

PRE-WORKSHOP ACTIVITIES

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Education & Research

Practice Based Research Network (PBRN)

Planning Meeting

CMCC - Toronto, Ontario

December 5, 2014



CMCC

TOPICS

1. Research utilization in chiropractic: Scoping Review
2. Canadian chiropractors' current level of knowledge and attitudes toward evidence-based clinical practice: National e-survey (E-Base)
3. Pre-meeting environmental scan of attendees.



Research Utilization and Evidence-Based Practice in Chiropractic: A Scoping Study

André Bussi eres DC, PhD*

Aliki Thomas OT, PhD

Simon French BAppSc (Chiro), MPH, PhD

Kent Stuber DC, MSc

Monika Kastner PhD

Jill Boruff BA, MLIS

John Corrigan BSc, DC



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Scoping Review

Objective:

- To ascertain the amount and the nature of the evidence regarding research utilization, evidence-based practice, and knowledge translation in chiropractic practice

Rationale:

- Understanding the factors that support or limit uptake of evidence may promote the development and integration of strategies to close the evidence-practice gap.



Scoping Review

TASKS COMPLETED

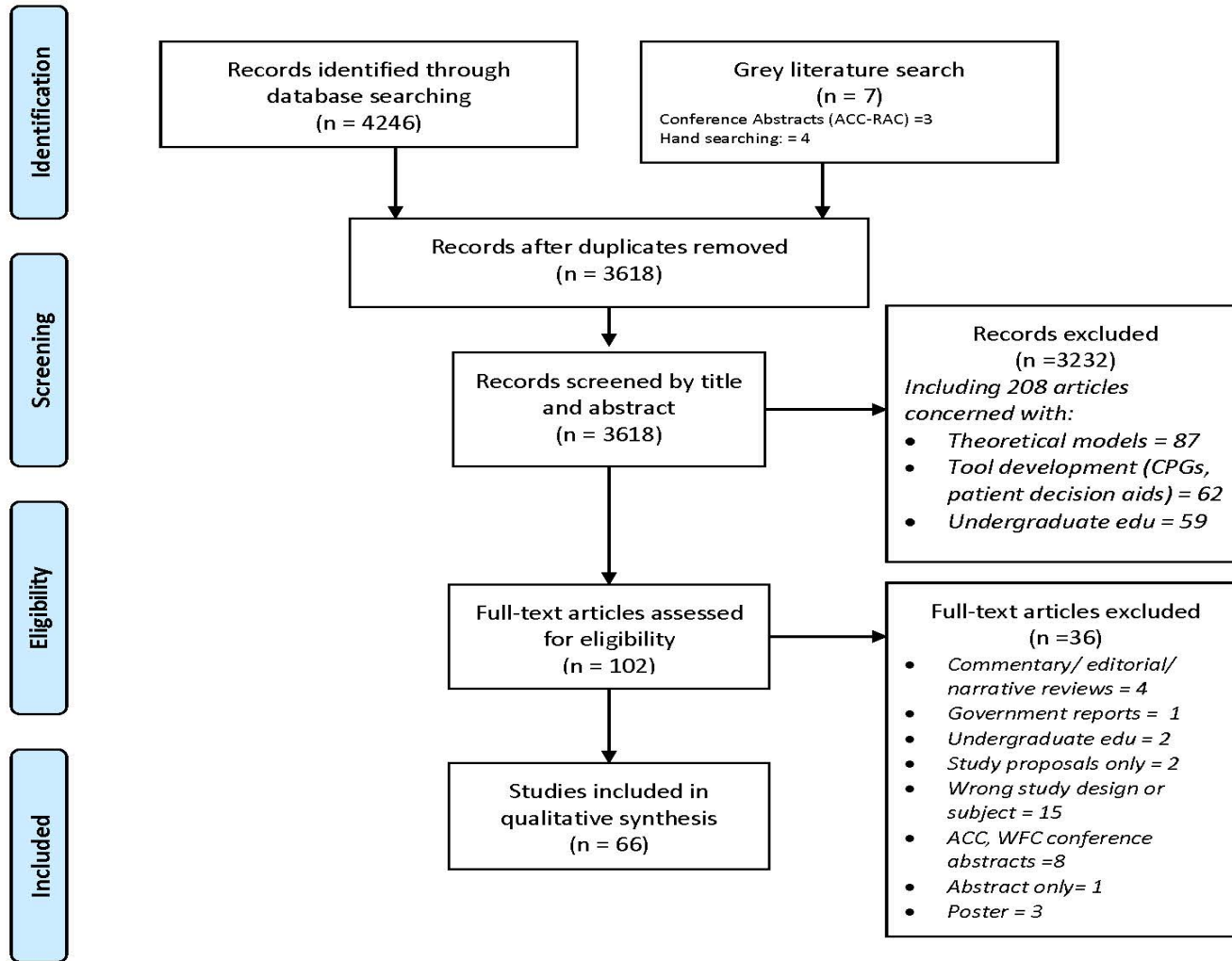
- Iterative literature search
- Study selection
- Date extraction
- Synthesis of findings
- Reporting of preliminary results
- Submitted to WFC 2015 in Greece

CURRENT AND OUTSTANDING TASKS

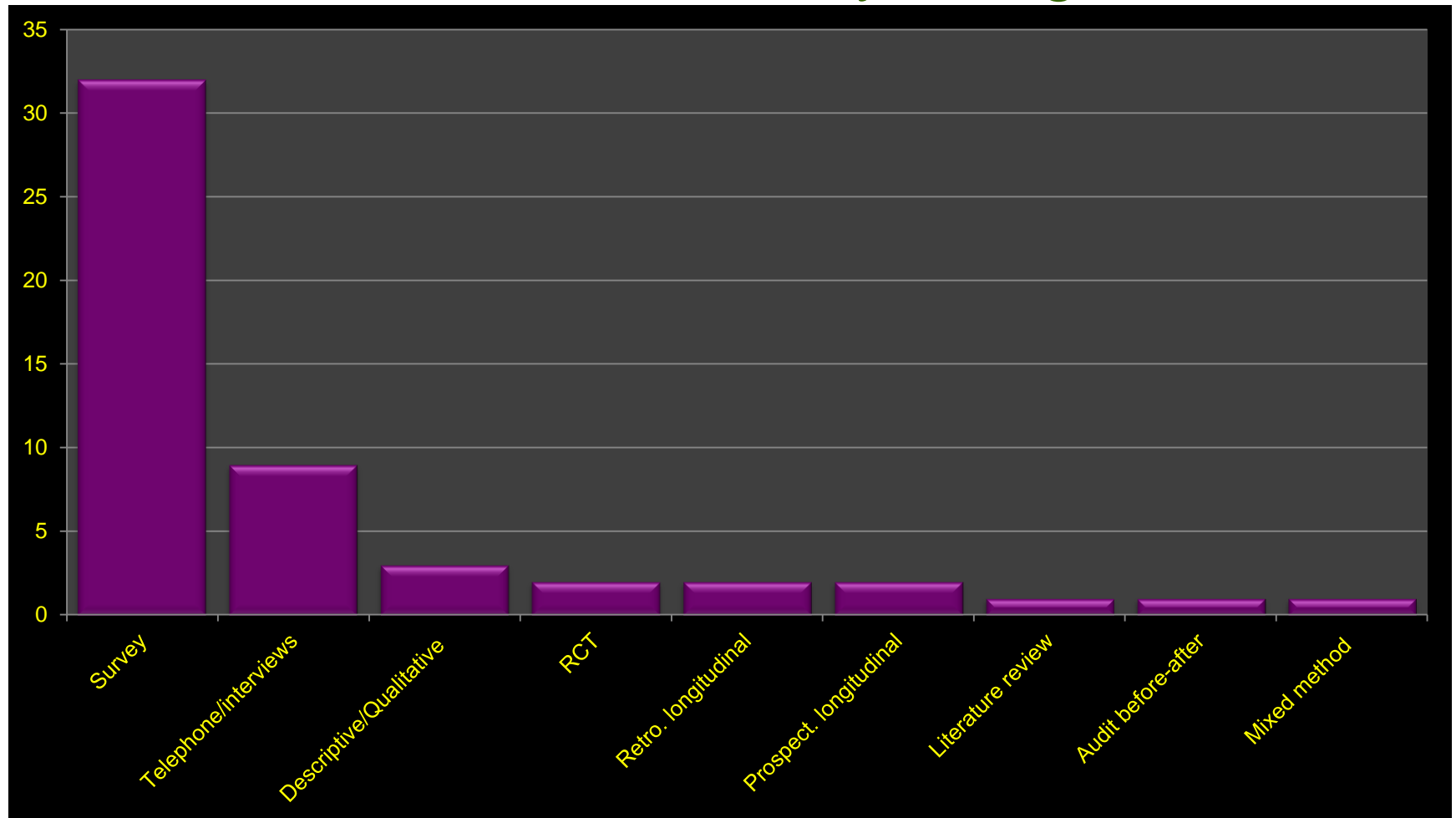
- Final analysis
- Production/submission of scientific article - 3 months –
Late 2014 / Early 2015

Flow of Articles Through Scoping Review

Flow Diagram
Chiropractic use of evidence based practice and knowledge translation: A scoping review

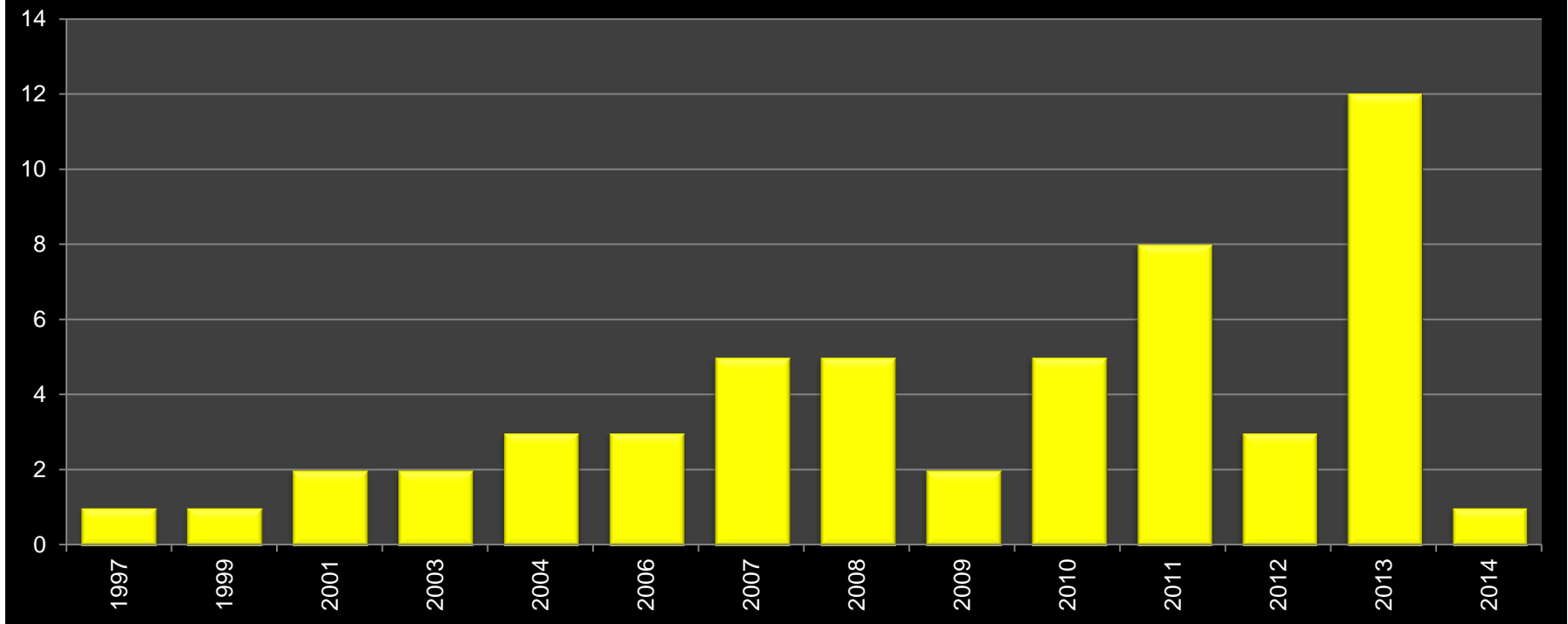


Distribution of Articles – Study Design

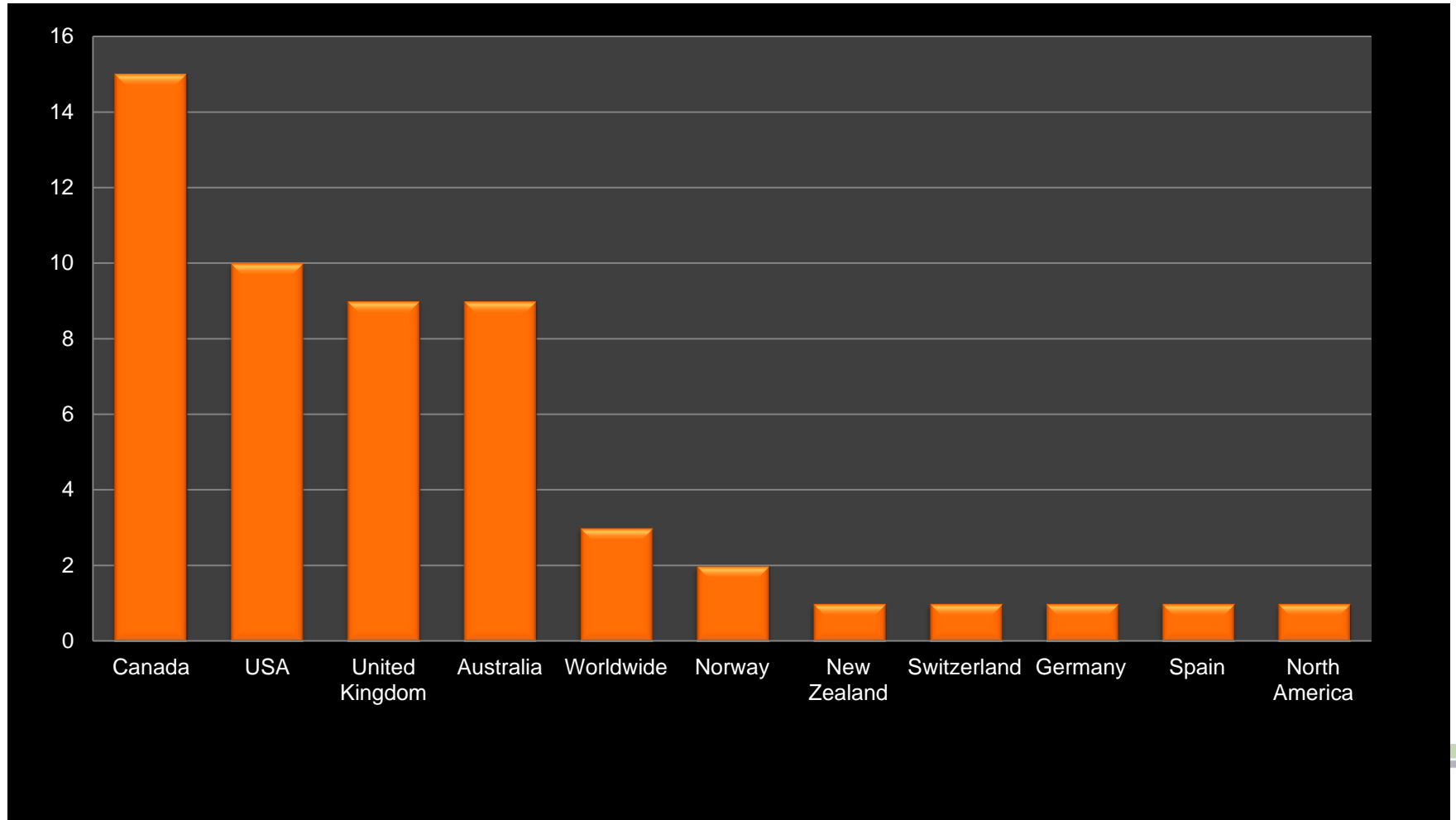


Distribution of Articles – Year of Publication

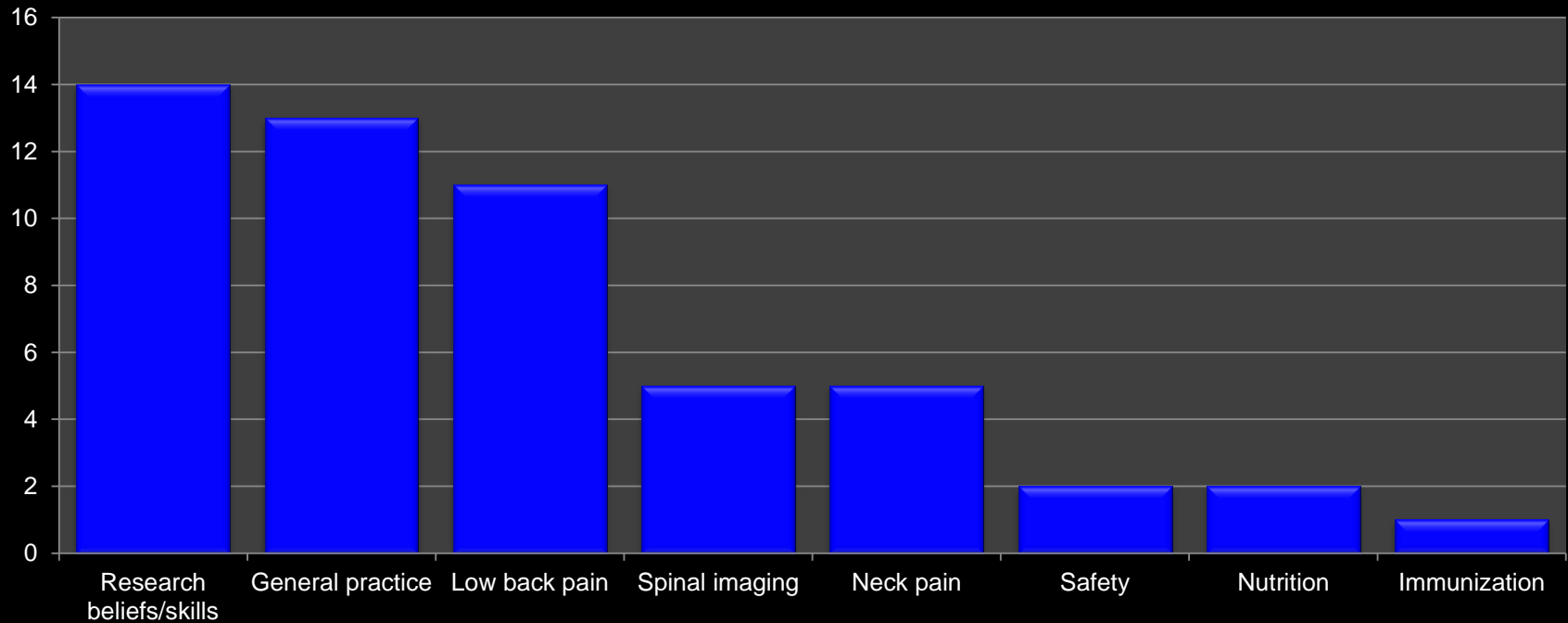
Articles by year of publication
(1997- March 2014)



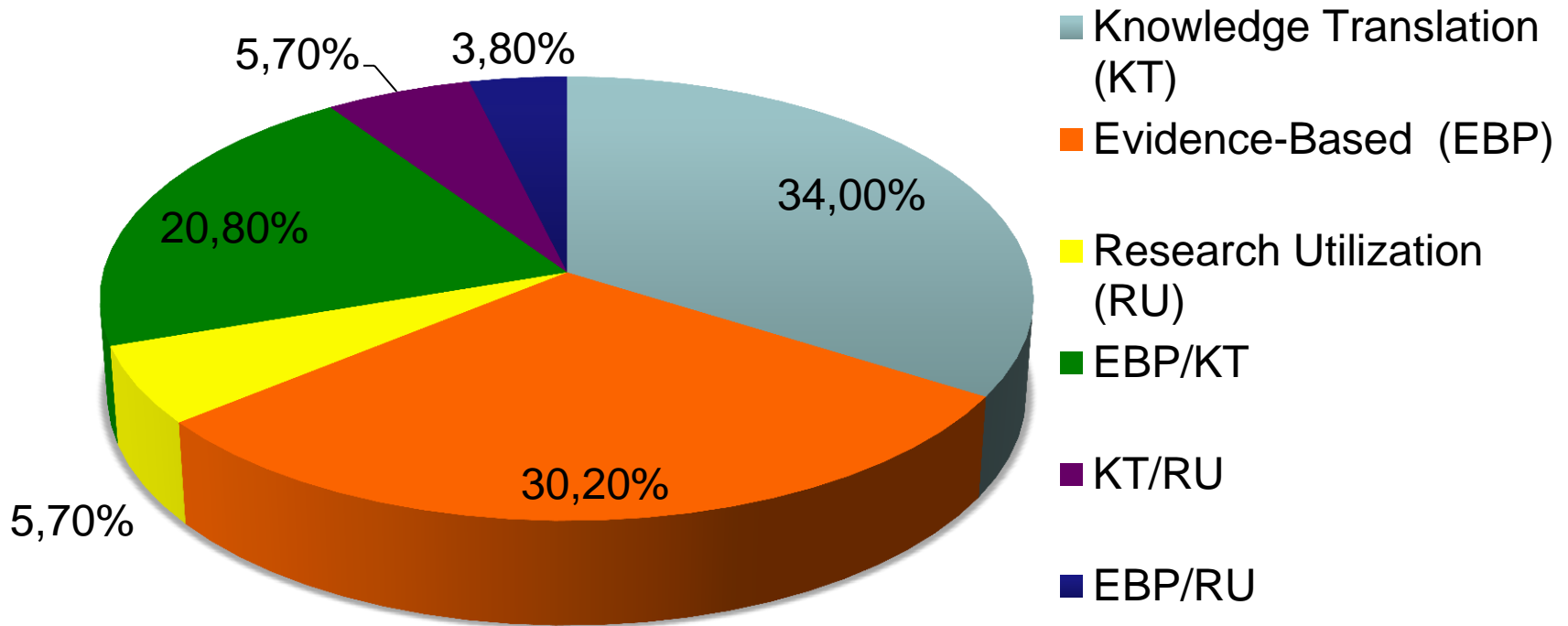
Distribution of Articles: Country of Origin



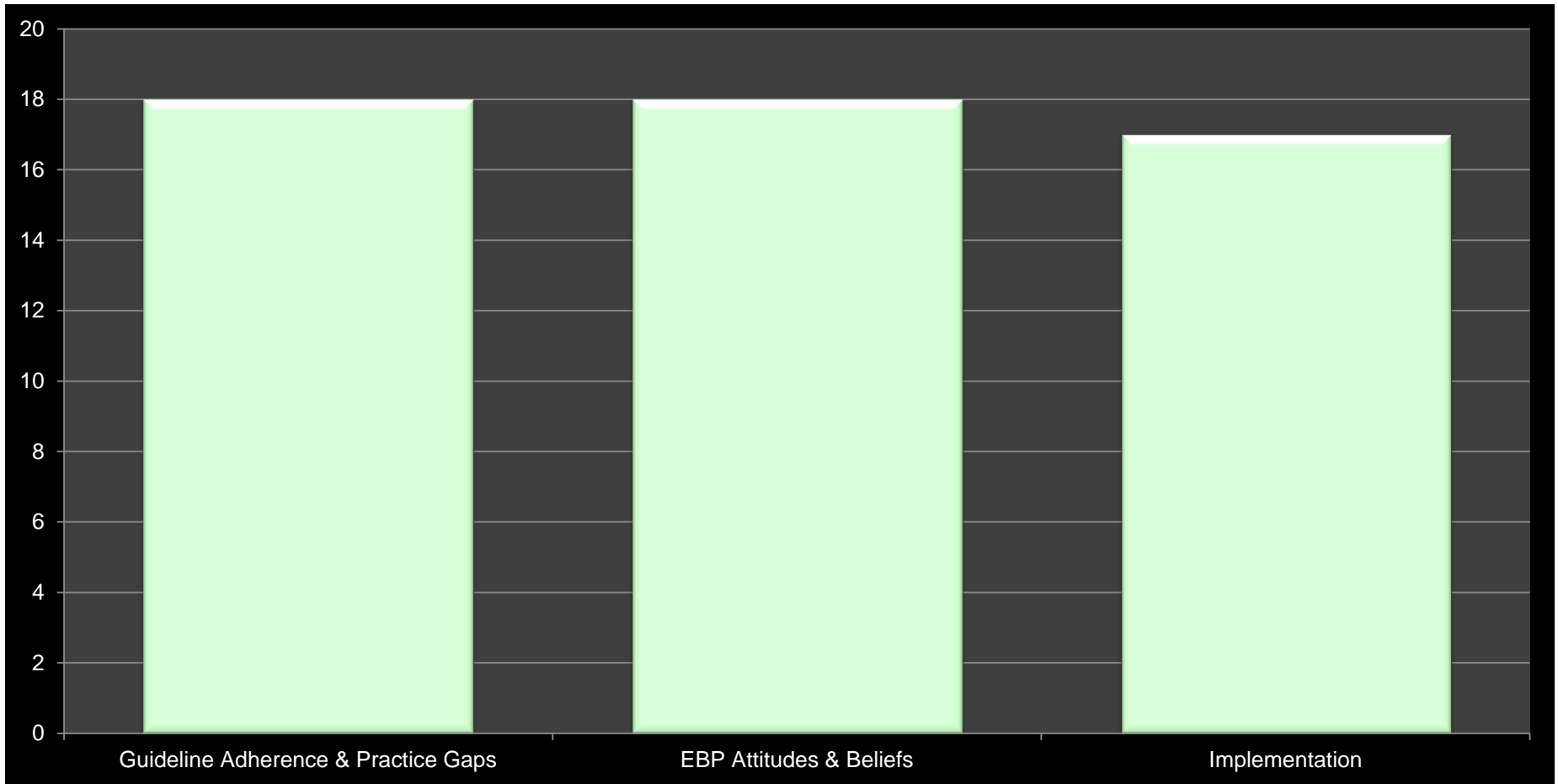
Distribution of Articles – Area of Practice



Distribution of Articles – Research Category



Distribution of Articles – Secondary Themes within EBP



E-Base Survey

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E-Base Survey

Purpose:

- To investigate the use of, opinions, and skills toward evidence-based practice among Canadian DCs.

Methods:

- Previously employed survey generates 3 subscores towards EBP: Attitudes, Skills, and Use
- Online distribution by the CCA to all members
- Descriptive statistics of demographic variables
- Determine distribution of subscores and correlations between subscores, demographics, and other baseline variables
- Logistic Regressions to find predictors of high subscores
 - Each sub-score as dependent variable
 - Questions from E-BASE were independent variables



Results

- **n=554 (out of 7200 CCA Members)**
- **Response Rate: 7.69%**

Results

	Mean (SD)	Median (IQR)	Range
Age (years)	42.1 (11.4)	41.0 (19.0)	24-80
			Percentage
Gender	Male		363 (65.5)
	Female		191 (34.5)
Highest Education Level	High School		102 (18.4)
	Associate Degree/Some college		36 (6.5)
	Bachelor's Degree		352 (63.5)
	Master's Degree/Some grad work		53 (9.6)
	Doctorate		11 (2.0)

Geography

		N (%)
Region of Practice	Alberta	68 (12.3)
	British Columbia	70 (12.7)
	Manitoba	29 (5.3)
	New Brunswick	10 (1.8)
	Newfoundland	5 (0.9)
	Nova Scotia/PEI	8 (1.3)
	Ontario	242 (43.7)
	Quebec	104 (18.8)
Setting	Saskatchewan	18 (3.2)
	City	337 (60.8)
	Suburban	137 (24.7)
	Rural	80 (14.4)

Practice Habits

		N (%)
Patients Seen Daily	0-10	130 (23.5)
	11-20	149 (26.9)
	21-30	131 (23.6)
	31-40	68 (12.3)
	41-50	36 (6.5)
	51 or more	40 (7.2)
Focus	Musculoskeletal Focus	367 (66.2)
	Non-MSK Focus	187 (33.8%)
Onsite Imaging	Yes	132 (23.8)
	No	422 (76.2)
% Patients Radiographs	25% or less	428 (77.3)
	26%-50%	40 (7.2)
	51-75%	39 (7.0)
	Over 75%	47 (8.5)
X-rays useful for diagnostics of low back pain	Strongly Disagree	132 (23.8)
	Disagree	184 (33.2)
	Neutral	126 (22.7)
	Agree	76 (13.7)
	Strongly Agree	36 (6.5)

Correlations Between Demographics & Outcomes

DEMOGRAPHICS	ATTITUDES	SKILLS	USE
Gender	-.013	.001	.024
Education	.191**	.296**	.146**
Number of Patients	-.297**	-.150**	-.058
Focus	.406**	.153**	.054
Geographic area	-.097*	-.112**	-.075
Onsite Imaging	-.235**	-.118**	-.068
% Radiograph	-.292**	-.091*	-.052
X-rays useful	-.377**	-.128**	-.107*

So What Does That All Mean??

- 1. As education level increases, attitudes, skills, and use scores increase.
- 2. Those with a musculoskeletal focus have higher attitudes, skills, and use scores.
- 3. As number of patients increase, attitudes, skills and use scores decrease.
- 4. Those in rural areas have lower scores in attitudes, skills, and use.
- 5. Chiropractors with onsite imaging have lower scores in attitudes, skills, and use.
- 6. As the percentage of patients receiving radiographs increases, the attitudes, skills, and use scores decrease.
- 7. Those who find X-rays useful have lower attitudes, skills, and use scores.

Attitudes Toward EBP

		The odds of reporting higher attitudes were:
Demographics	Number of Patients (seen daily)	59% lower for those who see 20 or more patients per day
	Focus	61% lower for those with a non-musculoskeletal focus
	X-rays	49% lower for those who reported X-rays to be useful
Barriers	Lack of Motivation	77% lower for those who reported lack of motivation as a barrier

Skills in EBP

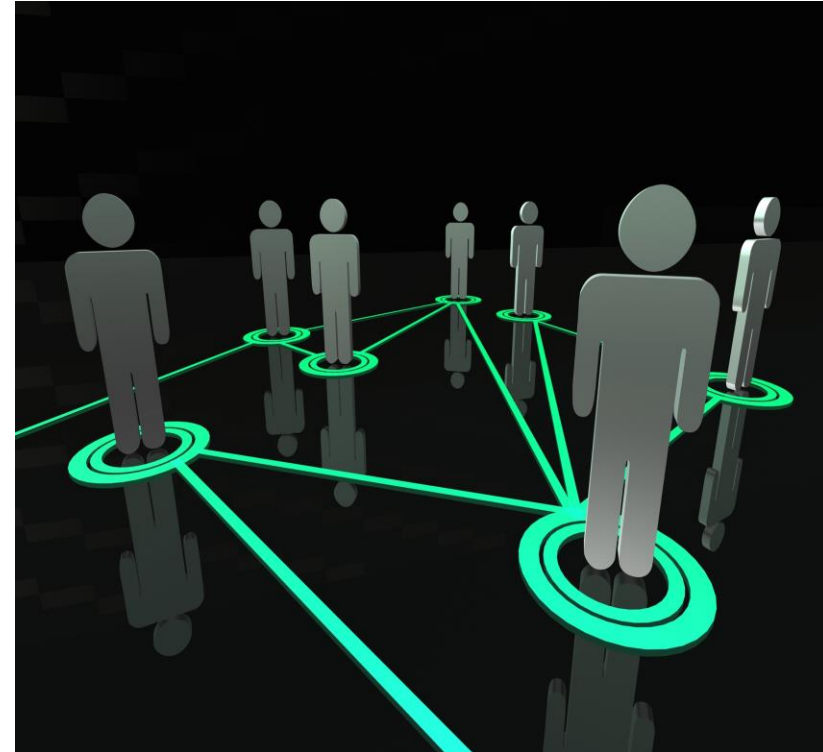
		The odds of reporting higher skills were:
Demographics	Education	61% lower for those with a bachelor's degree, associate's degree, or high school degree
	Location	42% lower for those who practiced in the city or rural areas
	Imaging	38% lower for those who had onsite imaging
Barriers	Insufficient Skills	86% lower for those who reported insufficient skills as a barrier
	Lack of Motivation	49% lower for those who reported lack of motivation as a barrier

Use of Evidence

		The odds of reporting higher use were:
Demographics	Age	43% lower for those greater than 41 years of age
	Location	43% lower for those who practiced in the city or rural areas
Barriers	Insufficient Skills	44% lower for those who reported insufficient skills as a barrier
	Lack of Motivation	44% lower for those who reported lack of motivation as a barrier

Practice Based Research Network (PBRN) Environmental Scan

- Creation of a Canadian chiropractic PBRN to link researchers with elected provincial/national leaders, practicing chiropractors, and patient representatives to facilitate dissemination and implementation of evidence-based clinical practice guidelines (CPGs).
- Overall goal: to improve patient care through appropriate use of CPGs in the treatment of musculoskeletal (MSK) conditions.
- Methods: 7 open-ended questions asked of attendees. Themes developed from responses
- 20 responses received



MACRO

Benefits of Establishing a PBRN

Micro



How Can a PBRN Improve CPG and Best Practice Uptake?

PBRN LEVEL

- Establishes a pathway and network for clinical dissemination of research findings deemed important by scientists
- Ensure clinically & community relevant questions are being asked & answered through CPGs, etc
- Explore areas critical to health care reform by engaging stakeholders
- Reciprocal relationship between clinician & researcher with ease of access going both ways
- Provide clinicians with increased awareness of guidelines & how to interpret & apply them
- Direct contact will provide researchers with insight on improving the effectiveness & efficiency of communication strategies
- Investigate barriers & facilitators to implementation & design KT interventions; use multiple methods to improve care delivery

PRACTICAL / CLINICAL LEVEL

- Increased points of contact between researchers & clinicians
- Clinicians receive exposure to research through community-based research
- Involvement of more clinicians in EBP, try to reach a critical mass until it is considered a standard of care
- Create a group of opinion leaders or PBRN/knowledge champions who provide mentorship in guideline implementation / operationalization to others
- Develop user-friendly tools/resources
- Discussion forums for Guidelines
- Teaching about reflective practice in how to apply CPGs
- Mandatory CE related to guidelines for PBRN members
- Dissemination of information to rest of profession

Challenges/Potential Problems in Starting & Operating a PBRN

PBRN – CLINICIAN ISSUES

- Recruitment & retention
- Diversity of practices
- Impact on time
 - Priority differences
 - Resistance to change
 - User-friendly tools /resources
- **Relationships:**
“Research with a practice, not research in a practice”

CLINICIANS

- Time / accessibility
- Isolation
- Training
- Compliance
- Managing change
- Buy-in from all clinical team members
- “What’s in it for me?”

PBRN – GLOBAL ISSUES

- **Establishing and maintaining the Network:**

Staff, researchers, structure, clinicians, FUNDING

- **Consensus on protocols:**

Information flow & data collection (legislation), objectivity, adaptability

- **Day-to-day operations:**

Communication, coordination, QC

- KT & generalizability to general clinician population

- Inter-professional collaboration

Indicators of Success

PROFESSION

- Increased utilization / enhanced public image
- Cultural shift - research & use of evidence – more DCs using evidence more often and more quickly
- Clinician behaviour and enhanced competence
- Improved patient outcomes & management patterns
- Enhance inter-professional image / collaboration
- Influence public health policy, system outcomes (costs)

RESEARCH

- Ability to collect data
- Grants, sustained/permanent funding
- Publications / conferences
- Increase research capacity
- Research database

NETWORK

- Longevity (funding)
- Number & diversity of DCs participating, sustained over time
- Stakeholder engagement – policy , funding communication
- Feedback from profession & participants

Research Questions to Address Within the PBRN

Treatment Based Research

- Specificity of SMT
- Effectiveness of different techniques, frequency of use in different anatomical areas
- Dose-response, adverse event monitoring
- Maintenance care
- Interactions between SMT & other treatments

PBRN Research

- Impact of PBRN-based care on practice? Financial sustainability?
- What PBRN models work best?
- Patient satisfaction with PBRN-based care
- Network in smaller centres
- Effect of clinician involvement in designing research questions on research involvement

Knowledge Translation Research

- Best KT interventions to get clinicians to apply guidelines, evidence, enable behavioral change, improve practice
- Effect of PBRN on implementation of evidence in practice?
- Effect of patient decisions aids on patient knowledge / other methods of patient education
- Methods of Inter-Professional Education (IPE)

Condition Based Research

- Prevalence
- Results obtained from care, average response times, effects on different subgroups,
- Conditions mentioned included: chronic pain, chronic LBP in >50 population, disc / radiculopathy, headaches, spinal stenosis, fall risk in the elderly

Diagnostic Research

- Diagnosis process including differential diagnoses
- Utility of various tests such as imaging, sEMG, etc

Relevant Funding Opportunities

INTERNAL

- CCRF
- CCA
- Provincial Associations (OCA, etc)

EXTERNAL

Canada - National

- CIHR – Dissemination Grants, SPOR Networks
- IN-CAM
- Industry

Canada - Provincial

- Provincial governments – Regional Health Authorities; SK – Collaborative Innovation Development Grant
- Workers' compensation boards (WSIB, WorkSafeBC, etc)

USA

- NIH, NCCAM, AHRQ, PCORI

Any Questions?