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SURVEY

Providing Affordable, Patient-Centered Care: Building Patient Satisfaction in a Student-Run Athletic Training Clinic

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Objective: Student-run clinics (SRCs) may offer cost-effective care and invaluable training across health care disciplines. To better understand this promising avenue for increasing health care access and educational opportunities, this study (1) qualitatively explored factors influencing patient satisfaction in an SRC and (2) evaluated patients' comparisons of care received in a SRC athletic training clinic vs other musculoskeletal (MSK) care settings.

Patients or Other Participants: One hundred thirteen individuals who received MSK treatment at the SRC in 2023 completed an online mixed-methods survey. Participants rated their satisfaction with the treatment experience and perceived provider empathy at the SRC and, if applicable, in previous MSK care settings.

Results: Patients reported higher satisfaction at the SRC compared with other MSK care settings (mean = 5.16 vs 4.91, $P = .0018$) and perceived SRC providers as more empathetic (mean = 4.35 vs 3.70, $P = .001$). Qualitative analysis from open-ended responses highlighted 2 distinct elements of the SRC treatment experience: the care environment and the care approach. Drawbacks of the SRC setting noted by some patients were lower levels of student provider knowledge and less availability of specialized tools and technology; however, patients evaluated the overall quality of the SRC care more highly than comparable prior MSK care settings.

Conclusions: Student-run clinics can deliver high-quality care that meets or exceeds patient satisfaction levels compared with traditional clinical settings. Patients rated SRC care with higher satisfaction and provider empathy, and the affordability of SRCs mitigated potential impacts of lower provider knowledge and limited resources.

Key Words: Student-run clinic, health care access, health care education

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KEY POINTS

- Patients reported significantly higher satisfaction at the student-run athletic training clinic compared with other musculoskeletal care settings.
- Student providers were perceived as more empathetic than traditional MSK clinicians.
- The welcoming and educational care environment contributed positively to patient experiences.
- The affordability of the clinic helped offset perceived limitations in provider knowledge and resources.

INTRODUCTION

Underserved populations in the United States experience health inequities across an array of acute and chronic diseases compared with more affluent, nonminority, and urban populations.[1] Student-run clinics (SRCs) have emerged as a popular model for delivering essential health care services to socioeconomically disadvantaged and uninsured communities while simultaneously providing impactful service-learning opportunities for students.[2] Student-run clinics have been found to improve health care access in a cost-effective manner for underserved populations.[3] Further, early exposure to this specific environment of patient care has been demonstrated to stimulate student dedication to helping underserved populations.[4] Given the opportunities offered by the SRC model, researchers have investigated whether SRCs provide quality care with effective outcomes. A systematic review of primary care SRCs[5] demonstrated outcomes comparable to national indicators, as reported in individual studies regarding depression management,[6] preventive medicine services,[7] and diabetes care.[8] Patients also reported high levels of satisfaction with the services provided at a primary care SRC,[9] which is particularly important considering the positive association between patient experience and clinical effectiveness.[10,11]

An emerging area of health care provided by SRCs is musculoskeletal (MSK) care, including physical therapy, athletic training, chiropractic care, and postsurgical rehabilitation. Research supports the effectiveness of these services within the SRC model. For instance, medical students practicing in an SRC delivered quality MSK care that improved patient outcomes.[12] Similarly, athletic training students elicited functionally relevant improvements in performance measures for patients under their supervised care.[13] The limited research that directly compares student-provided care with that of a licensed professional suggests that students can generate comparable levels of patient satisfaction and efficacy, with variation depending on setting. Patients treated in an interprofessional student orthopaedic ward staffed by medical, nursing, physiotherapy, and occupational therapy students perceived higher quality of care compared with patients on a regular orthopaedic ward.[14] Although patient activity measures for postacute care scores after total hip arthroplasty were similar when treated by either a licensed physical therapist or supervised student physical therapists,[15] patients receiving care from physiotherapy and occupational therapy students required more visits to achieve functional improvements than those treated by licensed providers.[16] More comparative research is needed to substantiate these conclusions in the athletic training MSK care setting.

Moreover, the established assessment of patient satisfaction with SRCs warrants further investigation to better understand what it is about the student-run environment and treatment approach that patients find particularly unique or beneficial. One possible explanation linking the student-run environment to patient satisfaction is the presence of empathetic and patient-centered care. The benefits of clinician empathy and compassion on patient outcomes have been firmly established. Patient-clinician communication and trust led to increased treatment adherence, better self-care skills, and improved health outcomes,[17] and provider empathy is associated with higher patient satisfaction, better psychological well-being, and less psychological distress in cancer care.[18] Patients at a physical therapy SRC positively assessed both social interactions and staff compassion.[19] Moreover, some patients rated social interaction as the primary benefit.[19] Additionally, patients have reported high levels of satisfaction with the care provided in regards to comfort with treatment as well as the student clinicians' knowledge and responsiveness to patient questions and concerns.[20] Compassionate, empathetic care fostering open communication and trust can positively impact the patient experience, but minimal research has been conducted to explore compassionate care in SRCs.

The current project builds on prior work by Curran et al exploring patient-reported outcomes and experiences in a student-run athletic training clinic.[20] Having established that patients treated by athletic training students experienced clinical improvement across a variety of measures and reported high levels of satisfaction, the purpose of our study was twofold: (1) to qualitatively explore the context of care provided in an SRC in an effort to better understand what factors, including empathy, most notably impact satisfaction, and (2) to evaluate how patients compare the care they received in a student-run athletic training clinic environment with that received in other MSK care settings (eg, physical therapy, athletic training, chiropractic care, sports medicine clinic). Research exploring patient experiences working with athletic training students compared with licensed MSK clinicians will contribute valuable initial evidence to guide development of SRCs more broadly. If SRCs can demonstrate comparable quality of care and patient satisfaction, they present a promising health care delivery model and an avenue for addressing growing health care demands.

METHODOLOGY

Participants and Protocol Procedures

The research project was approved by the university institutional review board. Every patient who used the clinic's services during the 2023 calendar year was emailed an invitation

to complete an online survey about their clinic experience. Participation involved completing a 15-minute online survey. Recruitment was incentivized by offering participants a $15 Amazon gift card upon completion of the survey. Participant consent was obtained at the beginning of the survey, and data collection occurred in February and March 2024.

Clinic Setting

The University of Idaho's Integrated Sports Medicine and Rehabilitative Therapy (ISMaRT) Clinic is a student-run athletic training clinic used for applied learning, collaboration, teaching, and patient care research.[20] Patient care services offered include injury prevention, injury evaluation, injury and postsurgical rehabilitation, pain management, and health and wellness promotion. The patient population are university students, university faculty and staff, and local community members. Master of science in athletic training students are assigned to the clinic for the fall or spring semesters to fulfill their clinical experience requirement. Students are responsible for all aspects of care (eg, obtaining history, performing a physical examination, developing the rehabilitation plan, documentation). The supervising athletic training faculty ensure student and patient safety, confirm that appropriate patient care services are provided, and support student learning.[20]

Instrumentation

An electronic survey was designed using the online platform Qualtrics (Qualtrics, LLC) to collect both quantitative and qualitative data from patients about their care experience at the ISMaRT clinic and, when applicable, previous experiences receiving MSK care in more traditional clinical settings. The first section of the survey asked respondents the reason for their most recent MSK experience at the ISMaRT clinic, whether they were a current or former patient, whether they completed the recommended course of treatment, and the number of times they visited the clinic. The survey instrument contained 3 sections: (1) ISMaRT Clinic experiences (eg, injury details, patient satisfaction, provider empathy), (2) previous MSK experience for comparison with the ISMaRT Clinic experience (if applicable), and (3) demographic information (eg, sex, age, income) from all respondents.

Patient Satisfaction. Patient satisfaction at both the ISMaRT Clinic and respondents' previous MSK care settings (when applicable) was measured using a modified version of the Short Assessment of Patient Satisfaction (SAPS).[21] The SAPS is a 7-item scale with demonstrated reliability (Cronbach $\alpha = 0.86$) assessing various dimensions of patient satisfaction, including thoroughness, respect, and the choices patients felt they had in their treatment plan. We included 2 additional items relevant to the student-run setting: "the level of knowledge that the treatment team had about your condition" and the "treatment environment." Each item was rated on a 6-point scale ranging from *very dissatisfied* to *very satisfied*. To allow for more thorough analysis of themes regarding patient experiences at the ISMaRT Clinic and in previous MSK treatment locations, we included an open-ended question after each patient satisfaction scale: "Is there anything else you would like to share to help us understand your patient experience receiving care [at X location]?"

Provider Empathy. To explore a hypothesis that providers' empathy might be a mechanism by which SRCs are evaluated positively by patients, the survey included an abbreviated version of the Consultation and Relational Empathy (CARE) measure, designed to assess clinical empathy—what the authors refer to as the "'human aspects of medical care."[22] Respondents rated their provider (or "treatment team" in the case of the SRC, where patients are often seen concurrently with an athletic training student and a licensed preceptor) on a 5-point scale from *poor* to *excellent* for the following 4 items from the CARE measure: really listening, showing compassion, being interested in you as a whole person, and being positive.

Comparison Care. Respondents were asked: "Prior to your experience at the ISMaRT Clinic, had you ever sought rehabilitative care for a musculoskeletal condition—related to your bones, joints, muscles, etc?" If individuals indicated previous experience in an MSK treatment setting, they were presented the same baseline questions about their treatment, such as reason for seeking treatment and the number of times they visited the comparison provider. They were also presented with the patient satisfaction scale and the provider empathy measure, to allow for direct comparison across all factors. Respondents with comparable MSK care experience were asked whether the care they received at the ISMaRT Clinic was *equal to*, *better than*, or *worse than* the care received at the alternative location and the open-ended question: "When you reflect on your overall experience of receiving care at the ISMaRT Clinic versus receiving care with the [comparison provider], what differences stand out?"

Demographics. The survey included a series of demographic questions to discern respondents' age, sex, household income, and university affiliation.

Data Analysis

Qualtrics survey data were exported to SPSS (version 25; IBM Corp) for analysis. Data normality was assessed using histograms and skewness and kurtosis values. Univariate and multivariate outliers were assessed using z-scores (cutoff value of |3.3|) and Mahalanobis distance (P value = .01). Mean scores and standard deviations were calculated for each item and each construct for the instruments used (eg, SAPS). Mean differences were calculated and evaluated with Cohen d effect sizes using the guidelines of $d = 0.2$ as a *small* effect size, $d = 0.5$ as a *medium* effect size, and $d = 0.8$ as a *large* effect size.[23] To compare construct scores of the SAPS and CARE within groups (ie, ISMaRT and comparison provider), dependent t tests were conducted with statistical significance set at $P \leq .05$.[24]

Qualitative data from open-ended survey questions were analyzed using NVivo (version 14; Lumivero Corp) using an inductive, descriptive analysis approach that identified key themes related to patient experiences in both care contexts.[25] This mixed-methods approach, in which qualitative and quantitative data are collected concurrently and then triangulated during the interpretation phase,[26] allows for deeper understanding of the quantitative findings and increases overall data validity.[27]

RESULTS

Participants

A total of 117 individuals completed the survey, and 4 responses were omitted from analysis that were not sufficiently complete, yielding a response rate of 40%. However,

Table 1. Participant Demographics

Characteristic	Value[a]
Age, y	
Mean ± SD	29.75 ± 12.14
Maximum	66
Minimum	18
Sex, No. (%)	
Male	47 (41.6)
Female	66 (58.4)
Household income, No. (%)	
Less than $25,000	56 (49.6)
$25,000–$49,999	10 (8.8)
$50,000–$74,999	7 (6.2)
$75,000–$99,999	7 (6.2)
$100,000–$149,999	8 (7.1)
$150,000 or more	10 (8.8)
Prefer not to say	14 (12.4)
University affiliation, No. (%)	
Student	73 (64.6)
Faculty	25 (22.1)
Unaffiliated community member	7 (6.2)
Other	8 (7.1)

[a] Percentages were rounded and may not total 100%.

as a significant portion of the clinic's patients were university students, we expected that some share of the email addresses had become inactive due to enrollment status, potentially leading to an underestimation of the actual response rate. No univariate or multivariate outliers were identified. Seventy-five of the 113 participants (66.4%) had previously received care in an alternative MSK setting, with physical therapy accounting for 57.3% of the previous care received.

The respondents' demographic characteristics are outlined in Table 1. The average ± SD age of survey respondents was 29.75 ± 12.1 years; 41.6% (n = 47) identified as male and 58.4% (n = 66) as female. Most participants (n = 73, 64.6%) were university students, 22.1% (n = 25) were university faculty members, and 13.3% (n = 15) were community members or individuals of other affiliations.

Patient Satisfaction

Table 2 presents the mean scores of each item related to patient satisfaction for both the ISMaRT Clinic (N = 113) and the comparison MSK care setting (N = 75), as well as a composite satisfaction score combining all 9 items. Respondents rated the ISMaRT Clinic experience more favorably than comparable care settings (mean = 5.16 vs 4.91, $P < .01$, effect size = 0.31).

Further exploration of the items within the satisfaction scale indicated that the care in the ISMaRT Clinic outperformed comparable care on all but 2 variables: effectiveness of care and the treatment team's perceived level of knowledge. Analysis of the open-ended responses identified 2 areas of notable distinction between the student-run treatment setting of the ISMaRT Clinic and the previous MSK care respondents compared their experience against: the care environment and the care approach. Table 3 presents an overview of the subthemes within each broad category and a representative quote from a respondent that captures the essence of each subtheme.

Care Environment. Patients quantitatively reported higher satisfaction with the ISMaRT Clinic's treatment environment compared with other MSK care facilities (mean = 5.27 vs 4.81), and qualitative analysis of open-ended responses identified additional details regarding the factors that influenced patient evaluation of a clinical environment. Several respondents highlighted the welcoming, calm atmosphere at the ISMaRT Clinic as a key factor contributing to their higher satisfaction ratings. One patient remarked, "Everyone I interacted with at the clinic—the people answering phones and checking people in, the students, and the supervisors were very kind and personable. The clinic itself has a very calm environment." Another commented, "I think the actual medical care was equal, but I think the environment and clinic feel of ISMaRT was better." These quotes suggest that the less stoic, more relaxed and friendly environment placed patients at ease and enhanced their treatment experience.

Another aspect of the SRC environment that patients cited in their positive evaluations was the educational nature of the ISMaRT Clinic setting. Patients appreciated observing the educational processes that occurred between athletic training students and their preceptors, as captured by the comment:

Table 2. Patient Satisfaction Across Treatment Settings[a]

	Mean ± SD		Mean Difference	Effect Size
	ISMaRT	Comparison		
Satisfaction total	5.16 ± 0.77	4.91 ± 0.87	0.25	0.30 ($P = .018$)
The amount of time the treatment team spent with you	5.33 ± 0.77	4.75 ± 1.05	0.58	0.63
The amount of respect the treatment team showed you	5.70 ± 0.48	5.15 ± 0.93	0.55	0.74
The choices you had in your treatment plan	5.12 ± 0.84	4.57 ± 1.16	0.55	0.54
The student-run treatment environment	5.27 ± 0.80	4.81 ± 1.24	0.46	0.44
The level of knowledge the treatment team had about your condition	4.81 ± 1.08	5.21 ± 0.98	−0.41	0.38
The explanation(s) given to you about your treatment plan	5.14 ± 1.07	4.77 ± 1.17	0.37	0.33
The thoroughness with which the treatment team considered your case	5.13 ± 0.97	4.95 ± 1.13	0.19	0.20
The overall quality of the care you received	5.12 ± 1.04	4.95 ± 1.05	0.17	0.16
The effectiveness of care received	4.86 ± 1.25	5.01 ± 0.92	−0.15	0.14

Abbreviation: ISMaRT, Integrated Sports Medicine and Rehabilitative Therapy [Clinic].

[a] 1 = *very dissatisfied*; 2 = *dissatisfied*; 3 = *slightly dissatisfied*; 4 = *slightly satisfied*; 5 = *satisfied*; 6 = *very satisfied*.

Table 3. Patient Satisfaction Themes from Open-Ended Responses

Theme	Subtheme	Example quote
Care environment	Welcoming: atmosphere characterized as calm, supportive, and kind	*Everyone I interacted with at the clinic—the people answering phones and checking people in, the students, and the supervisors were very kind and personable.*
	Educational: emphasis on explanation and thoroughly understanding the *why* behind clinical decisions	*I very much liked the open format of the clinic where preceptors were available and watching. I like to be able to hear what the student was presenting to the preceptor, the questions that were being asked, and how the next step was reached.*
Care approach	Thorough: ample time devoted to full assessment of patient need	*I think the ISMaRT clinic takes time to understand as much as they can about the patient and come up with an effective solution*.
	Collaborative: patients are involved in care decisions	*. . . I was involved in the process instead of the provider making choices or telling me what I needed to do.*
	Comprehensive: use a diverse toolkit of techniques and approaches	*While both provided excellent care, I feel like the ISMaRT clinic is leading on research-based practices and keeping up to date with the newest treatments.*
	Customized: continuous adaptation of treatment plans based on patient needs and progress	*ISMaRT clinic didn't just use the same treatment for everyone. It was tailored to my issues and custom built to what actually helped me.*

Abbreviation: ISMaRT, Integrated Sports Medicine and Rehabilitative Therapy [Clinic].

> *I very much liked the open format of the clinic where preceptors were available and watching. I like to be able to hear what the student was presenting to the preceptor, the questions that were being asked, and how the next step was reached.*

In addition to the unique opportunity to observe the educational processes of the athletic training students, the educational environment extended to patients in a way that further enhanced respondent satisfaction with the SRC setting: "I appreciated that the staff explained why they were trying what they were doing. It was interesting as well as helped me feel more confident in the care." Considered together, the welcoming and educational characteristics of the atmosphere seem to have played a role in patients' positive evaluation of the care environment at the ISMaRT Clinic.

Care Approach. Open-ended reflections about patient treatment experiences at the ISMaRT Clinic point to several recurring themes regarding the unique patient-centered care approach respondents experienced in the SRC setting: care that is thorough, collaborative, comprehensive, and customized.

Thorough. The treatment received at the ISMaRT Clinic was perceived as highly thorough, with patients repeatedly referencing the notable amount of time the athletic training students spent providing care—often in marked contrast to care experiences in other MSK settings. As one individual stated, "I think the ISMaRT clinic takes time to understand as much as they can about the patient and come up with an effective solution." This sentiment was corroborated by survey results indicating greater satisfaction with the amount of time providers spent with patients at the ISMaRT Clinic compared with providers in other settings (mean = 5.33 vs 4.75). Patients appreciated the depth of consideration given to their cases, with the ISMaRT Clinic rated more favorably on "the thoroughness with which the treatment team considered your case" (mean = 5.13 vs 4.95). One participant remarked:

> *It felt like the people I worked with at the clinic cared about my overall health and wellness, instead of just trying to get the initial injury fixed and move on to the next patient. It truly was a very positive experience, and I left with not only my initial injury healed but also with a better understanding of how to strengthen and prevent future injuries.*

Further reflecting the thorough care approach used at the ISMaRT Clinic, the clinic received higher ratings for "the explanation(s) given to you about your treatment plan" (5.15 vs 4.77). This sentiment is echoed by a respondent reflecting on their previous care experience: "When I received care from my AT [athletic trainer] back home, they were to the point and not much room for questions. I received my treatment and left. I did not feel as comfortable in that setting."

Collaborative. A defining aspect of care at the ISMaRT Clinic was the collaborative relationship fostered between patients and providers. Participants noted an interactive, bidirectional approach in which they were actively engaged in developing their treatment plans rather than being passive recipients of provider directives. This collaborative dynamic reflected the principles of informed care, with the clinic scoring higher on "the choices you had in your treatment plan" (mean = 5.12 vs 4.57). One patient recounted:

> *I felt more like a human at the ISMaRT clinic and like I was involved in the process instead of the provider making choices or telling me what I needed to do, which was my experience with the chiropractor. It was a much more collaborative experience and it was nice to feel like I was leading or in charge of my care with the guidance and expertise of a professional.*

Respondents referred to interactions at the ISMaRT Clinic marked by open communication, with providers taking time to educate patients on rationales while soliciting input. This atmosphere of mutual respect and patient involvement contributed to a positive patient-provider rapport.

Comprehensive. Several respondents pointed to the breadth of techniques the student practitioners at the ISMaRT Clinic used as a reason they were more satisfied with their care experience, oftentimes attributing their positive outcomes to this diverse skill set. One respondent commented, "While both provided excellent care, I feel like the ISMaRT clinic is leading on research-based practices and keeping up to date with the newest treatments." Participants perceived the clinical approach in the ISMaRT Clinic as more comprehensive, facilitated by the integration of current research and a holistic scope extending beyond isolated interventions.

Customized. Reinforcing the thorough and collaborative nature of the treatment approach, one participant remarked, "I liked that the ISMaRT clinic didn't just use the same treatment for everyone. It was tailored to my issues and custom built to what actually helped me." Participants expressed appreciation for the continuous adaptation and modification of their treatment plans based on their unique needs and progress. The emphasis on overall well-being and lifestyle integration was viewed as a key component of this person-centered philosophy. Rather than a one-size-fits-all model, the patients described their care at the ISMaRT Clinic as highly individualized to each patient, incorporating personal goals, circumstances, and preferences into the therapeutic process. This tailoring of interventions to the whole person was a distinctive strength of the patient-centered philosophy perceived by participants. Some respondents noted that the MSK providers they had seen previously used a more standardized treatment approach, potentially lacking personalization or integration of lifestyle factors.

Provider Empathy

Table 4 reports the mean scores for all 4 items assessing provider empathy, as well as the composite provider empathy score. Participant scores for the clinicians in the ISMaRT Clinic outperformed comparable MSK providers from prior experiences (mean = 4.35 vs 3.70). This elevated level of empathetic, patient-centered care was repeatedly referenced in open-ended responses, such as:

> *I felt much more heard and cared for at ISMaRT. The provider got to know me and was able to connect my physical symptoms with my mental health and lifestyle after just one visit. When I sought care through my primary care provider, I felt shuttled through a diagnostic pathway without as much care.*

Another noted,

> *I like the ISMaRT Clinic because they seem to care more. They take the time to ask you what treatment plan you think would be best, and they explain what they are doing and why, which I personally find interesting. They also target multiple parts of the body, which I like.*

The empathetic approach, coupled with efforts to understand each patient's unique circumstances, fostered an environment where individuals felt genuinely respected and incorporated into the entirety of the patient-centered therapeutic process.

Comparison Care

When respondents with comparable MSK treatment experience (N = 75) were asked to directly compare the care received between the ISMaRT Clinic and the comparable MSK clinic, 45.3% of respondents felt that the care they received at the ISMaRT Clinic was better than their previous MSK experience, 33.3% felt the care was equal, and 21.3% perceived the care at other MSK clinics as better care. Open-ended responses elaborating on this comparison echoed previous themes, such as this reference to the thorough, whole-person care approach:

> *The ISMaRT Clinic was more attentive to me as a whole person and considering stress and lifestyle into the reasons for injury and continued pain. The chiropractor just wanted to get you in and out so they could get to the rest of the patients and did not listen very closely.*

Another similarly noted:

> *ISMaRT feels like they actually care about my overall goals with where I want to be in my recovery process. They also take a much deeper look into my everyday activities and lifestyle to better align my recovery plan. The PT just saw the injury, administered the treatment how he saw fit, and left without ever asking me about improvements.*

Efficacy and SRC Shortcomings. Although the purpose of the present study was not to compare clinical outcomes across care settings, we included one measure of perceived effectiveness, asking patients to rate their level of satisfaction with "the effectiveness of care received." Here, the providers in the ISMaRT Clinic received slightly lower ratings compared with other providers (mean = 4.86 vs 5.01). Two themes dominated the explanations in cases in which respondents felt the care received at the ISMaRT Clinic was less efficacious or their experiences were less satisfactory: reduced student provider knowledge and more limited availability of tools and technology available in the SRC

Table 4. Provider Empathy Across Treatment Settings[a]

	Mean ± SD			
	ISMaRT	Comparison	Mean Difference	Effect Size
Provider empathy total	4.35 ± 0.94	3.70 ± 1.11	0.65	0.63 ($P = .001$)
Showing compassion	4.39 ± 0.82	3.68 ± 1.08	0.71	0.74
Being interested in you as a whole person	4.27 ± 0.88	3.52 ± 1.25	0.75	0.69
Being positive	4.47 ± 1.16	3.83 ± 1.01	0.64	0.59
Really listening	4.27 ± 0.88	3.76 ± 1.10	0.51	0.51

Abbreviation: ISMaRT, Integrated Sports Medicine and Rehabilitative Therapy [Clinic].

[a] 1 = *poor*; 2 = *fair*; 3 = *good*; 4 = *very good*; 5 = *excellent*.

setting. A portion of respondents—particularly the 16 who viewed their care in the ISMaRT Clinic as less effective than other MSK experiences—raised concerns regarding student provider experience levels and the lack of student provider continuity across appointments. One comment explained: "The care I received from the professional provider was more knowledgeable and more effective. I think this is due to more experience and is not the fault of the students at the ISMaRT clinic." Accordingly, the only other item in which ISMaRT received less favorable ratings than comparable care was "the level of knowledge the treatment team had about your condition" (mean = 4.8 vs 5.21).

Trade-Offs and Expectations. This mixed-methods research analyzing patient perspectives across clinical settings revealed that some patients may enter a student-run treatment environment with modified expectations regarding the care effectiveness, clinic purpose (eg, teaching-focused clinic), and the time it might take to achieve their treatment goals. For example, one respondent remarked, "I knew coming in they would not have all the answers so watching the process each session was kind of fun."

The low cost of care at the ISMaRT Clinic was repeatedly mentioned in respondent comparisons. Notably, the affordability of the ISMaRT Clinic seemed to compensate for some of the challenges inherent in a student-run setting, such as the reduced student provider knowledge and access to technology. Several respondents noted that they anticipated a different experience when they opted to seek care in a SRC setting, and that the drawbacks of the SRC model presented an acceptable compromise, exemplified by one patient's perspective:

> *The care was very similar other than the student aspect. My previous physical therapy visit was more efficient, but it didn't impact my experience much and I appreciated the ISMART being free and accessible while providing learning experiences for students. This was a worthwhile tradeoff.*

A response that further illustrates the trade-off patients see between cost and resource availability across care settings: "I was satisfied by the care I received at both locations. The ortho I saw was significantly more expensive but seemed to have more access to technology."

Comments such as these may explain the potential contradiction that some respondents were more satisfied with the overall quality of the care they received at the SRC (mean = 5.12 vs 4.95) despite appraising the care as slightly less effective and the student providers therein slightly less knowledgeable. The affordability of the ISMaRT Clinic, paired with its welcoming atmosphere emphasizing both student and patient education, removed access barriers imposed by financial pressures and delivered care that patients were overwhelmingly satisfied with.

DISCUSSION

The purpose of this study was to better understand how patients perceived their experiences at SRCs compared with other MSK treatment environments and to explore potential explanations why treatment at an SRC produces favorable patient evaluations. The results revealed an overwhelmingly positive patient experience at the student-run athletic training clinic, outperforming alternative MSK care settings on most of the assessed metrics. Patients consistently rated the ISMaRT Clinic experience higher in areas like the thoroughness of case consideration, quality of treatment explanations, opportunities for input into care plans, and perceptions of respect from providers. The clinic received a significantly higher overall rating for satisfaction (mean = 5.16 vs 4.91, $P = .0018$, effect size = 0.30) and provider empathy (mean = 4.35 vs 3.70, $P = .001$, effect size = 0.60).

The compassionate, collaborative, and individualized approach adopted by student clinicians elevated the quality of patient-centered experiences. The welcoming, educational feel of ISMaRT Clinic's care environment also contributed to its overwhelmingly positive ratings. Similarly positive patient evaluations of SRCs have been described in a variety of health care settings, including primary care clinics,[9] physical therapy clinics,[19] inpatient wards,[28] and athletic training clinics.[20] The results help further describe the care student-run health clinics provide from the critical perspective of patients. This consistent pattern of positive patient experiences across diverse health care settings underscores the potential of the SRC model to enhance patient satisfaction and care quality. The emphasis on compassionate, collaborative care in SRCs may serve as a model for improving patient-centered approaches in traditional health care settings.

Of the 75 respondents who had received previous MSK care at a different clinic, a notable 79% rated the overall care quality at the ISMaRT Clinic as better than or equal to their comparison MSK care experience. The patient-centered model prioritizing empathy, lifestyle integration, and leading research-based practices resonated deeply with patients. Patients praised the holistic emphasis on overall well-being, the commitment to identifying root causes through comprehensive methods, and the consistently positive atmosphere dedicated to delivering individualized, high-quality care. Researchers have highlighted the benefits of SRCs, but only 2 prior studies assessed patient satisfaction with student clinicians compared with licensed professionals—one from an interprofessional student orthopaedic ward[14] and the other from a primary care clinic setting.[29] This study provides a critical third piece of evidence in an athletic training MSK care setting. The high satisfaction rates in this athletic training SRC setting suggest that the benefits of the SRC model may extend across various health care disciplines. This finding highlights the potential for SRCs to serve as effective alternatives or complements to traditional care models in meeting diverse patient needs.

Our findings suggest that SRCs, particularly in the athletic training profession, can deliver high-quality, empathetic care that meets or exceeds patient satisfaction compared with traditional clinical settings. This model represents a promising avenue for addressing community health care needs while providing impactful experiential learning opportunities for students. By offering free or low-cost services, SRCs can help mitigate access barriers and health inequities for underserved and marginalized populations. Furthermore, early exposure to this unique care environment allows future health care professionals to cultivate critical skills like empathy, communication, and a commitment to serving diverse communities.[2] The emphasis on holistic, patient-centered care in SRCs may also serve as a model for enhancing care delivery in traditional health care settings, potentially improving overall patient outcomes and satisfaction across the health care system. As health care demands continue rising across disciplines, the SRC approach leverages institutional resources to deliver mutual benefits for both patients and students in health professions programs.[2,3,5]

Limitations and Future Research

One limitation of the present study is that previous MSK care settings used for comparison spanned a range of provider types, including physical therapists, ATs, sports medicine physicians, and chiropractors. This heterogeneity prevents direct comparisons specifically with traditional athletic training clinical models. Further, respondents were not restricted to referencing previous MSK treatments that mirrored the condition or injury for which they sought care at the ISMaRT Clinic, which precludes making claims about one setting being more clinically effective than another. The lack of a randomized clinical trial design also limits the conclusions that can be made regarding treatment effectiveness between students and licensed health care providers. Additionally, the study's reliance on participants' recollection of past experiences may have introduced recall bias, potentially affecting the accuracy of comparisons. The use of a financial incentive and the university affiliation of the clinic could also have influenced responses, potentially skewing results in favor of the ISMaRT Clinic.

Future research could extend these findings by administering patient experience surveys to assess satisfaction levels and perceptions of empathetic care when compared explicitly with licensed ATs in conventional clinical settings. Evaluating patient experiences, as well as student learning experiences, across different SRC types, including those that provide interprofessional care across the health care team, can also provide further insights into this emerging health care delivery model's strengths and potential for implementation across various disciplines. Such research will continue building the evidence base to guide the optimal development and adoption of SRCs.

CONCLUSIONS

Student-run athletic training clinics can deliver high-quality care that meets or exceeds patient satisfaction levels compared with traditional MSK clinical settings. Patients reported high levels of satisfaction and provider empathy with their SRC experience. Respondents also identified several components of the patient experience previously unarticulated in the SRC research: the unique care environment and care approach, as well as the trade-offs patients make in a context of low-cost care emphasizing education at both the athletic training student and patient levels. By addressing health care access barriers for underserved populations and fostering essential skills in future professionals, SRCs represent a promising model for enhancing patient-centered care delivery and patient outcomes across the health care system.

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