

# Education and training of chiropractic students and graduates: a scoping review

## Summary report of findings: Step 1 training

July 26, 2023

Greetings! This is a report of our findings for Step 1 training for our Chiropractic Education Research Scoping review, which was due July 24.

The primary purpose of this training is to make sure everyone is on the same page with inclusion/exclusion and data extraction - and to help everyone feel more comfortable with using the process and tools. A secondary benefit is that we can identify any problems and try to address them before we begin the scoping review.

Overall, everyone did very well. The amount of agreement on some of the items was outstanding! The results of this test were extremely helpful in preparing the extraction sheet for Covidence. We are looking forward to finishing the training so we can get started on the scoping review! Thank you all for your participation!

Here are the results from Step 1 of the training.

### ITEM 1 – timeliness

**Participation:** Of 36 participants, 30 completed the task on time, 5 completed late, and 1 did not complete the assignment.

**Action:** Everyone needs to be mindful of completing their assigned tasks on time.

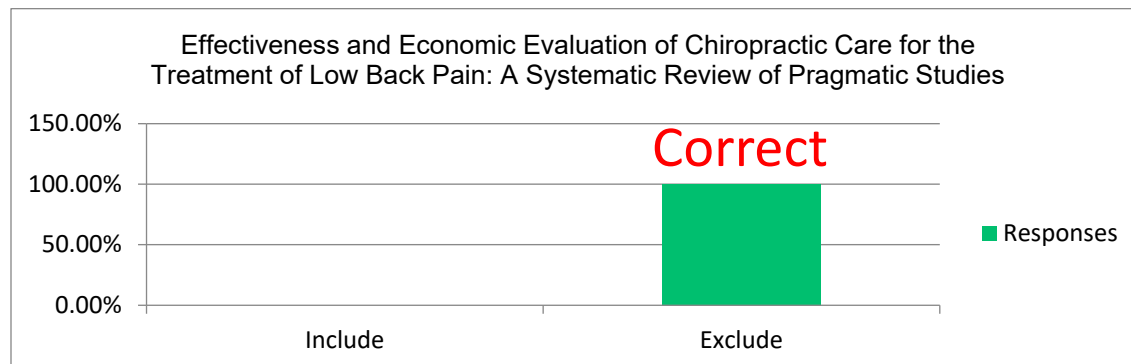
### ITEM 2 - instructions

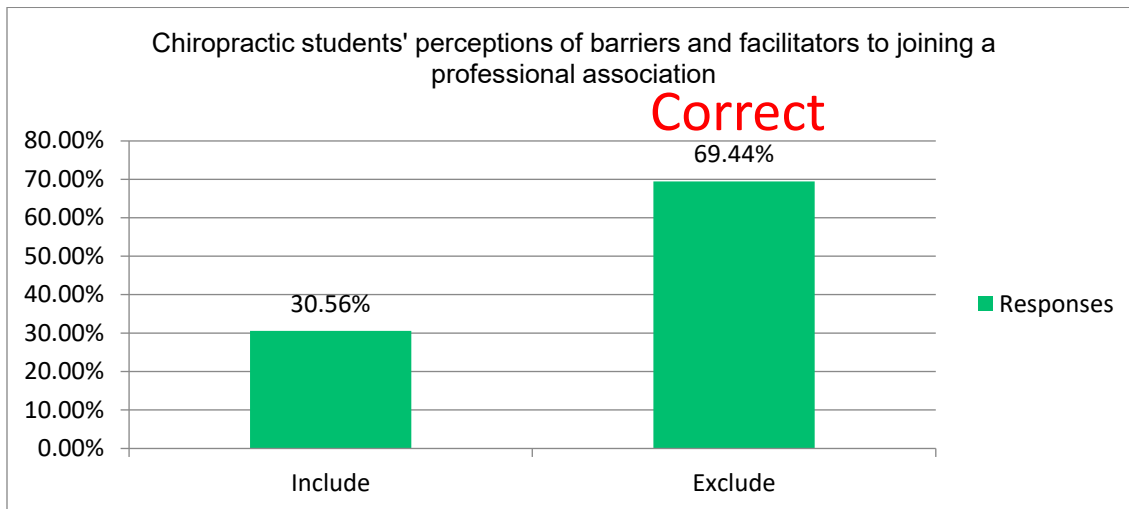
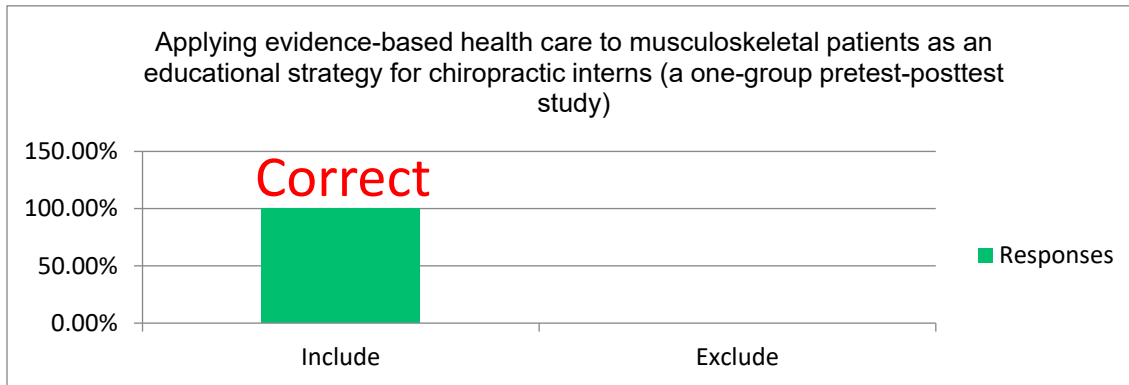
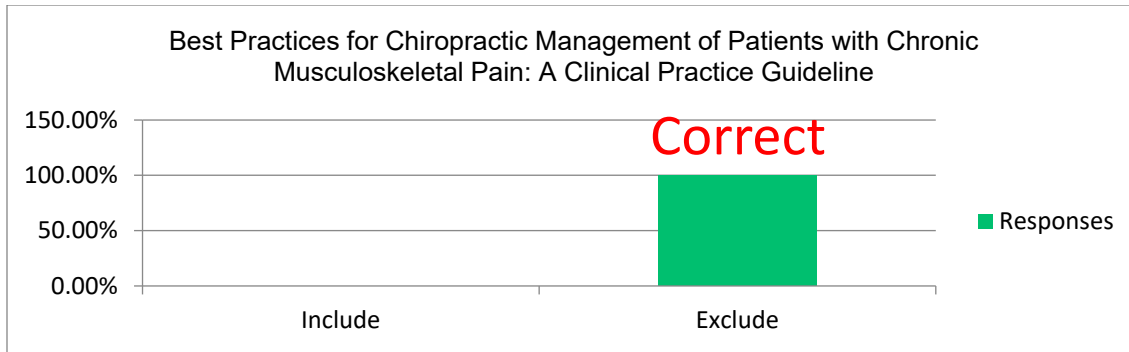
**Observation:** There were 2 outliers who did not follow the instructions (instead of 1 category, they wrote in multiple topic categories).

**Action:** This finding was helpful. Since we cannot allow for multiple categories for one paper, we modified the Covidence data extraction tool so that fill in is no longer an option.

### ITEM 3 – results of inclusion exclusion exercise

**Observation:** For 3 of the 4 papers under consideration, we had perfect agreement. We cannot get any better than that! However, the fourth paper decision needs to be clarified. Here are the results.





**Explanation:**

The reason that this paper should be excluded is that the focus of the study is not about chiropractic education. The study is about students' opinions about a topic not directly related to chiropractic education. Certainly, one could argue that we could extrapolate the topic so that it "could" be relevant or "could" be included in education, however the primary purpose is not directly related to chiropractic education.

ITEM 4 – results of categorization

**Instructions from the exercise:** We must be able to categorize the literature so that the study findings are useful. <https://www.brighthall.com/education-scoping-project>

There are 2 main topics for this research project:

- **Student** as the topic - is when the study primarily focuses on the education and training of the students or learners, who may be pre or post-graduate. These topics are the 4 meta-competency columns in the Topic Tool: A) knowledge/cognitive, B) functional, C) personal/behavioral, and D) values/ethical.
- **Program** as the topic - is when the study primarily focuses on studying or measuring the overall academic program, administration, faculty, infrastructure, or accreditation, as in the 5th column of the Topic Tool.

Using the above criteria, select the ONE most relevant category (column) from the Topic Tool to which the abstract should be assigned.

Here are the results of our categorization of the main topic areas.

Answer Choices	The influence of online review videos on gross anatomy course performance among doctor of chiropractic students	Learning Spinal Manipulation: A Comparison of Two Teaching Models	Assessment of Unpublished Scholarly Activity: An Informal Rubric for Evaluating Faculty Performance	Manikin-Based Clinical Simulation in Chiropractic Education
A) Student Knowledge/Cognitive Competence = Knowledge/cognitive competence “the possession of appropriate work-related knowledge, the ability to put this to effective use.”	28 (A2)	0	0	5
B) Student Functional Competence = Functional competence “the ability to perform a range of work-based tasks effectively to produce required outcomes.”	0	30 (B5)	0	11
C) Student Personal/Behavioral Competence = Personal/behavioral competence “the ability to adopt appropriate, observable behaviors in work-related situations.”	0	0	1	5
D) Student Values/Ethical Competence = Values/ethical competence “the possession of appropriate personal and professional values and the ability to make sound judgements based upon these in work-related situations.”	0	0	0	0
E) Chiropractic Program = study of chiropractic programs, faculty, infrastructure, and delivery of education.	7	5	34 (E5)	15

**Observation:** We noticed some variance in participants assigning the topic category. One reason may be stemming from the traditional roles of the participants. For example, someone who has extensive experience with accreditation site visits or who is an administrator may view the study through the lens of the program, whereas a faculty member may perceive the same study but will focus on students learning skills or knowledge.

The most challenging study for the group to categorize was the paper on the use of manikins. This may likely be due to the fact that the paper did not provide adequate information to categorize it properly. This challenge was expected since we selected a vague paper for this exercise. The reason is because we know that we will need to extract data from papers that are vague, so this was a good test of the system.

**Action:** This information was helpful in that it pointed to the need for clearer instructions about topic categorization. The topic category needs to be based on the focus of the study, such as results and findings, not all the possible ways that the information may possibly be used. We must select the one category that is a “best fit” for the study, recognizing that there may be additional secondary categories that could also apply.

As a general “rule of thumb” - If the study focuses on student knowledge, skills, or attitudes, then the topic should fall within the meta-competency topics A, B, C, or D. If the study focuses on the program and infrastructure, the category should be within the E category.

#### **Solutions:**

- The Topic Tool was updated to include more examples for each subtopic for the Program topic, which is topic E.
- Instructions will include that the main focus for categorization needs to be on the primary findings/results of the paper, recognizing that many papers may have multiple purposes. The instructions are updated to ask participants to select the very **best** topic that most aligns with the paper findings/results.
- As part of the process, papers that may have vague content and categorized heterogeneously will go to a referee who will help with the category decision. If the decision is not apparent, then a discussion among members may be a good solution to categorize the paper.
- We will look at this again with our next step in training. We will follow up with Step 2 for our training, which will be due **August 6**.

#### **COMMENTS from participants who completed Step 1**

- The last one was tricky for me, unsure which category the manikin-based paper should be placed in.
- That last study was one I was fairly unsure about... the study was more on satisfaction from the student and only vague in what basic science aspect was tested. Thus I chose E4 in it seeming more of a programmatic method innovation for student success than another one of the competencies. However, I could see a pull into the A category just from the basic science performance questionnaire. This was fun! :)
- (manikin paper) I looked up this paper and due to the complexity of the clinical scenarios and the level of simulation - it captures a number of the codes could fall into B2,3, 8, 9 probably others too. I will look forward to the answer!
- I really debated between student functional competence and chiropractic program designations for questions 8/12 . Since the authors reviewed other programs and created simulations prior to implementation, I wondered to what degree the implementation would be more programmatic than simply assessing response to an educational intervention.
- That last one is tricky because they never say in the manuscript what the students did during the simulation.

- It was difficult to code the manipulation and manikin studies because both assessed student outcomes (competency in delivering the therapeutic intervention) as well as the effectiveness of a curriculum innovation.
- Very well organised and easy to follow instructions to ensure a successful outcome
- This calibration exercise is SO VALUABLE. OMG. I am just a teensy bit anxious to get feedback and I hope participants get a chance to dialogue (Chat thread or via Zoomies) to explore rationale(s) for answers given. :-)
- These are answers around "best fit" - there are very plausible alternatives. 🤖. Great exercise. Challenging but very useful. I guess my report might read "could do better!"
- The manikin-based sim study seemed the most challenging as it is not clear what 'activity' is being completed within the clinical simulation (sims are very advanced now and could include many activities) - assessment, bedside/professional behaviour, communication, manual therapy etc... so 'assessment' (B1) was an attempt at a catch all. . .
- Differentiating the code for some articles between student knowledge or performance, and teaching methods was difficult.
- I appreciated the detailed introduction video and coding tool and look forward to continuing to work on this project!
- 12. Manikin-Based Clinical Simulation in Chiropractic Education This one was a bit tricky to categorize from the abstract alone.
- Question 12: We have no single code area that it would fit in because it does not state the topic in the abstract. It is simulation training. For exam? Technique? Life saving? Not clear. After reading the entire paper it is not clear. All we know is that it goes in meta-competency B. I do not know how we could possibly do a work around on this, other than to pick B1 since one scenario was the students doing a clinical exam and then the patient starts having a heart attack.

We will follow up with Step 2 for our training, which will be due **August 6**. Please see the Survey Monkey email invitation for the Step 2 pilot.

Thank you all for your participation!