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ORIGINAL RESEARCH

# Athletic Training Students' Perceptions of Civic Engagement After a Service-Learning Experience in a Free Medical Clinic

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**Context:** The benefits of service-learning experiences have been reported throughout health care education, yet no recent empirical investigations have been made of the effect of service-learning experiences on athletic training students. Two commentaries, published over 10 years ago, promoted the benefits of and need for service-learning experiences in athletic training education, yet no studies have been published that measure the effect of service-learning in athletic training education.

**Objective:** To assess athletic training students' attitudes and perceptions of community service and civic engagement after participating in a service-learning experience involving underserved populations.

**Design:** Quasiexperimental.

**Setting:** Free medical clinic in an urban location in the Midwest.

**Patients or Other Participants:** Twenty-eight final year undergraduate athletic training students (18 females, 10 males, 21.3 $\pm$ 0.6 years old).

**Intervention(s):** Students participated in 4 hours of service-learning experience in the fall and spring semesters, for a total of 8 hours, in a free medical clinic.

**Main Outcome Measure(s):** The Center for Healthy Communities Service-learning Survey (1999, with permission) was administered anonymously online (Qualtrics Inc) before and after the service-learning experience.

**Results:** Statistically significant changes were found in 3 of the 15 items: "I feel well prepared to practice my profession in a community similar to the community in which my placement is located" ($U = 242$, $Z = -2.205$, $P = .027$), "I believe students should volunteer their time helping people without resources" ($U = 235.5$, $Z = -2.244$, $P = .025$), and "I feel that I can have a positive impact on the community in which I work by volunteering my time" ($U = 253$, $Z = -2.054$, $P = .040$).

**Conclusions:** Athletic training programs should consider incorporating service-learning into their curriculum to enhance their students' preparation to serve diverse patient populations and become civically engaged professionals.

**Key Words:** Clinical education, socioeconomic status, social determinants of health



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# Athletic Training Students' Perceptions of Civic Engagement After a Service-Learning Experience in a Free Medical Clinic

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## KEY POINTS

- Service-learning experiences can assist athletic training programs in enhancing their students' preparation to serve a variety of patient populations and become civically engaged professionals.
- The positive effects of service-learning can become measurable after relatively brief experiences.
- Service-learning experiences have the potential to assist athletic training programs with assessing Commission on Accreditation of Athletic Training Education Professional Education Curricular Content Standards.

## INTRODUCTION

Service-learning is a class-based experience rooted in reciprocal learning and involves the application of knowledge learned in the classroom in real-life situations, followed by reflection of the experience.[1,2] Experiences are codeveloped with community partners with the intent to enrich knowledge and skills, improve the community, and promote civic responsibility.[3] Service-learning is differentiated from other experiential learning activities by being equally beneficial to the student and community partners.[1,3] The American Association of Colleges and Universities (AAC&U) has deemed service-learning as a high-impact educational practice which allows students the opportunity to apply their skills and knowledge in the real-world setting. The AAC&U further highlights the bridging of service-learning experiences to the classroom and vice versa.[2]

Empirical evidence supporting the value of service-learning experiences is readily available in most health care professions, being cited as a "fundamental component of medical education."[4] Its positive effects have been documented in pharmacy,[5–9] medicine,[4,10,11] physical therapy,[12,13] nursing,[14–16] and public health education[17–19] literature. Kearney[6] measured the effects of a service-learning course on year 1 pharmacy students by comparing responses to open-ended questions to a group of similar year 1 pharmacy students that did not complete a service-learning course. Their findings revealed that the students who completed the service-learning course demonstrated greater knowledge in 4 of 5 content areas assessed, including elements of effective communication, information regarding different cultures, the elderly, and community awareness. Ko et al[5] examined the effect of service-learning experiences in 222 second-year and 200 third-year pharmacy students through qualitative analysis of postexperience essays. Their results demonstrated an increase in students' sense of civic responsibility, volunteerism, and patient advocacy after service-learning experiences in a variety of free medical clinics after one 3-hour visit. Other investigations specific to students in pharmacy programs demonstrated increased perceptions of ability to evoke improvement in care, organization, or education within a care facility,[7] increased sense of satisfaction in working with underserved patients, increased sense of ability to have an effect on the health care of underserved patients, increased perception that pharmacy education should include experience in caring for underserved patients,[8] and improvements in pharmacy learning outcomes.[6]

In their interviews of physical therapy students 2 to 3 years after completion of their international service-learning experience, Collins et al[13] revealed 3 persistent themes: whole-person care, relationships, and way of being (as related to one's temperament, attitudes, and approach to life situations), in addition to statistically significant changes in overall scores on the Cross Cultural Adaptability Index. Each of these effects endured the 2-year duration from the service-learning experience to the interview. Likewise, Hand et al[11] reported service-learning experiences with underserved populations as a potential method of preventing the diminished sense of empathy that often accompanies medical training. In interviews of early-career physicians who had participated in service-learning as medical students, 4 themes emerged: (1) service-learning provided the opportunity for students naturally inclined to service; (2) caring for the underserved in clinical practice; (3) increased sensitivity to underserved patients; and (4) enhanced leadership, organizational, and administrative skills. Their findings suggest that service-learning experiences during medical education could curb the tendency for early-career physicians to become apathetic and insensitive toward underserved patient populations.

While the benefits of service-learning experiences have been reported throughout health care education, no recent empirical investigations have been made of the effect of service-learning experiences on athletic training students. Two commentaries regarding service-learning in athletic training education were published over 10 years ago, both of which endorsed the benefits of and need for service-learning experiences in athletic training education.[20,21] Through Kolb's Experiential Learning Theory, Heinerichs and Gardiner-Shires[21] promoted service-learning experiences as a means of educating society about the skillset of athletic trainers and enhancing our visibility while concurrently providing clinical educational experiences to athletic training students. The authors highlighted the benefits of service-learning to students, education programs, institutions of higher education, and the patients and clients receiving care or assistance through the service experience. Similarly, Towne[20] dared to encourage athletic training educators to embrace service-learning and challenged athletic training educators to see clinical education far beyond traditional athletic training settings, both geographically and demographically.

Service-learning has become a curricular cornerstone in the education of other health care professions to assess a plethora of metrics, including but not limited to cultural competence, civicmindedness, leadership skills, advocacy skills, empathy, and curricular learning outcomes, yet it has not been common practice in athletic training education. For any practice to become routine, it must first demonstrate value to those who are investing time and monetary resources. Therefore, the purpose of our study was to assess athletic training students' attitudes and perceptions of community service and civic engagement after participating in a service-learning experience

involving underserved populations. We hypothesized that athletic training students' attitudes and perceptions of community service and civic engagement would increase upon completion of their service-learning experience.

## METHODS

In this study, we used a quasiexperimental pretest-posttest design to examine athletic training students' attitudes and perceptions of community service and civic engagement after a service-learning experience involving underserved populations. The experience took place in a free clinic operated by nurse practitioner faculty and students.

### Faculty Training and Experience Conception

Bringle and Hatcher[22] highlight the importance of faculty development activities when implementing service-learning in higher education. In accordance with these guidelines, the authors participated in an institution-sponsored service-learning institute led by community-based learning experts where the service-learning experience was conceptualized and developed. The training involved a 3-day workshop which focused on best practice for integrating service-learning activities into curricular content. Participants were led through activities to develop experiences, align course learning goals, enhance student growth and civic awareness, and strengthen the community.

### Community Partner

The service-learning experience was developed in collaboration with a free walk-in medical clinic in an urban location within the same county as the university and is approximately 10 miles from campus. The free clinic was established by nurse practitioner faculty at a local health science college in partnership with a nearby Salvation Army to provide free health care to the underserved. Under the supervision of faculty, the clinic is run by nurse practitioner students. The county in which the clinic is located is designated as a low-income population health professional shortage area[23]; 16.4% of the residents of the city in which the free clinic is located are below the poverty line as compared with 12.2% of the county residents and 11.1% for the entire state, as reported by the US Census Bureau.[24] Over 90% of the patients seen in the clinic are living at or below 200% of the federal poverty level as set by the Department of Health and Human Services.[25]

### Participants

The quasiexperimental pretest-posttest study design comprised students enrolled in a course within an accredited undergraduate athletic training program at a Midwestern regional comprehensive university (fall n = 28, spring n = 26). All students were in their final year of the athletic training program.

### Service-Learning Experience Procedures

**Student Orientation.** Based on recommendations by Bowen,[26] before initiating the service-learning experience, students received an orientation to the community in which the service-learning experience took place. A 50-minute educational session was led by an institutional library liaison where students explored the composition and characteristics of the community, along with the current social, economic, and cultural conditions. Students were prompted to examine a variety of social determinants of health using online databases. For example, the students explored the differences between situational and generational poverty, poverty rate, and rate of free and reduced lunches within the county. The session concluded with students exploring their personal biases toward the concepts discussed.

**Service-Learning Experience.** Each student participated in one 4-hour service-learning experience in the fall semester and another 4-hour experience in the spring semester, for a total of 8 hours. Athletic training faculty provided supervision during the experience, along with nurse practitioner faculty. No more than 3 students attended the experience on the same day. Each student had at least 1 patient encounter during the experience. Students participated in conducting patient intakes, assessing for social determinants of health, and performing system-based assessments according to patients' complaints. As intended, the students worked with nurse practitioner students to collaboratively develop patient treatment plans. Depending on the encounter, students may have had the opportunity to collaborate with nursing students, translators, and pharmacy residents, in addition to nurse practitioner students. In comparison with typical general practice settings, the free walk-in clinic offers practitioners the opportunity to spend a greater amount of time with each patient, as they are not seen on an appointment basis. Therefore, 1 patient encounter could have consumed a large portion of the student's 4-hour visit to the clinic. When not engaged in direct patient care, students would partake in clinic maintenance, patient educational material review, and interprofessional skill and knowledge review sessions.

### Instruments

To evaluate the effect of the service-learning experience on students' attitudes and knowledge related to civic, cultural, and social awareness, the Center for Healthy Communities Student Survey was administered anonymously (1999, with permission) via online Qualtrics Survey Software (Qualtrics LLC). The Center for Healthy Communities Student Pre-Service Survey was administered at the beginning of the student orientation, before the students' first service-learning experience. The Post-Service Survey was administered after their second experience. The instrument has been deemed reliable and valid in previous publications.[14,27,28] Both the pre-experience and postexperience instruments consisted of 15 attitudinal Likert-scale items, which assessed student perceptions of civic engagement, cultural competence, and social justice and health disparities. All items were answered using a 7-point scale (1 = *strongly agree*, 7 = *strongly disagree*).

### Data Processing and Statistical Analysis

Data were collected anonymously via online Qualtrics Survey Software (Qualtrics LLC) for educational quality improvement purposes and to inform future programmatic decision making. Retroactive university institutional review board approval was sought and obtained to use and analyze the data for research purposes. Participants were provided with an informed consent document by an instructor of the course who was not a primary or contributing investigator. The data were imported into IBM SPSS (version 24; IBM). Since the

**Table 1. Participant Demographics**

| | Pretest, No. (%) | Posttest, No. (%) |
|---|---|---|
| Sex | | |
| Male | 10 (35.7) | 9 (34.6) |
| Female | 18 (64.3) | 17 (65.4) |
| Other | 0 | 0 |
| Race or ethnicity | | |
| African American | 0 | 0 |
| Asian American or Pacific Islander | 0 | 0 |
| Caucasian or European American | 26 (92.9) | 25 (96.2) |
| Latina, Latino, or Hispanic | 0 | 0 |
| Native American or Alaskan Native | 0 | 0 |
| Other | 2 (7.1) | 0 |
| Did not answer | 0 | 1 (3.8) |

data were collected anonymously, a Mann-Whitney $U$ test was used to analyze the 15 Likert-scale items on the instrument, with significance set at $P < .05$.

## RESULTS

A total of 28 students (age = 21.28 ± 0.6 years) participated in the service-learning experience in the fall semester and consented for data to be used in the study. One student was lost to winter graduation, and another was lost to program attrition, for a total of 26 students (age = 21.96 ± 0.66 years) participating in the experience in the spring semester (Table 1).

Statistically significant changes were found in 3 of the 15 items on the instrument (Table 2). Mean scores decreased on the Likert-scale from pre-experience to postexperience for the following items: "I feel well prepared to practice my profession in a community similar to the community in which my placement is located" ($U = 242$, $Z = -2.205$, $P = .027$), "I believe students should volunteer their time helping people without resources" ($U = 235.5$, $Z = -2.244$, $P = .025$), and "I feel that I can have a positive impact on the community in which I work by volunteering my time" ($U = 253$, $Z = -2.054$, $P = .040$). Students' responses to all 15 items averaged 3.5 or lower on the pre-experience survey, indicating that the group had an overall neutral to somewhat positive perception of community service and volunteerism, even before the service-learning experience. The item "I believe it should be mandatory for health care professions students to participate in community service" approached statistically significant change ($P = .08$).

## DISCUSSION

The purpose of service-learning is to produce communal long-term change, with a focused goal on student learning and service to the community.[1,26] Our study was an exploration into the effect of a service-learning experience in a free medical clinic on athletic training students' attitudes and perceptions of community service and civic engagement. Our results revealed that even limited exposure to a service-learning experience can manifest positive influence on athletic training students. Although statistical significance is less likely to be achieved when pretest scores are rather high on the scale of measure, 3 items on the Center for Healthy Communities Student Survey did reach statically significant levels of change. The highest pre-experience scores were 3.5/7 on items 5 and 11. The postexperience scores for item 5 changed significantly, indicating a shift in students' perceptions of preparation. However, the score for item 11 stayed relatively stable. The scores on item 11 were similar, both pre-experience and post-experience, in previous studies as well, all in the 3 to 3.6/7 range.[14,29] This could be due to the potential that the students participating in the experience desire to work in settings and geographical locations where they feel supported by a community of health care providers, rather than working in isolation from other health care providers. While athletic trainers work in relatively isolated conditions in certain practice settings, it is common for health care professionals to gravitate toward professional collaboration and interaction.[30]

The 3 items that reached statistical significance pertained to students' perceptions of student volunteerism, preparation to practice in communities like where the free clinical was located, and perceptions of their ability to have an effect through volunteerism. Items pertaining to intent to integrate service to underserved populations or populations different from themselves in future practice (items 1, 2, 4, 6, 7, 11, and 13) did not achieve statistical change. This is in contrast to previous findings in which more than three-quarters of 22 physician participants reported actively seeking practice with underserved populations 3 to 12 years postgraduation from a medical program which involved a service-learning experience.[11] Perhaps the findings of the current study were a result of the students entering the experience with an already moderate to high level of civic mindedness; however, longitudinal analyses are needed to determine if the experience transcends into future clinical practice. It was not surprising that items 9 and 10 did not change significantly as the free clinic practitioners used treatment and intervention strategies typical in Western medicine. The pre-experience scores for items 8 and 15 were 1.2 and 1.3, respectively, and remained steady in the posttest analysis, demonstrating that students entered the experience with strong beliefs that health care professionals should always try to incorporate the patients' and clients' health beliefs and practices when planning treatment and that learning by doing is a necessary component for adequate training of health care professionals. These beliefs were not diminished by the service-learning experience.

Interestingly, all items, regardless of statistically significant change, had a postexperience score in the range of 1.2 to 2.8,

**Table 2. Comparison of Pre- and Post-Service-Learning Responses on the Center for Healthy Communities Service-Learning Survey[a]**

| Category | Survey Item | Pretest, Mean ± SD | Posttest, Mean ± SD | *P* Value |
|---|---|---|---|---|
| Civic engagement | 1. I will integrate community service into my future career plans. | 2.5 ± 0.69 | 2.5 ± 0.65 | .919 |
| | 2. I believe that health care professionals have a responsibility to volunteer for community service activities. | 2.9 ± 0.86 | 2.8 ± 1.2 | .426 |
| | 3. **I believe students should volunteer their time helping people without resources.** | **2.5 ± 0.94** | **1.96 ± 0.077** | **.025** |
| | 4. I believe it should be mandatory for health care professions students to participate in community service. | 3.3 ± 1.11 | 2.8 ± 1.64 | .080 |
| Cultural competence | 5. **I feel well prepared to practice my profession in a community similar to the community in which my placement (ACE-SAP Clinic) is located.** | **3.5 ± 1.14** | **2.8 ± 0.97** | **.027** |
| | 6. I feel comfortable providing services to people from different ethnic and racial groups than my own. | 2.1 ± 0.77 | 1.8 ± 0.61 | .324 |
| | 7. Upon graduation, I would like to work in a setting with patients/clients of various cultural backgrounds. | 2.4 ± 1.07 | 2.3 ± 0.79 | .984 |
| | 8. Health care professionals should always try to incorporate the patient/client's health beliefs/practices when planning treatment. | 1.2 ± 0.42 | 1.2 ± 0.43 | .885 |
| | 9. I feel that it is important to consider a wide range of health care practices (such as non-traditional practices) when planning treatment for my patients/clients. | 2 ± 0.9 | 2.1 ± 1.02 | .913 |
| | 10. I believe that there are valid alternative health care beliefs/practices that may differ from traditional health care practices. | 2.4 ± 0.99 | 2.3 ± 0.89 | .947 |
| Social justice and health disparities | 11. Upon graduation, I would like to work in settings where health care professionals are not highly accessible. | 3.5 ± 1.14 | 3.4 ± 1.44 | .724 |
| | 12. **I feel that I can have a positive impact on the community in which I work by volunteering my time.** | **2.4 ± 0.73** | **1.9 ± 0.84** | **.040** |
| | 13. It is important for me to be involved in a program to improve the community. | 2.3 ± 0.86 | 2.3 ± 1.05 | .670 |
| | 14. I believe that health care would be improved by the increased practice of multidisciplinary health care teams. | 2.3 ± 0.89 | 2.03 ± 0.77 | .456 |
| | 15. Learning by doing is a necessary component for adequate training of health care professionals. | 1.3 ± 0.48 | 1.3 ± 0.49 | .849 |

[a] Boldface text indicates statistically significant change.

except for item 11, indicating that they somewhat to strongly agreed with every item on the instrument but one. Item 11 was at 3.4 on the postexperience survey and has been previously discussed. Further examination of the raw data demonstrated that the students entered the experience and the preparation for it with moderate to high levels of civic mindedness, yet the experience still imparted change. While the college experience is intended to promote civic mindedness through the campus experiences and discourse, our findings suggest that civic mindedness can be further enhanced through a service-learning experience in a free medical clinic.

The findings of our investigation align with exploration of the effect of service-learning experiences in other health care education programs. Using the same instrument as in our study, DeBonis[14] measured the effect of service-learning on 152 graduate nursing students' cultural competence, civic engagement, and social justice and health disparities and found statistically significant improvements in all civic engagement and social justice and health disparities items and 50% of the cultural competence items. In our study, we did not find statistically significant change to the same degree as that of DeBonis,[14] but our results did reveal statically significant change on at least 1 item within each of the 3 categories of the instrument. Similarly, in an examination of student pharmacists' perspectives on the value of pharmacy-related service-learning experiences after a single experience involving underserved populations, Ko et al[5] found that many students reported an increased sense of civic responsibility, volunteerism, and patient advocacy. Long et al[10] deemed service-learning in medical education to enhance leadership qualities and health advocacy among future physicians. Furthermore, Brazeau et al[31] revealed that student empathy was significantly enhanced among medical students who participated in service-learning. The positive effects of service-learning are further highlighted among Doctor of Physical Therapy students who participated in an international service-learning experience and demonstrated significant personal and professional growth that persisted for at least 2 years.[13] Although variations exist in methods and student type, the results of our study support the potential changes that can be imparted by service-learning and its implementation in athletic training education.

Long et al[10] stated: "Medical students in the United States train in a health care system that fails many people." This statement, unfortunately, has historically been applicable to athletic training education and the practice of athletic training, where caring for the full spectrum of diverse patient populations has been absent in formal curricular content in professional education. Fortunately, the profession of athletic training is undergoing a shift in focus with the 2020 Commission on Accreditation of Athletic Training Education (CAATE) Standards for Accreditation of Professional Athletic Training Programs, which emphasizes the importance of social determinants of health and cultural competence, particularly in students' professional preparation.[32]

The 2020 CAATE Standards for Accreditation of Professional Athletic Training Programs comprise several criteria that students must be taught and assessed. The inclusion of service-learning opportunities in athletic training education contribute to compliance with several CAATE standards (ie, 58–61, 69, 71–74, 77–79, and 84).[32] Furthermore, the service-learning experience contributes to specific CAATE Professional Program Standards that students may not readily encounter in traditional clinical education settings (ie, 17, 56, 57, and DEI 2). Service-learning opportunities enable students to use skills and provide direct patient care to diverse patient populations. Providing students with these opportunities in a clinical education environment is important before transitioning to professional practice, as students can experience firsthand how social determinants of health emerge in the community.

In their 2010 publication, Heinerichs and Gardiner-Shires[21] highlighted the congruency between service-learning experiences and the National Athletic Trainers' Association (NATA) Code of Ethics. Since that time, revisions have been made to several of the documents which govern the practice of athletic training. For example, the May 2022 revision of the Code of Ethics delineates the expectation of athletic trainers to possess the ability to care for diverse patient populations, which is associated with athletic training's shared professional values of respect, caring and compassion, and competence.[33] Further connection of athletic training practice expectations can be seen within the Board of Certification Standards of Professional Practice/Code of Professional Responsibility, which conveys the expectation for athletic trainers to provide quality care to all patients, regardless of age, gender, race, religion, disability, sexual orientation, or any other characteristic protected by law; provide service in a way that is beneficial to society; and advocate for health care practices that are congruent with the needs and goals of populations being served.[34] It is clear that the profession of athletic training expects its members to have the ability to provide compassionate care for diverse patient populations. These skills must, therefore, be intentionally developed within athletic training curriculum.

## LIMITATIONS AND FUTURE RESEARCH

This study was exploratory in nature and includes a small sample of students from a singular institution in the Midwest. However, the demographics of the city in which the free medical clinic was located are like metropolitan areas throughout the country, as determined through the US Census Bureau Quick Facts.[24] Therefore, the results of this study are generalizable to other regions of the country.

The students were required to participate in only 8 hours of service-learning. Future researchers should involve greater time spent at the clinic to enhance the potential number of patient encounters. Future investigators should also specifically track patient encounter demographic data to allow for deeper analysis of the effect of service-learning experiences that involve underserved populations. Measurement of the longitudinal effect of service-learning on athletic trainers' pursuit of service to underserved populations both in professional practice and in volunteer endeavors could reveal if service-learning experiences evoke continued involvement with underserved populations. Authors of future studies should also examine athletic trainers' involvement with underserved populations among those who did and did not participate in a service-learning experience in their educational preparation. Lastly, service-learning experiences open a plethora of opportunities for program administrators to assess key indicators of students' abilities to address social determinants of health, cultural competence, along with the effect of interprofessional education, and reciprocal benefits to the community.

Our study involved students in an undergraduate athletic training program. However, previous investigators involving both undergraduate and graduate students at the professional level have demonstrated positive change after service-learning experiences. Therefore, the results of the current study remain relevant as educators and program administrators of graduate level athletic training programs examine the potential benefits of service-learning experiences in their programs. Furthermore, as pointed out by Ko et al,[5] the literature is lacking data on the effect of service-learning experiences which take place in free clinics. Thus, future investigators should examine the effect of service-learning experiences in free clinics on graduate athletic training students.

The data collected were part of a course requirement; therefore, protecting participant anonymity and reducing response bias were of paramount importance. However, due to the anonymity of the data, individual pre-experience and postexperience data could not be linked, and only group data could be analyzed. Additionally, the participants lost to graduation and attrition could not be removed from data analysis, so analysis was limited to changes in group data only.

## CONCLUSIONS

Athletic training students' perceptions of preparation for and recognition of the importance of volunteering in underserved communities increased after the service-learning experience, indicating that the positive effect of service-learning reported in other health care professions also transcends into athletic training service-learning experiences. In just 8 total hours of service-learning in a free medical clinic, which took place over 2 semesters, athletic training students reported an increase in their sense of preparation, belief in volunteerism, and belief in their ability to make an effect on the community in which they work. Simply stated, service-learning experiences involving underserved populations can assist athletic training programs in enhancing their students' preparation to serve a variety of patient populations and become civically engaged professionals. We encourage programs to explore sources of support within their institutions related to community engagement and service-learning opportunities. Contacting local health care entities to inquire about resources for underserved populations could facilitate formation of a service-learning experience in athletic training programs. The clinic in which the service-learning experience took place in our study is not commonly known in the community, so program directors and faculty may need to call upon colleagues within the larger local health care system to discover the existence of clinics that are free or otherwise function to serve underserved populations.

While our study has limitations, the results are parallel with the findings in other health care professions programs that service-learning experiences offer benefits to students. The implementation and study of service-learning is highly variable regarding setting in which the experience takes place, outcomes measured, level of student, profession, number of participants, and duration of experience, yet the results are consistently positive. Our results support the implementation of service-learning experiences in athletic training education.

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