Consortium for Collaborative Osteopathic Research Development – Practice-Based Research Network (CONCORD-PBRN)

Osteopathic International Alliance
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Presentation Objectives

- Illustrate the triadic paradigm and interrelationships of The Osteopathic Research Center's CONCORD-PBRN
- Describe the national scope and distribution of the CONCORD-PBRN
- Describe the affiliated Patient-Centered Research Fellowship program and curriculum
- Present results of the initial card study conducted by the CONCORD-PBRN
- Describe the model for further growth and development of the CONCORD-PBRN

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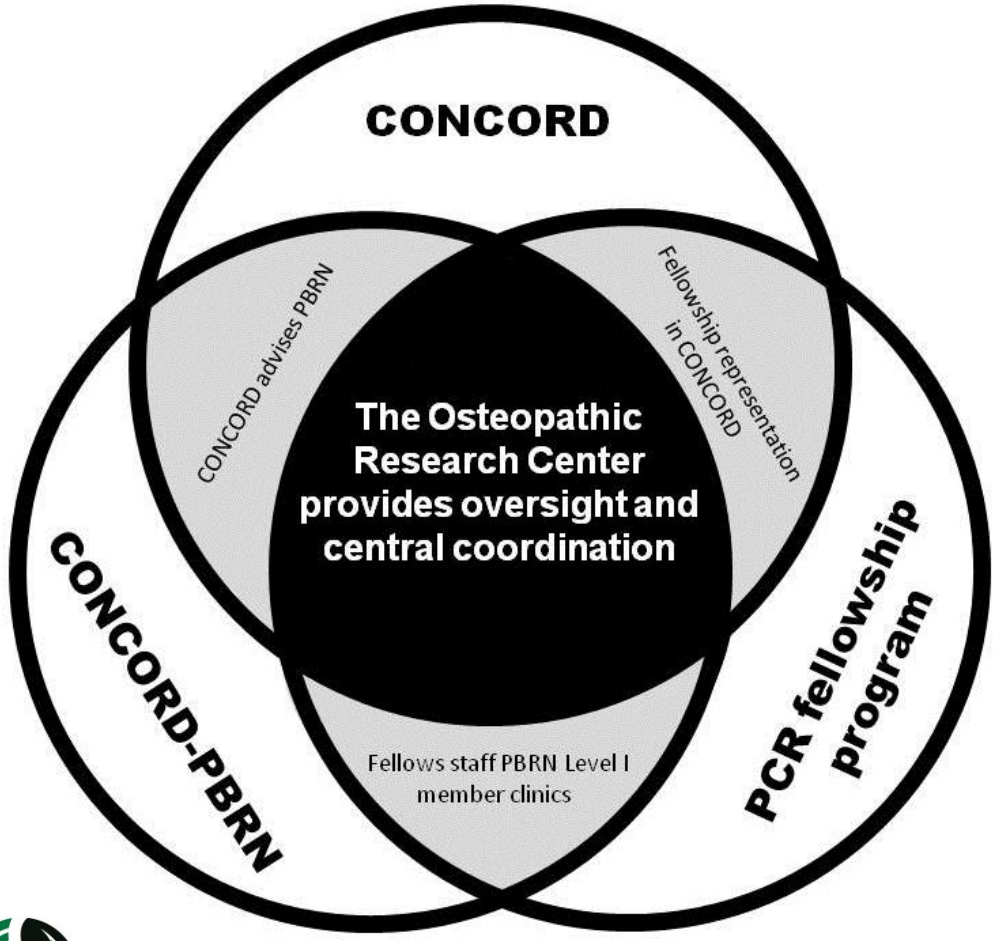
Triadic Paradigm*



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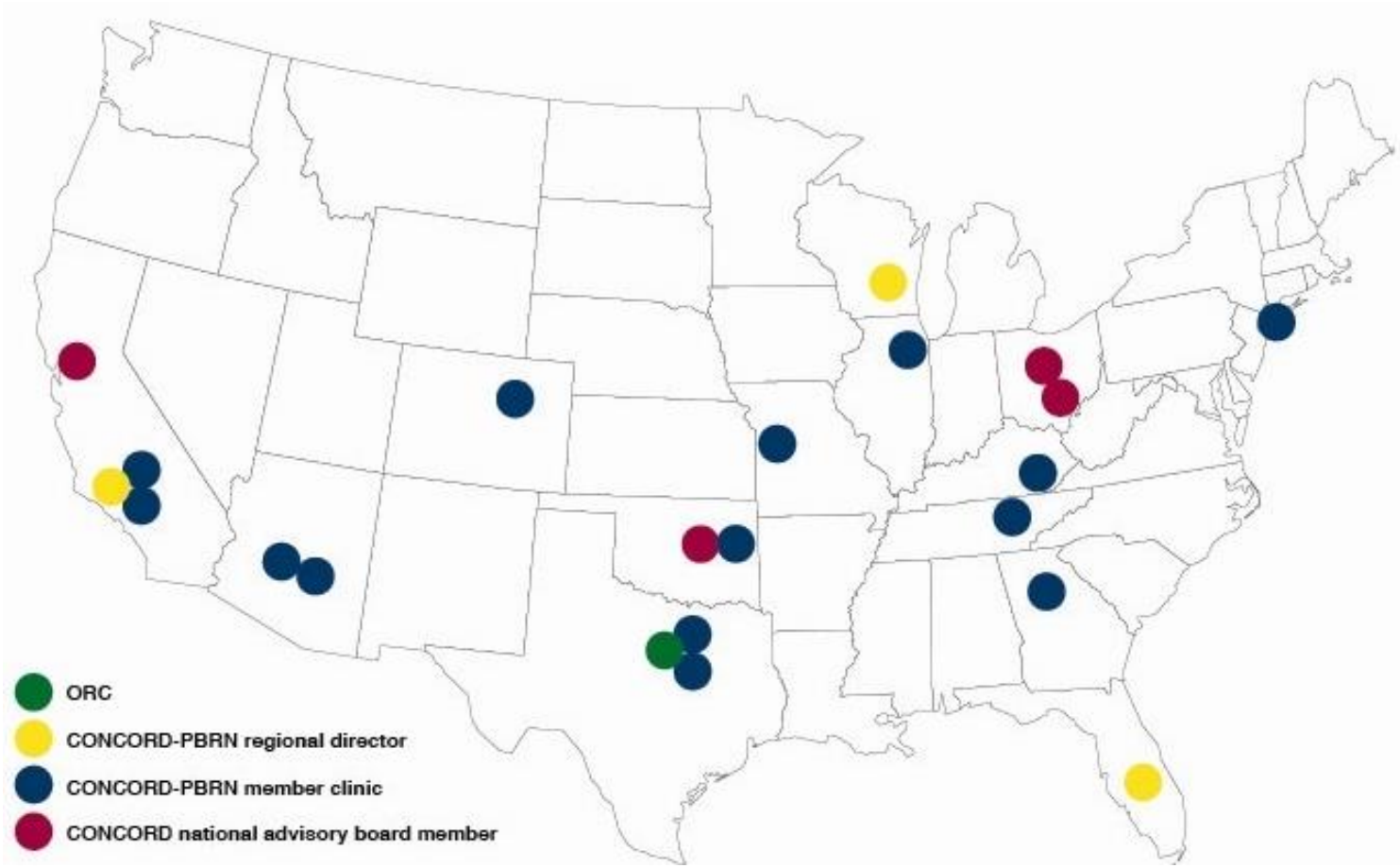
*Licciardone JC et al. J Am Osteopath Assoc 2012;112:447-456
Licciardone JC et al. J Am Osteopath Assoc 2014; in press

CONCORD-PBRN
National Scope and Distribution



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CONCORD-PBRN

Certified Primary Care Research Network

AHRQ Practice-Based Research Network (PBRN)

This certificate is awarded to

CONSORTIUM FOR COLLABORATIVE OSTEOPATHIC RESEARCH DEVELOPMENT PRACTICE-BASED RESEARCH NETWORK (CONCORD-PBRN)

and acknowledges CONCORD-PBRN's 2013 registration with the AHRQ PBRN Resource Center as a primary care Practice-Based Research Network

Rebecca Roper, AHRQ PBRN Initiative Director

Gabriella Newes-Adeyi, PBRN Resource Center Director

AHRQ Agency for Healthcare Research and Quality
Advancing Excellence in Health Care • www.ahrq.gov

PRACTICE-BASED RESEARCH NETWORKS pbrn

Patient-Centered Research Fellowship Program

- 3-year program developed for midcareer clinicians
  - Year 1 – Didactic
  - Years 2-3 – Practicum
- First class entered in January 2011 and completed program in December 2013
- Next class tentatively planned to start in Fall 2014
- Selected by application process
- No stipend provided for fellows
- Various models for support of the didactic training program and research studies

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PCR Fellowship Program
Didactic Phase

- 162 contact hours of research training in total
- Delivered during 6 extended weekend seminars (EWSs)
  - Thursday through Saturday
  - 27 contact hours per EWS
  - Conducted at the Osteopathic Research Center
- ORC provided all faculty instructors and staff
- ORC provided textbooks, computer support, library access, etc

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PCR Fellowship Program
162-Hour Research Curriculum

- Clinical research design (24 hrs)
- Epidemiology (19 hrs)
- Biostatistics (27 hrs)
- Human subjects research (10 hrs)
- Critical analysis of the biomedical literature (20 hrs)
- Miscellaneous topics (46 hrs)
- Practicum research planning (16 hrs)

- Will reduce to **108 hours** and **4 EWSs** in future

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Didactic Phase Evaluation

Clinical Research Design / Biostatistics

Significant increase on post-test scores for knowledge relating to clinical research design and bio-statistics (P = .02)

Question No.	Objective of Test Question
1 a	Identify continuous variable
b	Identify ordinal variable
c	Identify nominal variable
2	Recognize a case-control study
3	Recognize purpose of double-blind studies
4 a	Identify analysis of variance
b	Identify χ^2 analysis
c	Identify *t*-test
5	Recognize definition of bias
6	Interpret the meaning of P value >.05
7	Identify Cox proportional hazard regression
8	Interpret standard deviation
9	Interpret 95% CI and statistical significance
10	Recognize power, sample size, and significance-level relationship
11	Determine which test has more specificity
12	Interpret an unadjusted odds ratio
13	Interpret odds ratio in multivariate regression analysis
14	Interpret relative risk
15	Determine strength of evidence for risk factors
16	Interpret Kaplan-Meier analysis results

[a] Test questions are presented in Windish, et al.[34]

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Overall Didactic Phase Evaluation

Evaluation Item	Response Percentage				
	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
The program improved my overall understanding of PCR	88	12	0	0	0
The program improved my understanding of clinical research design	65	35	0	0	0
The program improved my understanding of epidemiology	47	35	18	0	0
The program improved my understanding of biostatistics	35	53	6	6	0
The program improved my understanding of statistical software[c, d]	38	44	13	6	0
The program improved my understanding of human subjects research ethics	53	35	12	0	0
The program improved my understanding of the biomedical literature	35	47	18	0	0
The 162 hours of instruction was just about right	35	41	18	6	0
The number of instructors in the course was just about right	47	47	6	0	0
The pace of material presented was just about right[c]	56	38	6	0	0
The balance between conceptual and practical issues was just about right	47	29	12	12	0
The assigned readings reinforced concepts covered in the sessions	59	35	6	0	0
The handout materials helped identify important concepts	59	35	6	0	0
Overall, the textbooks contributed to my understanding of PCR	65	29	6	0	0
Specifically, the Hulley textbook[20] contributed to my understanding of PCR	53	47	0	0	0
Specifically, the Gordis textbook[21] contributed to my understanding of PCR	35	59	6	0	0
Specifically, the Haynes textbook[22] contributed to my understanding of PCR	35	47	18	0	0
Specifically, the Daniel textbook[23] contributed to my understanding of PCR[d]	24	47	18	12	0
Specifically, the Dunn textbook[24] contributed to my understanding of PCR	35	47	12	6	0
I am more likely to undertake my own independent research	47	41	6	6	0
I am more likely to collaborate with researchers at my institution[d]	71	24	6	0	0
I am more likely to mentor researchers at my institution	53	35	6	6	0
I am more likely to collaborate with researchers at other institutions	65	35	0	0	0
I am more likely to mentor researchers at other institutions[c, d]	38	19	31	13	0
I am more likely to collaborate with the ORC (beyond my practicum requirement	71	29	0	0	0
I would recommend this program to my colleagues	71	29	0	0	0

CONCORD-PBRN
Directors and Initial Members

CONCORD-PBRN
Card Study Design Features

- Many of the advantages of observational studies
- Low cost
- Low patient recruitment/staff burden on practice sites
- Can accrue a relatively large sample size within a short time frame
- Generally does not require identifiable or sensitive data on patients
  - Facilitates ethics board approval and minimizes need for informed consent

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Card Study Methodology

- Centrally approved by the Institutional Review Board at UNTHSC (exempt status)
  - Some sites required additional local IRB/ethics approval
- Conducted from January to March 2013
- 11 of 16 (69%) of member clinics participated
- Each clinic (physician) completed cards on up to 100 consecutive patient visits over a 4-week period
- Physician recorded relevant data on patient demographics, ICD-9-CM codes, TART findings, and OMT on the card immediately after encounter (no information from patient)
- Cards batched at end of day and sent to ORC weekly

CONCORD-PBRN

Front of Card

□ Male □ Female Age: __ __ __ yrs. If <1 yr.__ __ months or, if < 1 month, __ __ days

PRIMARY ICD-9 CODE: __ __ __

SECONDARY ICD-9 CODE: __ __ __

TERTIARY ICD-9 CODE: __ __ __

□ **Structural Examination Not Performed**

If performed, circle any clinically relevant TART Findings corresponding to the regions below:

	H	C	T	L	S	P	LE	UE	R	A/O
Tenderness:	Y|N	Y|N	Y|N	Y|N	Y|N	Y|N	Y|N	Y|N	Y|N	Y|N
Asymmetry:	Y|N	Y|N	Y|N	Y|N	Y|N	Y|N	Y|N	Y|N	Y|N	Y|N
Restricted Motion:	Y|N	Y|N	Y|N	Y|N	Y|N	Y|N	Y|N	Y|N	Y|N	Y|N
Tissue Texture Changes:	Y|N	Y|N	Y|N	Y|N	Y|N	Y|N	Y|N	Y|N	Y|N	Y|N
Region Not Examined	.0	.1	.2	.3	.4	.5	.6	.7	.8	.9

If you circle a wrong letter or code number, then draw a single diagonal line through the circled letter or number (e.g., 

) and then circle the correct letter or 739.x code number

739.x code numbers: .0 Head, .1 Cervical, .2 Thoracic, .3 Lumbar, .4 Sacrum, .5 Pelvis, .6 Lower Extr,7 Upper Extr, .8 Rib cage, .9 Abdomen/Other

PLEASE FILL OUT OTHER SIDE!

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Back of Card

TECHNIQUES: CIRCLE all 739.x codes used in this encounter PLEASE FILL OUT OTHER SIDE!

(if you circle a wrong number, then correct it as follows: ⊘4)

☐ **No OMT was Provided during this Encounter**

	H	C	T	L	S	P	LE	UE	R	A/O
Articulatory:	.0	.1	.2	.3	.4	.5	.6	.7	.8	.9
BLT / LAS:	.0	.1	.2	.3	.4	.5	.6	.7	.8	.9
Chapman's:	.0	.1	.2	.3	.4	.5	.6	.7	.8	.9
Counterstrain:	.0	.1	.2	.3	.4	.5	.6	.7	.8	.9
Cranial:	.0	.1	.2	.3	.4	.5	.6	.7	.8	.9
FPR:	.0	.1	.2	.3	.4	.5	.6	.7	.8	.9
HVLA:	.0	.1	.2	.3	.4	.5	.6	.7	.8	.9
Lymphatics:	.0	.1	.2	.3	.4	.5	.6	.7	.8	.9
Muscle Energy:	.0	.1	.2	.3	.4	.5	.6	.7	.8	.9
Myofascial Release:	.0	.1	.2	.3	.4	.5	.6	.7	.8	.9
Percussor:	.0	.1	.2	.3	.4	.5	.6	.7	.8	.9
Soft Tissue:	.0	.1	.2	.3	.4	.5	.6	.7	.8	.9
Still's Technique:	.0	.1	.2	.3	.4	.5	.6	.7	.8	.9
Visceral:	.0	.1	.2	.3	.4	.5	.6	.7	.8	.9
Circle if no OMT of Region:	.0	.1	.2	.3	.4	.5	.6	.7	.8	.9

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Card Study Methodology • QC

- 668 cards included in study
- Dual independent keyboard data entry into SPSS Statistics software package
- Discrepant data entries identified and resolved by a panel of three reviewers based on consensus or majority opinion
  - Error rate < 1/1,000 keyboard entries
- Inconsistent data entries reviewed by principal investigator
  - Error rate < 1/16,000 reported data points
- Missing data imputed by proxy measure/multiple imputation
  - Age (n=3; 0.4%)
  - Sex (n=14; 2.1%)

CONCORD-PBRN

Card Study Results ● Demographics

Table 1. Patient Age and Sex According to Member Clinic.

Member Clinic	n	Mean Age (yr) (95% CI)	Mean Percentage of Females (95% CI)
A	33	50.2 (44.5-56.6)	48.5 (30.5-66.5)
B	100	49.9 (46.3-53.4)	61.0 (51.3-70.7)
C	54	49.6 (43.6-55.6)	68.5 (55.7-81.3)
D	62	54.4 (50.3-58.5)	66.1 (54.0-78.2)
E	100	47.5 (44.8-50.3)	70.0 (60.9-79.1)
F	67	46.7 (41.3-52.2)	89.6 (82.0-97.1)
G	59	55.4 (52.0-58.9)	71.2 (59.3-83.1)
H	60	27.6 (25.9-29.3)	53.3 (40.3-66.3)
I	93	62.1 (59.5-64.8)	67.7 (58.1-77.4)
J	21	44.1 (36.9-51.4)	57.1 (34.1-80.2)
K	19	53.1 (42.4-63.7)	84.2 (66.2-100.0)
Overall (Unadjusted)	**668**	**49.7 (48.3-51.1)**	**67.4 (63.8-70.9)**
Overall (Adjusted)*	**668**	**49.2 (43.3-55.1)**	**67.1 (59.2-74.9)**

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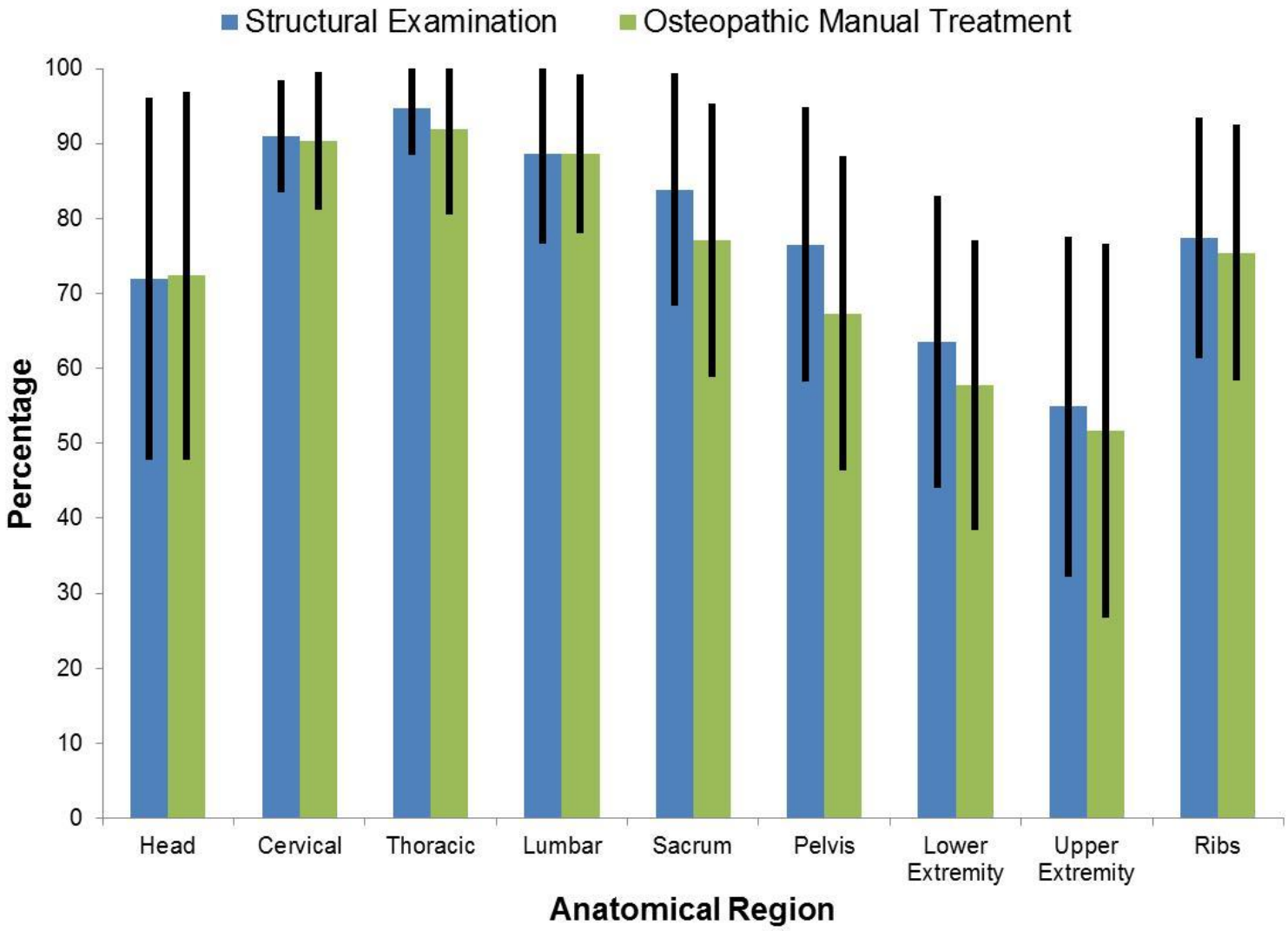
Card Study Results ● Exam / OMT



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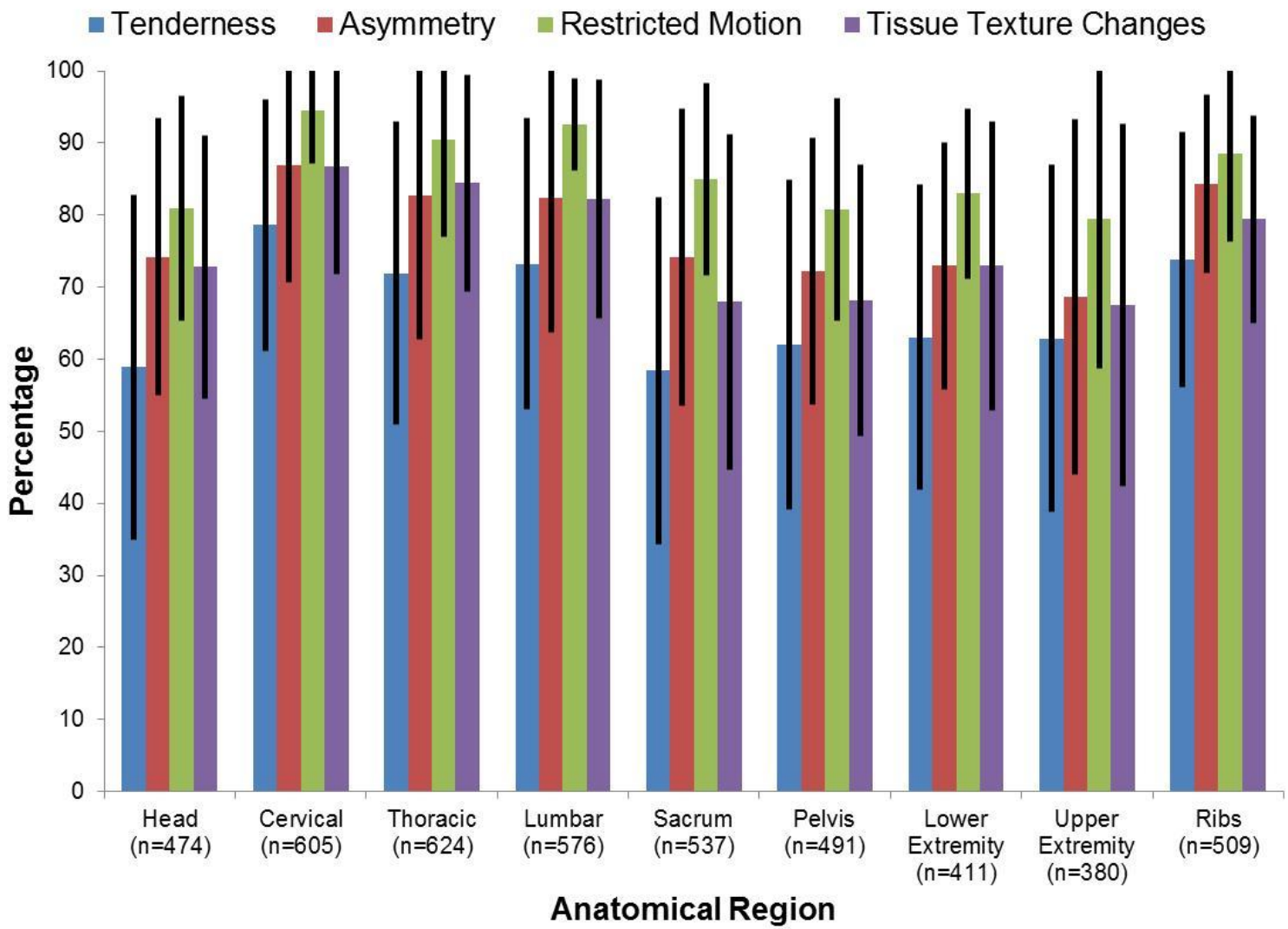
Card Study Results • TART



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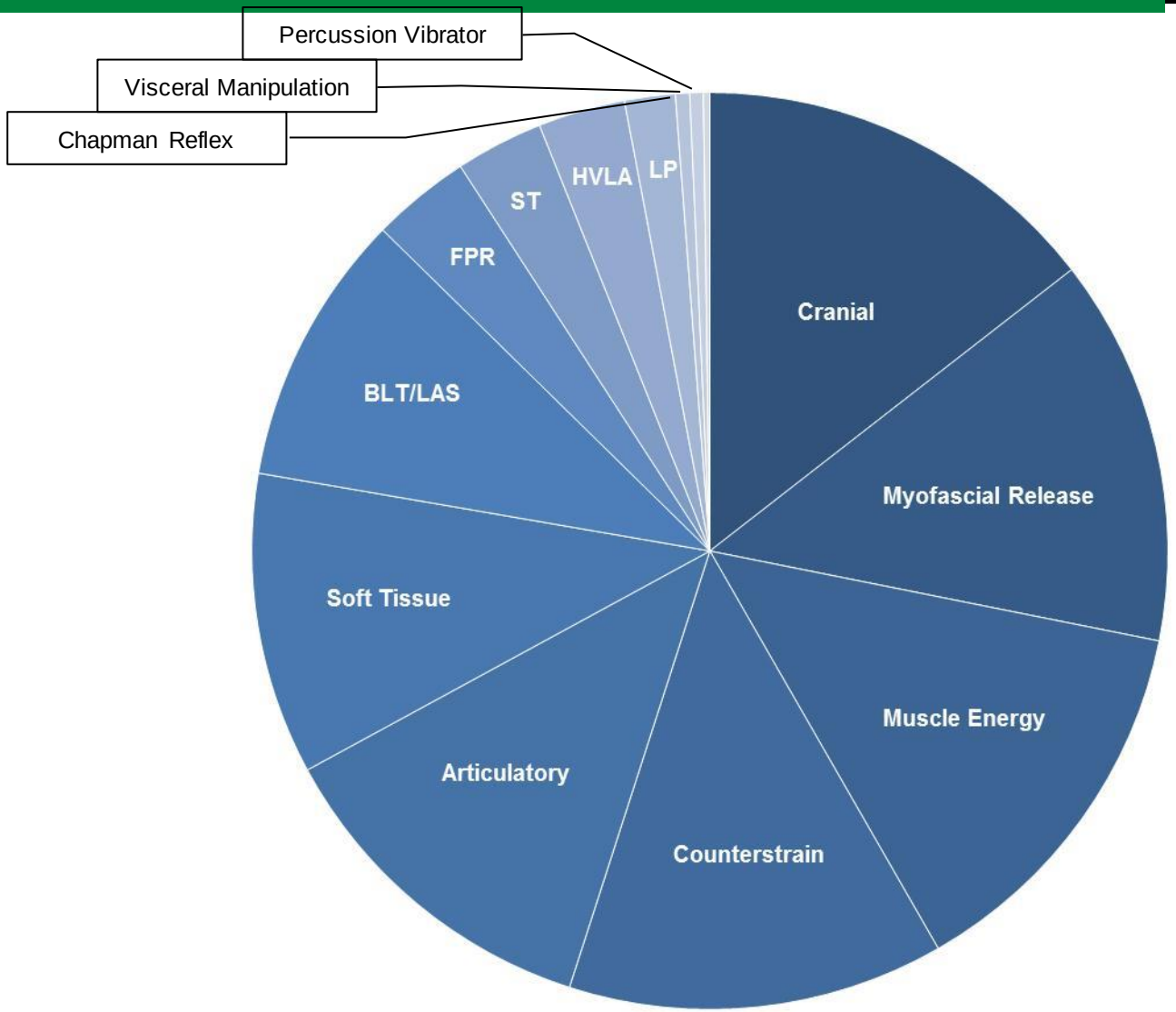
Card Study Results ● Techniques



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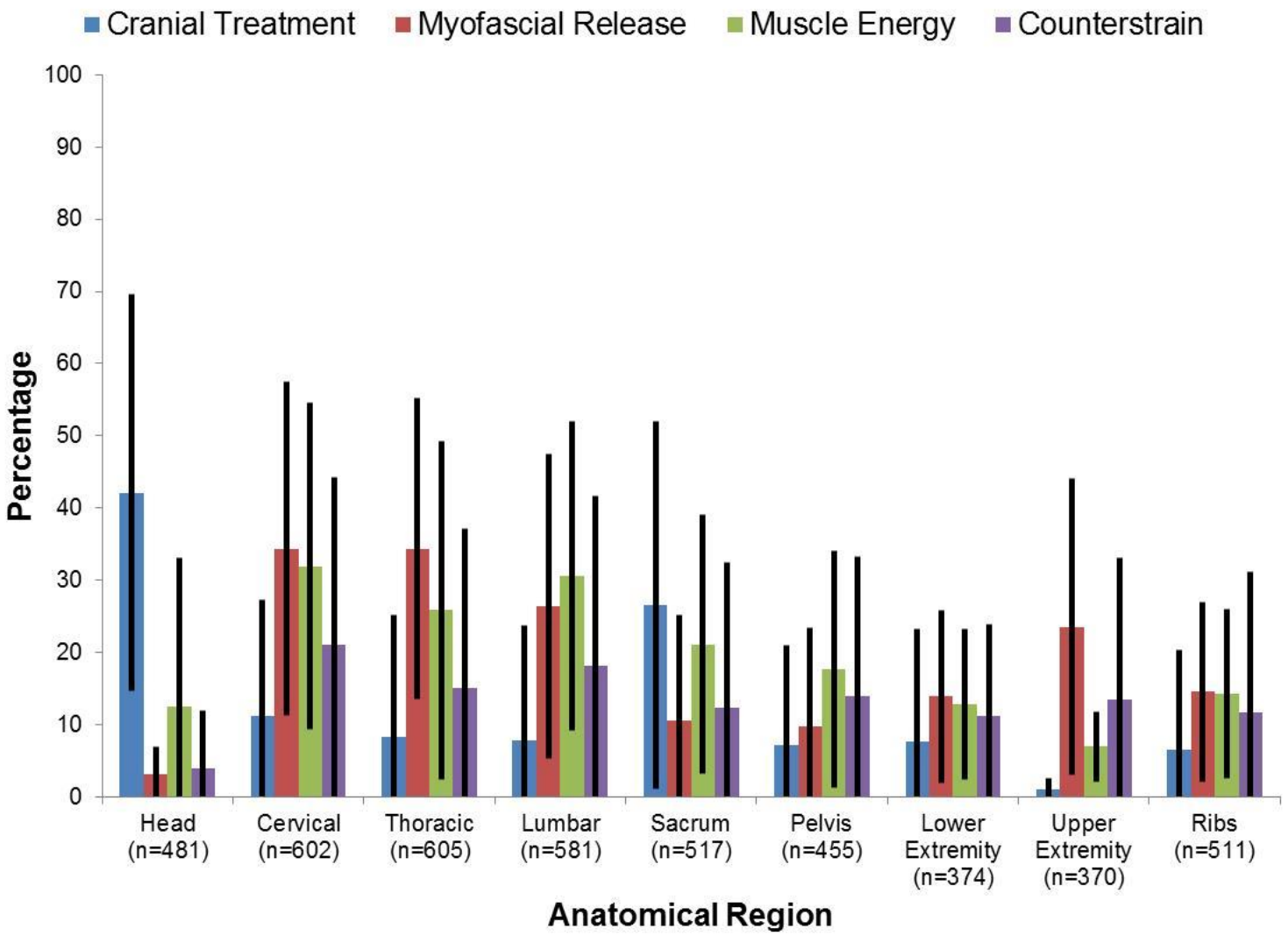
Card Study Results ● Techs x Site



CONCORD-PBRN

Card Study Results • ICC

Table 4. Intraclass Correlation Coefficients and Design Effects for Patient Demographic Characteristics and Physician Use of OMT Techniques.

	ICC	D
Age (yr)	0.22	14
Age Group	0.10	7
Sex	0.04	3
Use of OMT Techniques*		
Cranial Treatment	0.72	44
Myofascial Release	0.41	25
Muscle Energy	0.34	21
Counterstrain	0.54	33
Articulatory	0.69	42
Soft Tissue	0.45	28
Balanced Ligamentous Tension/Ligamentous Articular Strain	0.54	33
Facilitated Positional Release	0.47	29
Still Technique	0.36	23
High Velocity, Low Amplitude Thrust	0.24	16
Lymphatic Pump	0.31	19
Chapman Reflex	0.10	7
Visceral Manipulation	0.13	9
Percussion Vibrator	0.00	1

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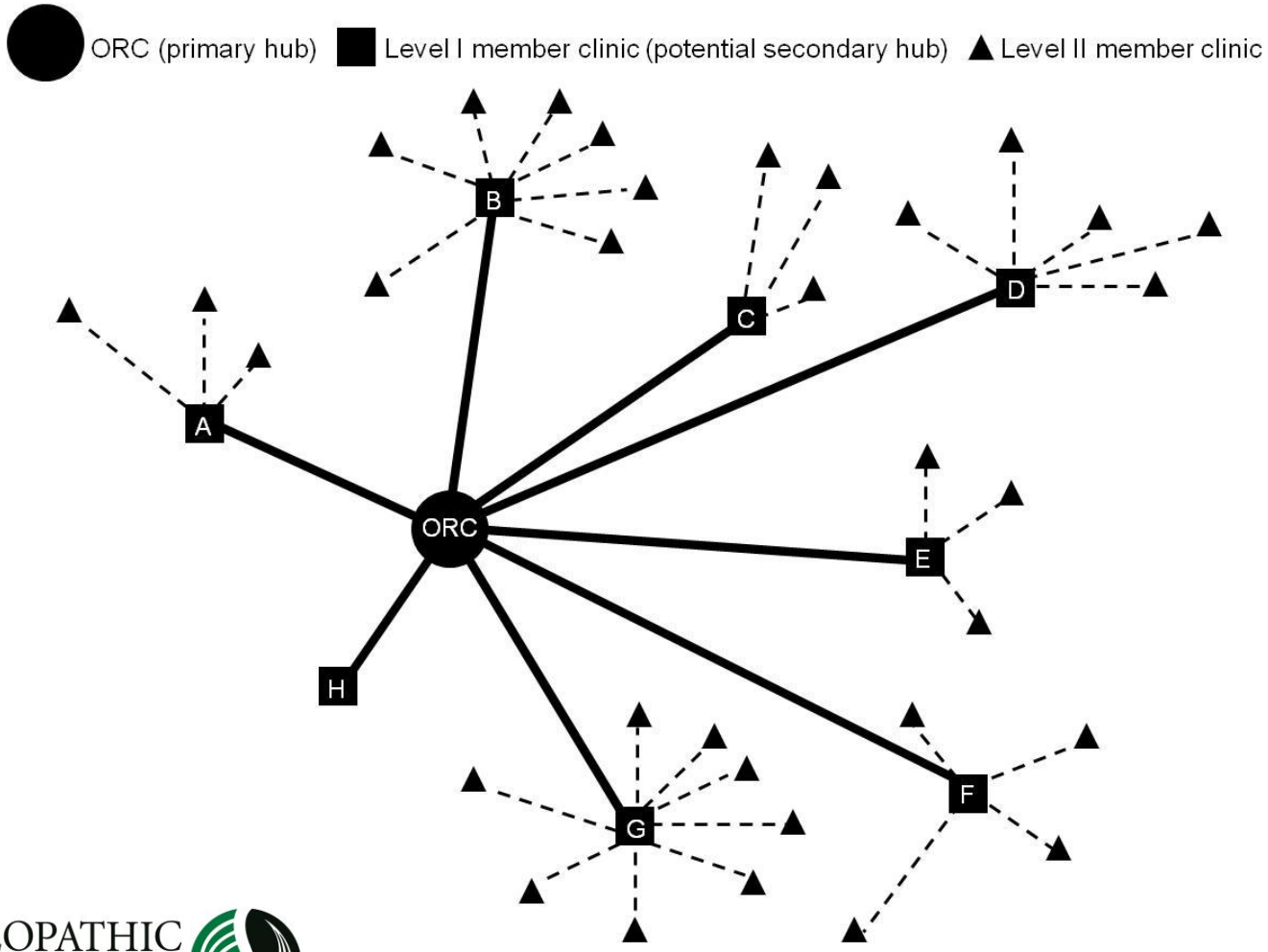
Card Study Conclusions

- There is a large amount of correlation within clinics with respect to most study variables
- Such correlation substantially inflates the sample size needed to test study hypotheses
- The CONCORD-PBRN must grow by increasing the number and diversity of member clinics
- The CONCORD-PBRN must strive to obtain a patient base that is representative of the primary care population that it wishes to represent

Growth of the CONCORD-PBRN
"Hub and Spoke" Model



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