

Integrated clinical practice core competencies for doctor of chiropractic programs: a modified Delphi project

SUMMARY OF METHODS

Purpose

Identify and develop core competencies related to clinical chiropractic education intended to better prepare Doctor of Chiropractic program (DCP) graduates for training and joining the workforce in integrated care settings.

The development of competencies followed steps based on those used in previous projects:¹⁻⁴

- Establish a Steering Committee (SC) with training and experience in hospitals and other integrated health care settings, and/or chiropractic education. The SC's role was to examine and evaluate the existing health professional competency documents; develop competency recommendations, revise the recommendations based on the Delphi panelists' ratings and comments in order to reach consensus; and contribute to the final manuscript.
- Examine existing chiropractic and other health professions competency documents relevant to integration and interdisciplinary education.
- Make competency recommendations to prepare chiropractic students for integrated settings
- Conduct a Delphi consensus process with a panel of practitioners with experience in integrated environments and DCP faculty.
- Gather additional feedback from a public posting of the consensus statements.^{1,2,4}

Human subjects considerations

Prior to establishing the Delphi panel Institutional Review Board approval was received from Logan University. Delphi panelists signed an informed consent that specified that their participation was voluntary and without compensation. They were provided with a consent form after the consensus process was completed in which they agreed to be acknowledged by name in the resulting publication after we obtained their signed form.

Literature search and data extraction

A literature search was performed with a health sciences librarian to identify relevant existing competencies. We examined and extracted data from existing core competencies relevant to integration and chiropractic or other health professions. The data extraction for each citation included: project author, year of publication, profession/specialty/discipline, student methods, development target, domains, and competencies by domain.

Project personnel

Required personnel for the project were:

- Executive steering committee:
 - Clinton Daniels, DC, MS
 - Zachary Cupler, DC, MS
 - Robert Walsh, DC
 - Jason Napuli, DC, MBA
- Project coordinator: Cathy Evans

- Research librarian: Sheryl Walters, MLS
- A steering committee (SC) composed of clinicians and academicians with many years of clinical and/or research experience, and representing multiple health professions
 - Anne Ziegler, DC, MS, MM
 - Kevin Meyer, DC
 - Matthew Knieper, DC
 - Stacie Salsbury, DC, RN
 - Robert Trager, DC
 - Jordan Gliedt, DC
 - Morgan Young, DC
 - Kris Anderson DC, MS
 - Eric Kirk, DC
 - Scott Mooring, DC, MS
 - Patrick Battaglia, DC
 - David Paris, DC
 - Amanda Brown, DC
 - Justin Goehl, DC
 - Cheryl Hawk, DC, PhD
- A Delphi consensus panel of 37 topic-area experienced clinicians, educators, and researchers (to be acknowledged in final publication after obtaining their permission)

Seed document development

A geographically and professionally diverse workgroup of chiropractic stakeholders (e.g. administrators, clinicians, educators, researchers) participated at an in-person workshop at the 2022 World Federation of Chiropractic conference in St. Louis, MO. The participants reviewed candidate standardized terminology and definitions, key literature identified through systematic search, and initiated an iterative review process of drafted domains. Informed by the literature search and workshop, the SC developed the seed statements, going through extensive revisions before completing the set of seed statements circulated to the Delphi panel.

Delphi process

Panelists were first sent relevant background literature. The consensus process was conducted via email. Panelists were deidentified during the rating process, in order to avoid possible bias. After each Delphi round, the SC revised statements as per the panelists’ ratings and comments. The comment box expanded to allow any length of comment desired. Only the items on which there was disagreement (see below) were re-circulated.

Appropriateness of the procedure or practice described was rated as follows:

1=highly inappropriate; 5= uncertain; and 9= highly appropriate.

highly inappropriate	uncertain	highly appropriate
1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
4 <input type="checkbox"/>	5 <input type="checkbox"/>	6 <input type="checkbox"/>
7 <input type="checkbox"/>	8 <input type="checkbox"/>	9 <input type="checkbox"/>

Specific comments:

We defined “appropriateness” to mean that the expected health benefit to the patient exceeds the expected negative consequences by a sufficiently wide margin that it is worth doing, exclusive of cost.⁵ If panelists rated a statement as inappropriate (rating 1-3), they were asked to state a reason and provide a citation from the peer-reviewed literature to support it, if possible. Without a specific reason, the response was considered incomplete and no number recorded. This procedure was used to facilitate creation of an appropriate, evidence-informed revision that accurately represented the panelists’ input.

Delphi rounds, rating system and data analysis

We conducted the consensus process according to the RAND-UCLA methodology.⁵ This method uses an ordinal scale of 1-9 (highly inappropriate to highly appropriate) applied to each seed statement.

After a Delphi round, panelists and the Steering Committee were sent the median ratings, percent agreement, and comments for each statement. Based on the panelists' comments, the Steering Committee revised any statements not reaching at least 80% agreement. These recirculate until at least 80% agreement is reached.

REFERENCES

1. Whalen W, Hawk C, Farabaugh R, et al. Best practices for chiropractic management of adult patients with mechanical low back pain: a clinical practice guideline for chiropractors in the United States. *J Manipulative Physiol Ther.* 2023;45(8):551-565.
2. Hawk C, Whalen W, Farabaugh RJ, et al. Best Practices for Chiropractic Management of Patients with Chronic Musculoskeletal Pain: A Clinical Practice Guideline. *J Altern Complement Med.* 2020;26(10):884-901
3. Whalen W, Farabaugh RJ, Hawk C, et al. Best-Practice Recommendations for Chiropractic Management of Patients With Neck Pain. *J Manipulative Physiol Ther.* 2019.
4. Hawk C, Amarin-Woods L, Evans Mw, Jr., et al. The Role of Chiropractic Care in Providing Health Promotion and Clinical Preventive Services for Adult Patients with Musculoskeletal Pain: A Clinical Practice Guideline. *J Altern Complement Med.* 2021;27(10):850-867.
5. Fitch K BS, Aquilar MS, et al. *The RAND UCLA Appropriateness Method User's Manual.* Santa Monica, CA: RAND Corporation; 2003.