

FICS Global Symposium 2023

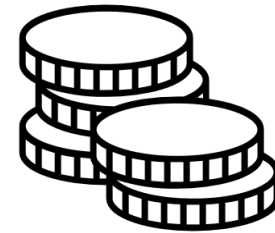
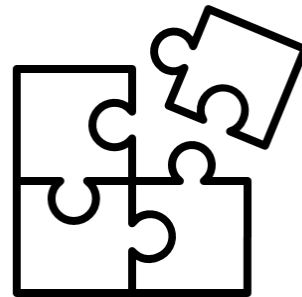
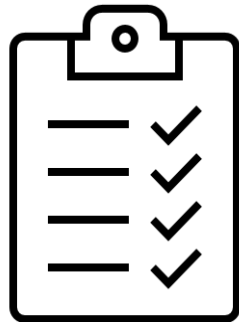
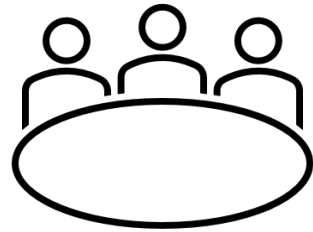
An international Delphi study to identify sports chiropractic global research priorities

Belchos, Melissa^{1,2}; Lee, Alexander D³; de Luca, Katie⁴; Perle, Stephen M^{5,6}; Myburgh, Corrie^{7,8,9}; Mior, Silvano^{2,10}

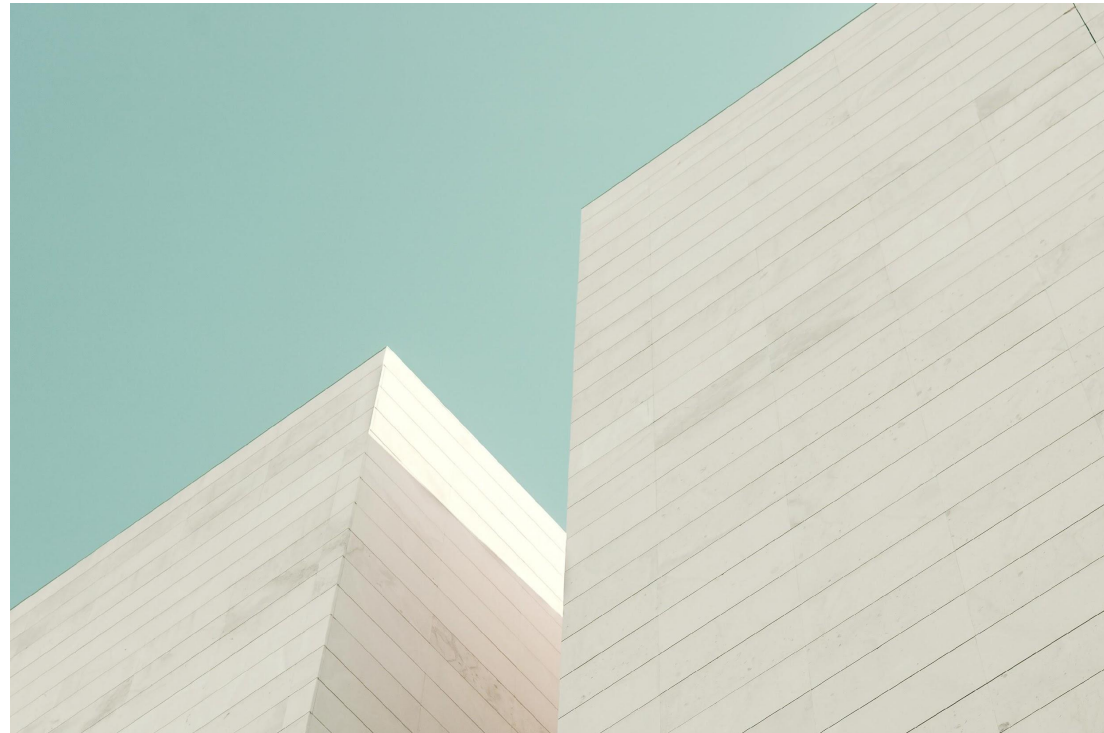
1. Department of Clinical Diagnosis, Canadian Memorial Chiropractic College (CMCC);
2. Institute for Disability and Rehabilitation Research at Ontario Tech University and CMCC;
3. Division of Clinical Education, Canadian Memorial Chiropractic College (CMCC).
4. Discipline of Chiropractic, CQUniversity, Brisbane, Australia
5. Big Data Interrogation Group, AECC University College, Bournemouth, Dorset, UK
6. College of Science, Health, Engineering and Education, Discipline of Psychology, Exercise Science, Chiropractic and Counselling, Murdoch University, Western Australia, Australia
7. Department of Sports Science and Clinical Biomechanics, The Research Unit for Learning & Talent in Sport (LET'S), University of Southern Denmark, Odense, Denmark
8. The Chiropractic Knowledge Hub, University of Southern Denmark, Odense, Denmark
9. Department of Chiropractic, University of Johannesburg, Johannesburg, South Africa
10. Department of Graduate Studies, Canadian Memorial Chiropractic College (CMCC)



Background – Research Agendas



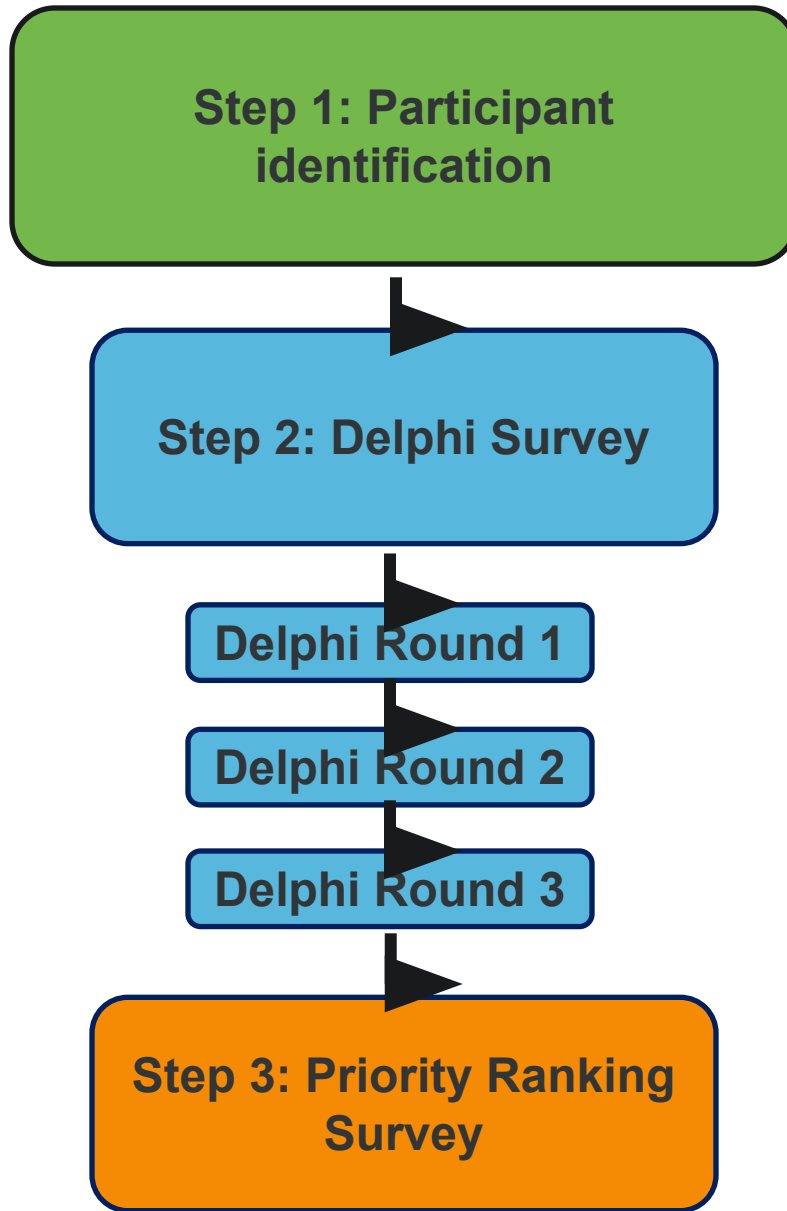
Gap in the literature



Aim

Determine consensus on research directives amongst global sports chiropractors, that can be used to develop an international sports chiropractic research agenda





Sampling Methods

- Purposive
- Maximum variation
 - Gender
 - Region
- Sample 48 in each group with estimated 42% response rate = 20 per group



Sample Population

Academics/Researchers



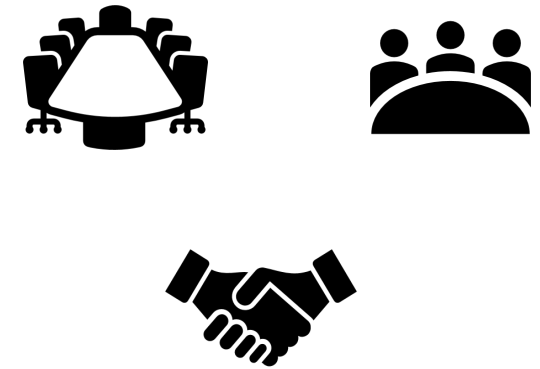
- identified by literature searches
- consensus between team to select

Clinicians



- all members of sports specialty colleges or with sports specialty certifications
- random sample within region and sexes

Leaders



- all of FICS executives/board
- board of directors sports specialist organizations globally (presidents, vice presidents..)

Step 1: Participant identification

Step 2: Delphi Survey

Delphi Round 1

Delphi Round 2

Delphi Round 3

Step 3: Priority Ranking Survey

9-point Likert Scale



Lowest importance

Greatest importance

Round 1 – 70%
Round 2 – 70%
Round 3 – 80%

Step 1: Participant identification

Step 2: Delphi Survey

Delphi Round 1

Delphi Round 2

Delphi Round 3

Step 3: Priority Ranking Survey

9-point Likert Scale



Unimportant

Greatest importance



Round 1 – 70%
Round 2 – 70%
Round 3 – 80%

Step 1: Participant identification

Step 2: Delphi Survey

Delphi Round 1

Delphi Round 2

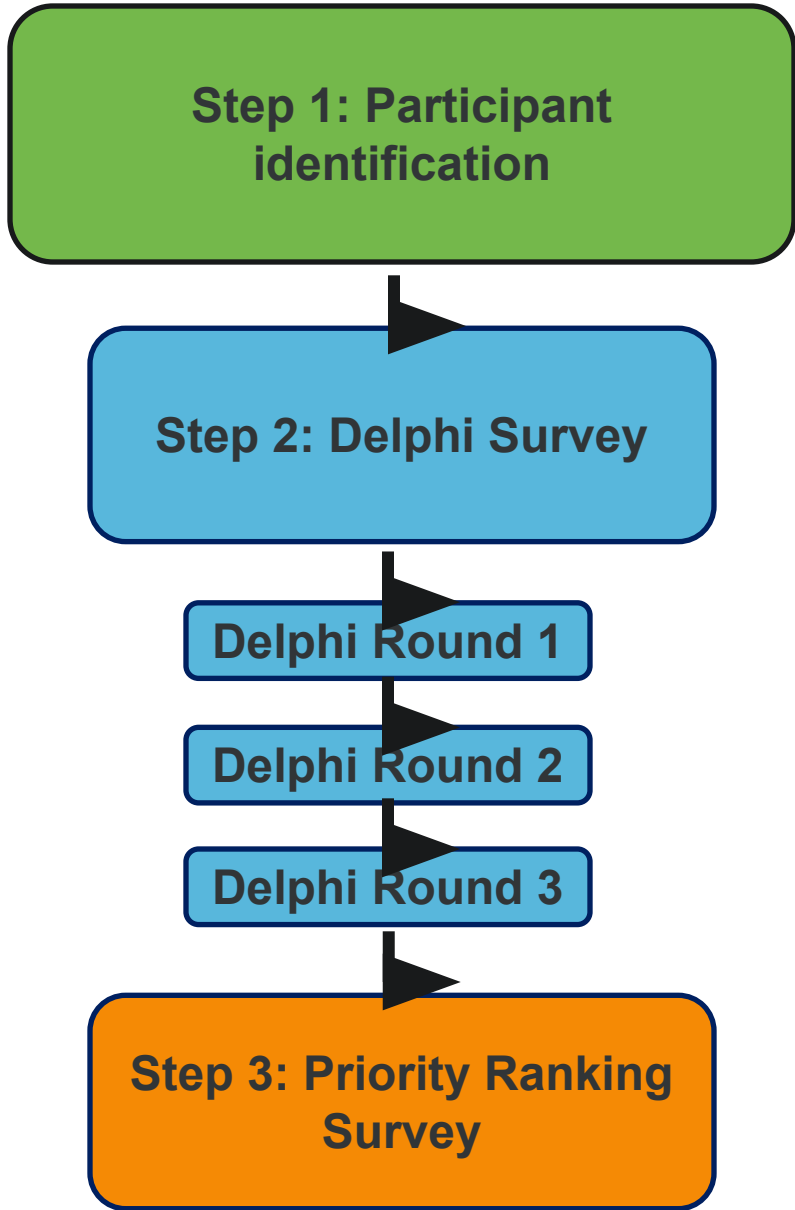
Delphi Round 3

Step 3: Priority Ranking Survey

9-point Likert Scale



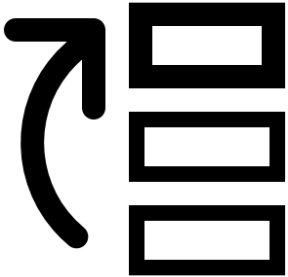
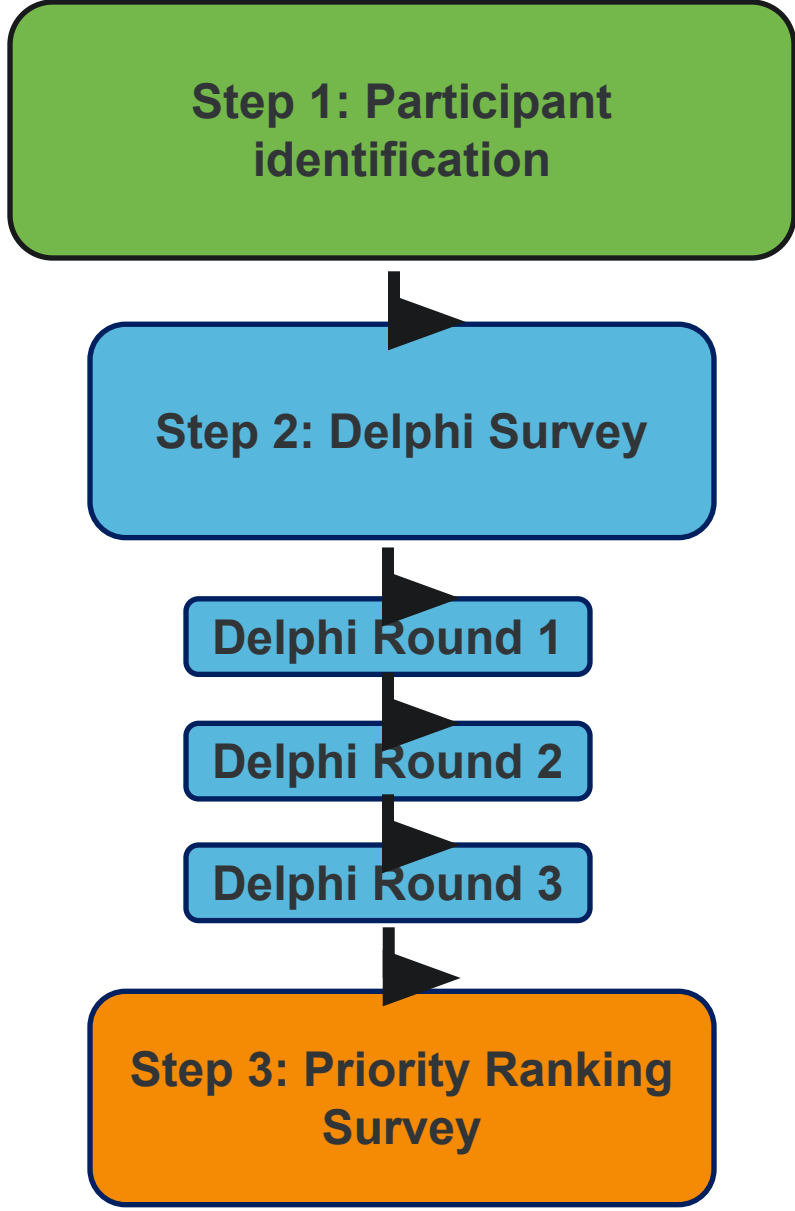
Round 1 – 70%
Round 2 – 70%
Round 3 – 80%



9-point Likert Scale

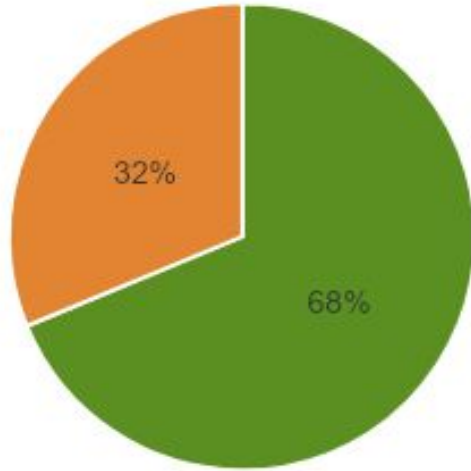


Round 1 – 70%
 Round 2 – 70%
 Round 3 – 80%

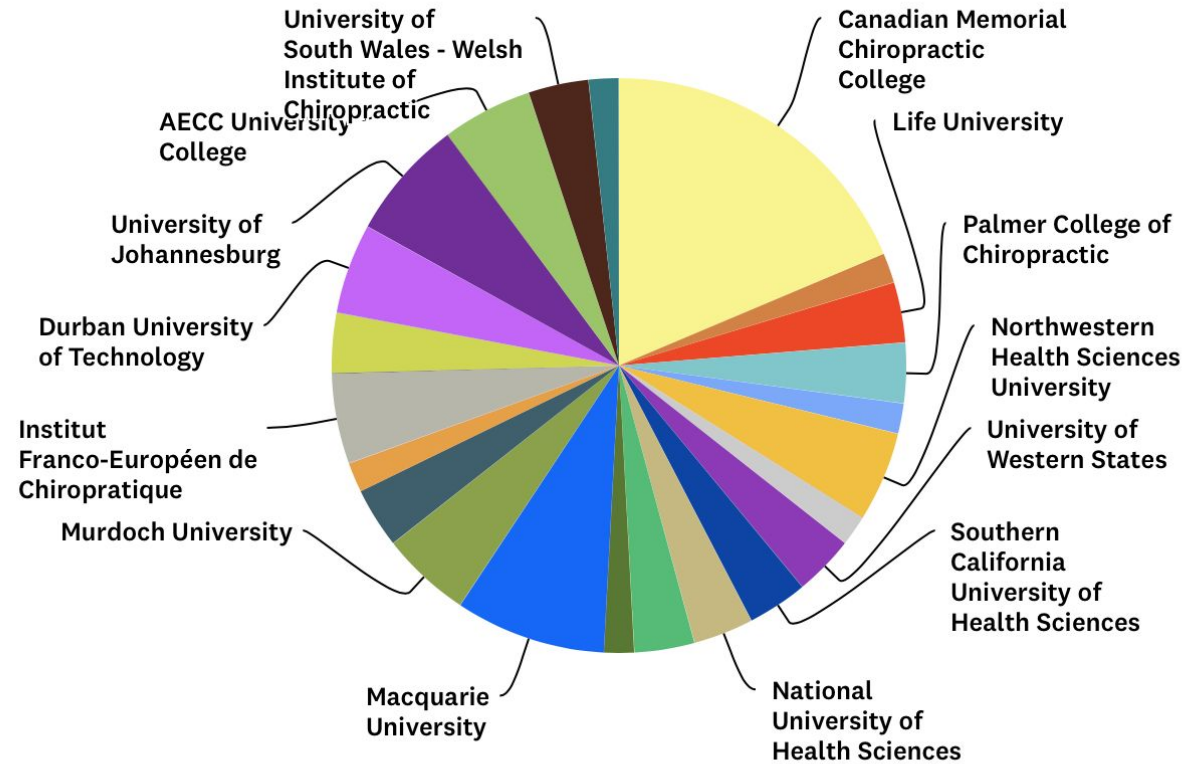


Results - Demographics

Gender



■ Male ■ Female



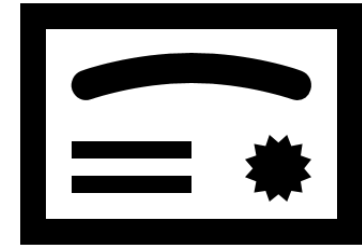
Results - Demographics



70%

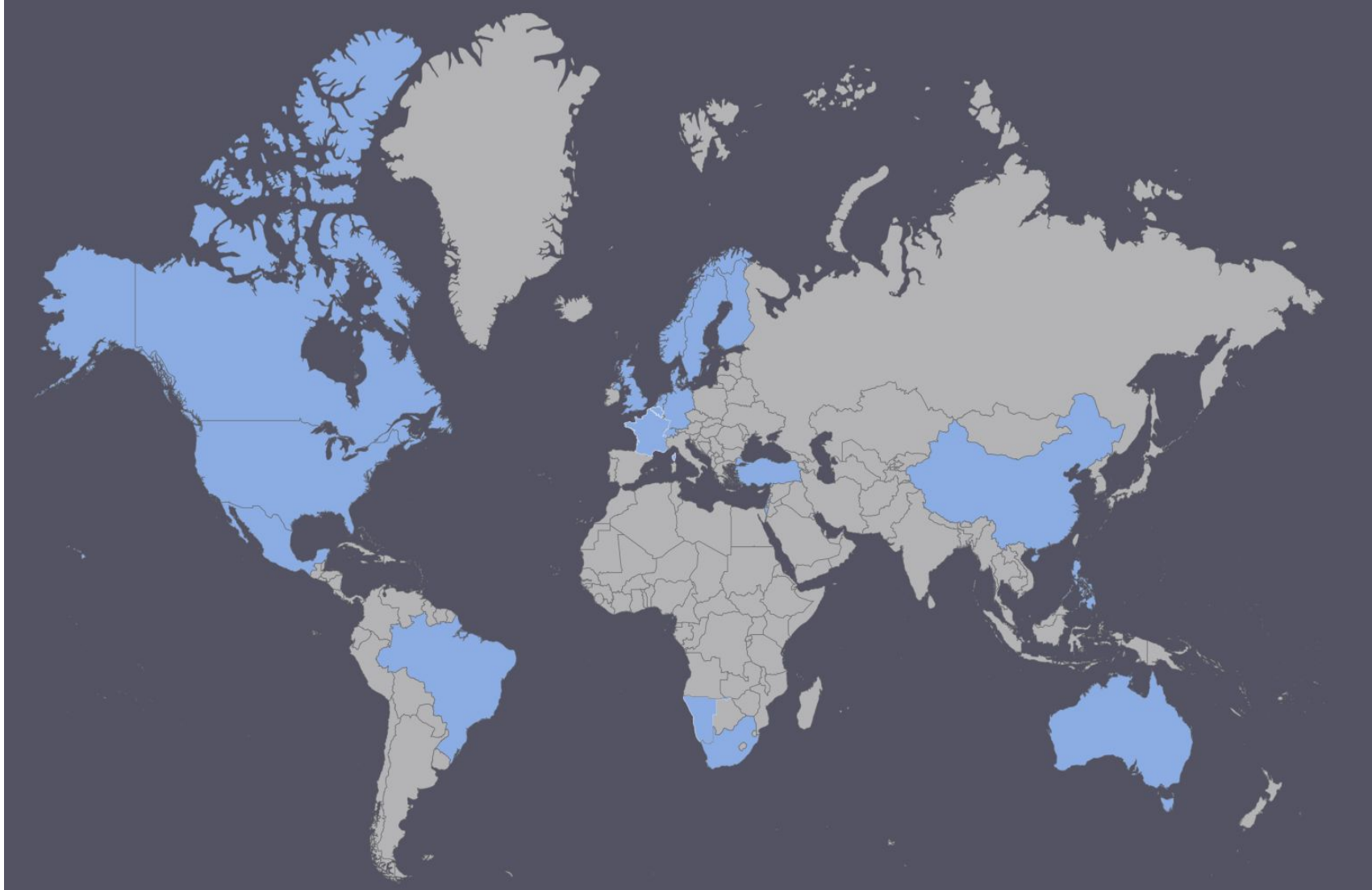


80%



88%

Results - Demographics



Step 2: Delphi Survey



Delphi Round 1



Delphi Round 2



Delphi Round 3

149 Research directives

Step 2: Delphi Survey

Delphi Round 1

Delphi Round 2

Delphi Round 3

Response rate

44%

149 Research directives

66 "Important"

+ 34 new directives

Step 2: Delphi Survey

Delphi Round 1

Delphi Round 2

Delphi Round 3

Response rate

44%

31%

149 Research directives

66 "Important"

+ 34 new directives

63 "Important"

Step 2: Delphi Survey

Delphi Round 1

Delphi Round 2

Delphi Round 3

Response rate

44%

31%

34%

149 Research directives

66 "Important"

+ 34 new directives

63 "Important"

45 "Important"

Step 2: Delphi Survey

Delphi Round 1

Delphi Round 2

Delphi Round 3

Response rate

44%

31%

34%

149 Research directives

66 "Important"
+ 34 new directives

63 "Important"

45 "Important"

No items were ranked Unimportant or Uncertain importance

Prioritized Research Themes

1. Clinical research in sport (e.g. efficacy of interventions, return to play)
2. Research conducted on sports medicine topics (e.g. concussion, LBP)
3. Sports chiropractic specific research (e.g. understanding sports chiropractic patients)
4. Research on specific sports (e.g. endurance sports, athletics)
5. Research focused on population health (e.g. special populations)
6. Research related to collaboration (e.g. interprofessional, organizational)
7. Basic science research (e.g. biomechanics, manipulative therapies)

Prioritized Research Directives

1. Effects of interventions on performance, recovery, and return to play
2. Intervention and clinical efficacy - manipulative therapy (spinal and extremity)
3. Functional assessment and treatment approaches
4. Injury prevention
5. Developing guidelines and evidence-based care pathways
6. Multimodal interventions
7. Basic science research on manipulative therapy (spinal and extremity)
8. Comparative effectiveness studies
9. Soft tissue injuries and myofascial pain
10. Competency of sport chiropractors

Prioritized Research Collaborations

1. Researchers in chiropractic educational institutions/programs
2. Various sports chiropractic associations/organizations
3. Sport and exercise medicine associations, federations, and organizations
4. Chiropractic sports residents
5. Sport physicians
6. Specialized sports training and development centres
7. Sport physiotherapy associations
8. Chiropractic agencies
9. Multidisciplinary sports clinics in the community
10. Physiotherapists
11. Government agencies

Qualitative analysis

- Two open-ended questions asked the participants to share their perspectives on research priorities:
 - “What do you think is/are the most important consensus & position statement(s) to develop?”
 - “What do you think is/are the most important guideline(s) and evidence-based care pathway(s) to develop?”
- Main codes were consistent in both questions, major themes were:
 - “care/management”
 - “injuries and conditions”
 - “return to play”

Canadian only versus International priorities

Prioritized Areas of Research

Effects of **interventions on athletic outcomes** (e.g. athletic recovery, return to play/sport and athletic performance)

Research about **sports healthcare teams** (e.g. interprofessional dynamics in sports healthcare teams, integration of chiropractic in sports healthcare teams)

Clinical research: **spinal manipulative and mobilization therapy**

Utilization of sports healthcare services (e.g. utilization of sports chiropractic)

Research conducted on **specific conditions** (e.g. concussion, tendinopathy, hamstring strains, ankle sprain, neck pain, low back pain)

Prioritized Research Directives

1. Effects of interventions on performance, recovery, and return to play
2. Intervention and clinical efficacy - manipulative therapy (spinal and extremity)
3. Functional assessment and treatment approaches
4. Injury prevention
5. Developing guidelines and evidence-based care pathways

Next steps

Stakeholder Engagement

- Athletes/Patients**
- Decision makers/Leaders**

Research Agenda



Acknowledgements

- Dr. Alex Lee
- Dr. Katie de Luca
- Dr. Stephen Perle
- Dr. Silvano Mior
- Dr. Corrie Myburgh



Funding sources



Thank you!

mbelchos@cmcc.ca



References

- French SD, Beliveau PJH, Bruno P, et al. Research priorities of the Canadian chiropractic profession: a consensus study using a modified Delphi technique. *Chiropr Man Therap*. 2017;25(38):1-8. doi:10.1186/s12998-017-0169-4
- Rubinstein SM, Bolton J, Webb AL, Hartvigsen J. The first research agenda for the chiropractic profession in Europe. *Chiropr Man Therap*. 2014;22(9):1-9.
- Lee A, DeGraauw L, Belchos M, Muir B, Howitt S, DeGraauw C. A Qualitative Study Investigating Research Directives for Sports-Focused Chiropractic Research: A Second Phase Study to Develop A Sports-Focused Research Agenda For Canadian Sports Chiropractors. In: *World Federation of Chiropractic EPIC Conference*. ; 2019.
- Lawrence D, Meeker W. Commentary: The National Workshop to Develop the Chiropractic Research Agenda: 10 Years on, a New Set of White Papers. *J Manipulative Physiol Ther*. 2006;29(9):690-694. doi:10.1016/j.jmpt.2006.09.004
- Mootz RD, Hansen DT, Breen A, Killinger LZ, Nelson C. Health Services Research Related to Chiropractic: Review and Recommendations for Research Prioritization by the Chiropractic Profession. *J Manipulative Physiol Ther*. 2005;29(9):707-725. doi:10.1016/j.jmpt.2006.09.001
- Mrozek JP, Till H, Taylor-vaisey AL, Wickes D. Research in Chiropractic Education: An Update. *J Manipulative Physiol Ther*. 2005;29(9):762-773. doi:10.1016/j.jmpt.2006.09.002

References

- Hass M, Bronfort G, Evans RL. Chiropractic Clinical Research: Progress and Recommendations. *J Manipulative Physiol Ther.* 2006;29(9):695-706. doi:10.1016/j.jmpt.2006.09.005
- Diamond IR, Grant RC, Feldman BM, et al. Defining consensus : A systematic review recommends methodologic criteria for reporting of Delphi studies. *J Clin Epidemiol.* 2014;67(4):401-409. doi:10.1016/j.jclinepi.2013.12.002
- Hsu C, Sandford BA. The Delphi Technique : Making Sense Of Consensus. *Pract Assessment, Res Eval.* 2007;12(10):1-8.
- Powell C. The Delphi technique: myths and realities. *J Adv Nurs.* 2003;41(4):376-382.
- Hasson F, Keeney S, McKenna H. Research guidelines for the Delphi survey technique. *J Adv Nurs.* 2000;32(4):1008-1015.
- Lee AD, Szabo K, Mcdowell K, Granger S. Opinions of sports clinical practice chiropractors, with sports specialty training and those without, about chiropractic research priorities in sports health care: a centering resonance analysis. *J Can Chiropr Assoc.* 2016;60(4):342-369.
- Pawlowski SD. The Delphi Method as a Research Tool : An Example , Design Considerations and Applications 1 Introduction 2 Overview of the Delphi method. 2004;42(1):15-29.
- Mcmillan SS, King M, Tully MP. How to use the nominal group and Delphi techniques. *Int J Clin Pharm.* 2016;38(3):655-662. doi:10.1007/s11096-016-0257-x
- Akins RB, Tolson H, Cole BR. Stability of response characteristics of a Delphi panel : application of bootstrap data expansion. 2005;12:1-12. doi:10.1186/1471-2288-5-37
- Robinson R.S. (2014) Purposive Sampling. In: Michalos A.C. (eds) Encyclopedia of Quality of Life and Well-Being Research. Springer, Dordrecht