice. So, information on how to apply these quality improvement projects is needed within these conferences. How to implement a quality improvement project and then from their courses on completed project would be beneficial so that athletic trainers can see the benefit of these quality of care improvement projects.”

P5 also followed up by saying, “I definitely feel it would be beneficial to see more quality of care improvement lectures and seminars.”

When asked whether the participant has learned about quality improvements or patient outcome tracking measures from a continuing education conference, P7 responded,

“I don’t remember except for maybe one time where improvement measures were discussed at a conference. It needs to be addressed more nationally. But this seems difficult depending on the employment setting and who is in charge of the conference curriculum. In terms of patient-reports outcomes and improving the quality of care, athletic trainers need help.”

Other participants mentioned that most learning quality of care improvement measures came from their time in formal education during their athletic training programs or from their workplace setting. P6 and P8 both believe, in large part, any quality of care improvement information or applications learned have come from the workplace setting. P8 mentioned that “quality of care should be affected by athletic trainers going to a conference, but I don’t believe they do. I don’t think enough of that information is talked about at conferences.”

The recurrence of specific codes and their frequency are represented in Table 2. Many of the perceptions of the athletic trainers on conference attendance focused on motivation for attending, networking, the type and delivery of instruction, and quality of care and patient-related outcomes. Location and cost were also major contributing factors to attendance.

**Table 2 Codes, Categories, and Themes that Answer the Research Question**

Research Question	What are the perceptions of Certified Athletic Trainers regarding their experiences of improved quality of care in their work following attendance at National Athletic Trainers’ Association conferences?		
A Priori Codes (frequency of occurrence)	Codes (frequency of occurrence)	Categories	Emergent Themes
Motivation (56)	Location (7) Cost (6)	“Collaboration”	“Inspiration and Collaboration”
Collaboration (24)	Socializing (14) Meeting new people (5)	“Networking”	
Adult Learning (56)	Kinesthetic Instruction (13) Didactic Instruction (8)	“Impact”	“Conference Efficacy”
Effective Instruction (84)	Return on Investment (7)		
Outcomes (64)	Improvements (8)	“Knowledge Transfer”	“Patient and Quality Improvements”
Processes (26)	Techniques (10)	“Skills”	

The highest frequency of codes was effective instruction, mentioned 84 times; outcomes of patients mentioned 64 times; and adult learning and motivation, both mentioned 56 times (Table 2). The outcomes of the data suggest that while athletic trainers perceive NATA conferences as beneficial, more education and information on the quality of care improvements need to be included in conference curricula. The data further answer the problem statement and research question for this qualitative study concerning it being unknown if NATA conference attendees experience improved quality of care in their work following their attendance in continuing professional education conferences. The data would suggest that while athletic trainers believe improvements in professional practice and personal improvements occur, quality of care improvements may not be directly affected.

## 7. Conclusions

The research study focused on exploring the perceptions of Certified Athletic Trainers regarding their experiences of improved quality of care in their work following attendance at National Athletic Trainers' Association conferences. This research study provided evidence in a few essential areas of emphasis. Three main themes emerged from the participant's responses: *inspiration and collaboration, conference efficacy, and patient and quality improvements*. The findings provided evidence that additional quality of care improvement measures and information must be incorporated into conference curricula. Majority of the participants revealed that the primary reasons for attending specific courses at a conference were personal interest or patient population. None of the participants noted that improving the quality of care was the primary reason for course selections.

This research study provided evidence of National Athletic Trainers' Association (NATA) conference attendees' experiences on quality of care efficacy and the impact on their work following their attendance in continuing professional education conferences. Of the participants, 62% said that they believe the quality of care has the potential to be affected by attendance at a NATA annual conference. However, most of those participants stated that quality improvements could come in the form of networking and personal interest improvement measures. However, the majority of the participants, 69%, said they had not experienced a significant amount of learning in regard to the quality of care improvement measures from a conference, and 77% stated they would like to see more quality improvement measures included in future conference curricula. The research question asked if conference attendance related to improvements in the quality of care in the athletic trainer's work. Research from Santana et al. (2018) found evidence that curricula do not always translate successfully into the healthcare professional's practice, including quality improvements and patient-related outcome measures in healthcare. The evidence from this research study shows that while 62% believe quality improvements can be affected by conference attendance, 85% of the athletic trainers who participated do not currently implement any formal quality of care improvement measures in their daily practice.

Continuing education platforms and activities can utilize the previous research and this study to improve and include innovative learning environments focused on quality of care improvements. Research by Wilson et al. (2021) showed that while athletic trainers perceived great value in patient-centered care and overall quality of care, there are inconsistencies with valid measuring comparatively with other medical professions. Research on comprehensive continuing education for the athletic training profession also shows promise. Research by Babiraz et al. (2021); Benedict et al. (2022); and Welch-Bacon et al. (2021) all examine selections, curriculum, and barriers to continuing education for the athletic trainer. The literature confirms that continuing education, as in other healthcare fields, is beneficial for the athletic training practice (Babiraz et al., 2021; Benedict et al., 2022). Contributions in this area provide data that continuing education provides essential components for athletic trainers to maintain highly skilled and knowledgeable qualities in their practice (Babiraz et al., 2021). While these contributions are crucial, the research on the quality of care improvements from attendance at continuing education conferences remains insufficient. This study has attempted to provide data to fill in a portion of the literature gap in research on NATA continuing education conferences and the efficacy of quality of care improvements from attendance at these conferences. Some research suggests that traditional continuing education activities, such as conferences and seminars, have shown only an insignificant impact on the healthcare professional's practice (Archibald et al., 2020).

The goal of this research study was to inform the athletic training profession of the improvements in quality of care from attendance at NATA annual conferences by providing the perceptions and experiences of the professionals themselves. Specific behaviors leading to improvements in the quality of care are difficult to change. Creating a potential improvement or positive change by looking at the system as a whole; however, in this case, the athletic training profession can create possibilities and opportunities to improve upon a vital aspect of every practicing athletic trainer regarding the quality of care. Quality of care improvements should be continuous throughout a professional's career. By increasing information and awareness of this area, more focus can be placed on the high-quality continuing education provided to athletic trainers through conferences to improve the quality of care for their patients.

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