CONFERENCE PROCEEDINGS

Continuous Quality Improvement: Making Chiropractic Education Better. Chiropractic Educators Research Forum (CERF), June 28, 2025

Chiropractic Educators Research Forum

ABSTRACT

The Chiropractic Educators Research Forum (CERF) convened a conference on June 28, 2025. During the meeting, presenters and panelists took an in-depth look at concepts and research related to the continuous quality improvement efforts of educators and chiropractic programs.

Key Indexing Terms: Health Occupations; Education; Professional; Quality Improvement

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INTRODUCTION

The Chiropractic Educators Research Forum (CERF) hosts conferences periodically, focusing on specific topics relevant to education and the chiropractic profession. These conferences showcase education research, innovations, and best practices, providing a forum for presenting scholarly work in health care professions education theory and practice. The CERF held a virtual conference on June 28, 2025, "Continuous Quality Improvement: Making Chiropractic Education Better," which specifically focused on continuous quality improvement in education.

For the purpose of this conference, we defined continuous quality improvement as "a cyclic ongoing process that is followed by reflexive, analytical, and iterative steps, including identifying gaps, generating data, developing and implementing action plans, evaluating performance, providing feedback to implementers and leaders, and proposing necessary adjustments."[1] During this conference, presenters and attendees examined and discussed how educators are utilizing continuous quality improvement, as well as the challenges and benefits this process brings to health care professions education.

Opening presentations introduced essential concepts surrounding continuous quality improvement.

- Continuous Quality Improvement Cycle for Chiropractic Programs, by Craig Little.
  Video: https://youtu.be/6OQGe-Ud-zc
- Continuous Quality Improvement: An Example from the Classroom, by Gary Schultz.
  Video: https://youtu.be/cuUplyKuV8A
- Continuous Quality Improvement: Overview and an Example in Chiropractic Education, by Claire Johnson.
  Video: https://youtu.be/4q5cvEE9AHE

Research and scholarly presentations are a core component of this conference. After abstracts were submitted and went through a rigorous peer-review process, the highest-quality abstracts relevant to the intersection of chiropractic, education, and the conference theme were selected for presentation. The conference could not have been completed without the excellent work of the Peer Review Committee. We thank the 52 members of the June 2025 Scientific Peer Review Committee for their excellent peer review of all submitted abstracts. Any reviewer who declared a conflict of interest or was an abstract author was recused from reviewing that abstract.

CERF 2025 June Peer Review Committee

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ABSTRACTS

Below are the peer-reviewed presentations from the conference listed alphabetically by the first author's last name. As we have done with prior CERF conferences,[2–10] this conference proceeding includes video links so that the presentations are preserved and more widely distributed.

Enhancing chiropractic education: Faculty collaboration and curriculum reforms to advance student adjusting proficiency

Patrick Helma, Kathryn Ross, Peter Vuky

Objective: The purpose of this study was to determine whether feedback-driven curricular changes improved chiropractic students' manipulation skills upon entry to clinical internship. Methods: Survey responses from on-campus and community-based clinical educators indicated deficiencies in the proficiency of intern manipulation skills. To improve manipulation skills, feedback was solicited from on-campus and community-based clinical educators, preclinical educators, deans, and students. Educators designed and implemented changes that resulted in preclinical requirements for proficiency and the standardization of performing manipulations, along with comprehensive feedback for students upon assessments. Clinical educators participated in preclinical assessments to gain a better understanding of the proficiency of incoming interns. Increased opportunities to practice manipulation skills were provided. A 1-way analysis of variance (ANOVA) was conducted to compare the manipulation scores using a 0-4 Dreyfus scale in one cohort of students' postcurricular change compared with 2 cohorts from precurricular change. Results: A 1-way ANOVA indicated a statistically significant difference between the postcurricular change cohort (Fall 23, $n = 50$) and the 2 prior cohorts (Fall 21, $n = 51$; Fall 22, $n = 63$) ($F(2, 161) = (38.27)$, $p = .00$). A Tukey HSD Test for multiple comparisons found that the mean of manipulation scores was significantly different between the Fall 23 cohort and the Fall 22 cohort ($p = .00$, 95% confidence interval (CI) = [.32, .57]), and significantly different between the Fall 23 cohort and the Fall 21 cohort ($p = .00$, 95% CI = [.20, .44]). Conclusion: Adopted curriculum changes demonstrated enhanced intern proficiency. Collaboration between preclinical and clinical faculty was useful in the continuous quality improvement of intern manipulation skills. (This is a conference presentation abstract and not a full paper.) Video Abstract https://youtu.be/kVv4Jk8r6-U.

Developing a monitoring process for educational outcomes, quality patient care, and business/compliance practices in educational health centers: A descriptive report

Wendy Maneri, Patricia Merkle

Objective: The purpose of this study was to describe the development of a process for collecting and monitoring key performance indicators (KPIs) for operating academic health centers at multiple sites. Methods: We identified a lack of infrastructure to monitor KPIs at Northeast College of Health Sciences. Therefore, we assembled a group of faculty clinicians, clinical educators, administrators, and staff to identify necessary KPIs. Then, a quality engineer developed dashboards by integrating data from the student management system, learning management system, electronic health records, and student assessment/feedback platforms within Tableau to summarize KPIs. We assembled a Quality Assurance Panel (QAP) to review the Business Clinical Operations (BCO), Quality Patient Care (QPC), and Educational Performance (EDU) dashboards annually from 2022 to 2024. Results: As of 2024, the quality and efficiency of documentation for the following processes were as follows: 11 out of 16 KPIs for BCO meeting thresholds, 19 out of 21 KPIs for QPC meeting thresholds, and 26 out of 34 KPIs for EDU meeting thresholds. For example, a BCO KPI at 1 clinic site was not meeting a $\leq 3\%$ error rate to total claims funds, 2022–2024 (5%–6% error rate). The initial corrective action step was additional training of the billing staff at the clinic site. A centralized billing process is now being considered to improve the quality and efficiency of BCO. Conclusion: The development of a quality improvement process for collecting and reviewing KPIs has allowed us to monitor the quality of BCO, QPC, and EDU processes at our academic health centers. (This is a conference presentation abstract and not a full paper.) Video Abstract https://youtu.be/EXQ2zV6Ccw0.

Identifying factors that influence student satisfaction in the chiropractic program at a South African University: A cross-sectional study

Sharné Naidoo

Objectives: This study aimed to identify factors that influence student satisfaction within a chiropractic program in South Africa. Methods: We discovered that chiropractic student satisfaction surveys, although they measured student satisfaction, did not identify areas for improvement in satisfaction. Therefore, for the first semester of 2024, we created a survey to measure the influencing factors. The validated questionnaire assessed factors of satisfaction using a 5-point Likert scale (1 = completely dissatisfied to 5 = completely satisfied). Data analysis included frequency, descriptive statistics, exploratory factor analysis (EFA), and reliability analysis, along with normality and comparison analyses. Regression analysis was used to determine the relationship between overall satisfaction and its influencing factors. Results: A 50.83% response rate was achieved in the initial survey ($n = 123$). The EFA yielded 3 key factors: course, teaching and evaluation, clinical training, and career guidance. Respondents expressed satisfaction with the course delivery and clinical training (median = 4.00) but were neutral regarding career guidance (median = 3.00). All factors positively influenced overall satisfaction. Conclusion: Although overall satisfaction with the chiropractic program was high, we identified career guidance as an area for improvement. In response, a career guidance presentation was introduced, and a follow-up will evaluate the impact of this intervention on student satisfaction. (This is a conference presentation abstract and not a full paper.) Video Abstract https://youtu.be/8DkKVf6Vw_8.

Assessment of student perceptions of an onboarding course developed to address knowledge insufficiencies: A descriptive report

Candace Passi, Kathryn Rioch, Chris Olsen

Objective: This project aimed to assess students' perception of knowledge for a new course that was developed to address knowledge deficiencies. Methods: While assessing the quality of a Bachelor of Science in Biomedical Sciences completion program, we identified that students were not receiving adequate information on support services. Subsequently, we developed a synchronous onboarding course to foster a sense of belonging, enhance university navigation, and lay a strong foundation for student retention and academic success. We incorporated 11 student learning outcomes that connect assessments and learning materials to address knowledge gaps. Pre- and posttests were provided to students in the first and last week of the course to assess awareness and knowledge on a 4-point Likert scale (very unfamiliar = 1, unfamiliar = 2, familiar = 3, very familiar = 4). To determine if the students' perceived knowledge improved, we compared pre- and posttest results for the initial cohort of 3 out of 4 students. Results: In the Spring 2025 trimester, results showed improvements to awareness of 3 students for: campus facilities/resources (Pretest = 1.67, Posttest = 3), academic support (Pretest = 2.33, Posttest = 3.0), student policies (Pretest = 2.67, Posttest = 3.0), professionalism and academic integrity (Pretest = 2.33, Posttest = 3.0), and integrative health care careers (Pretest = 2.67, Posttest = 3.0) at the university. Conclusion: This initial assessment revealed that the new course effectively enhanced students' knowledge of support services. We will continue monitoring improvements by identifying knowledge gaps, implementing course modifications, and reassessing outcomes. (This is a conference presentation abstract and not a full paper.) Video Abstract https://youtu.be/Jnk0jxkbC-A

CONCLUSION

This conference featured opening presentations in which experts shared their insights on continuous quality improvement in education and research. International scholars presented their research projects and descriptive reports and participated in panel discussions to consider challenges and solutions related to continuous quality improvement in education. Attendees engaged by providing input on the topic of continuous quality improvement in education using the chat function throughout each session.

FUNDING AND CONFLICTS OF INTEREST

Publication of the proceedings was funded by CERF. No conflicts of interest were reported for the publication of these proceedings.

About the Organization

The Chiropractic Educators Research Forum (CERF) is an online forum where chiropractic educators share their insights and learn new information about research and scholarship. The CERF mission is to build scholarship and research capacity for chiropractic educators throughout the world. More information may be found at CERFweb.org.

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