Quality in Healthcare: How a Medical Training Consortium Use Competency-Based Learning to Prepare Future Physicians in Evidence-Based Medicine

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CORE
CENTERS FOR OSTEOPATHIC RESEARCH AND EDUCATION

Goals

- Discuss evidence-based medicine and its impact on building a better doctor and improving healthcare.
- Describe core competencies in medical education.
- Demonstrate the use of competency-based learning to prepare future physicians in Evidence-based Medicine.

CORE Consortium

22 Community Hospitals in Ohio

Ohio University College of Osteopathic Medicine

Affiliate Colleges in Kansas and Iowa

Non-profit mission of education in a combined for profit and non-profit environment.

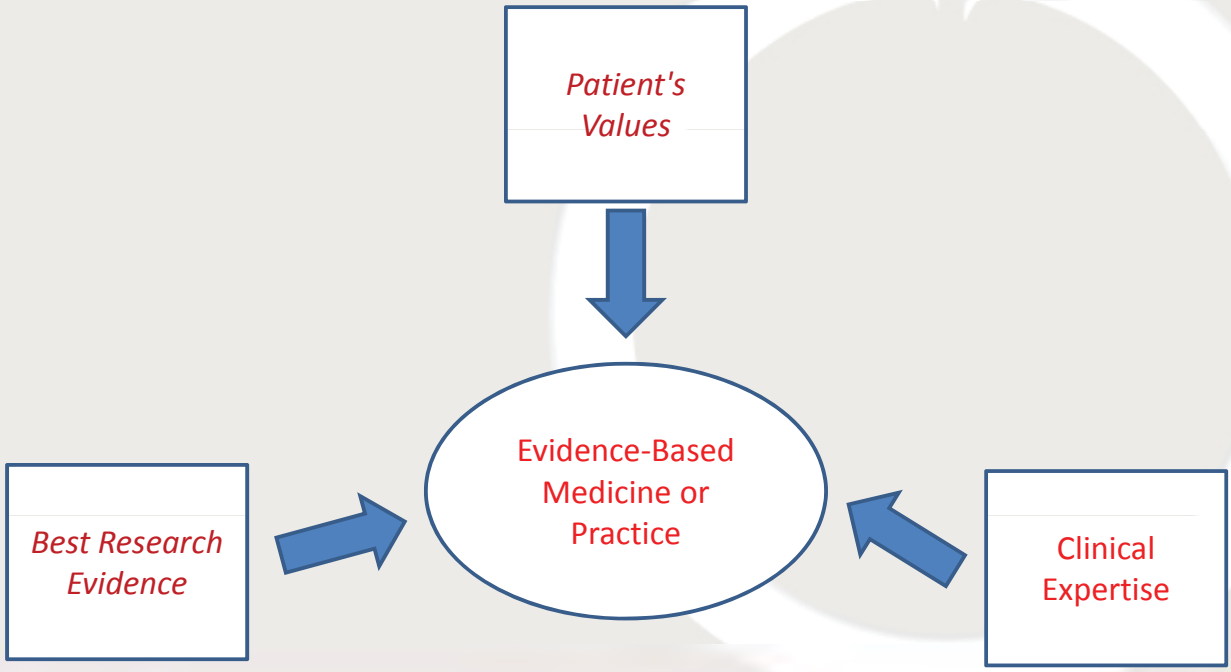
Evidence-Based Medicine (EBM) or Practice

"An approach of practicing medicine with the *goal to improve and evaluate patient care*. It requires the judicious *integration of best research evidence with the patient's values to make decisions about medical care*. This method is to help physicians make proper diagnosis, devise best testing plan, choose best treatment and methods of disease prevention, as well as develop guidelines for large groups of patients with the same disease." (from JAMA 296 (9), 2006)

Year introduced: 1997

http://www.ncbi.nlm.nih.gov/mesh?term=evidence%20based%20medicine

Evidence Based Medicine



Challenges to Best Research Evidence Expertise

- Declining number of physician researchers
- Creating Value for Research
  - Osteopathic medical field is historically not research-oriented.
  - Attendings, Residents and Students are not interested in research.
  - National organization mandates residents to fulfill research requirements.

Challenges to Achieving Best Research Evidence Expertise

- To gain and maintain sufficient expertise, physicians must be involved in research as early as possible--ideally from day one of their education--and they must stay involved.

- Many stakeholders with different expectations and motivations.

Osteopathic Core Competencies

1. Osteopathic Philosophy and Osteopathic Manipulative Medicine
2. Medical Knowledge
3. Patient Care
4. Interpersonal and Communication Skills
5. Professionalism
6. Practice-Based Learning and Improvement
7. System-Based Practice

PBLI and SBP

- PBLI- deals with a medical resident's ability to evaluate and *improve patient care practices using scientific, evidence-based, and objective methods.*
- SBP- focuses in preparing a future physician to *work effectively in a cross-functional environment.*
- Both aim at teaching a resident to use evidence-based methods *to improve the quality of patient care and safety.*

PBLI, SBP, and Quality Improvement

"resident as a teacher, Medicare, *hospital practice*, ethics, medical–legal issues, *statistics,* socioeconomics, cost containment, *communication skills*, *research design,* and *critical review of literature*"

A Systems Approach for Implementing Practice-Based Learning and Improvement and Systems-Based Practice in Graduate Medical Education. Varkey, et al., Academic Medicine, Vol. 84, No. 3 / March 2009 pp 335-339.

-PBLI, SBP, and QI are critical to Evidence-Based Practice

CORE Research Growth Before Competency-Based Training

Outcome	1995-2000	2001*-2005	
Registered Projects	3		
Posters	0		
Publications	0		
Ohio Osteopathic Association Poster Competition Participants	-		

Survey of Resident Research Capabilities

	N	Mean	Std. Deviation
Can Perform Lit. Review	54	2.31	.543
Can Evaluate an Article	54	2.22	.502
Can Write a Proposal	54	1.61	.656
Can Navigate IRB	54	1.57	.662
Can Write a Case Report	54	2.13	.616
Can Design Retrospective	54	1.87	.551
Can Design Prospective	54	1.70	.633
Can Design Poster	54	1.93	.578
Can Total	54	1.85	.596
Valid N (listwise)	54		

Scale: Completely Agree=3, Somewhat Agree=2, Disagree=1

Survey of Resident Research Needs

	N	Mean	Std. Deviation
Need Help w/Protocol	54	2.41	.714
Need Help w/Lit Review	54	1.89	.769
Need Help w/IRB Process	53	2.68	.547
Need Help w/Statistics	53	2.72	.495
Need Editorial Support	54	2.37	.681
Need Poster Support	53	2.49	.608
Need to Critically Evaluate Articles	53	2.17	.672
Need Total	54	2.63	.487
Valid N (listwise)	52		

Scale: Completely Agree=3, Somewhat Agree=2, Disagree=1

CORE Research Growth

Outcome	1995-2000	2001*-2005	
Registered Projects	3	250	
Posters	0	15	
Publications	0	0	
Ohio Osteopathic Association Poster Competition Participants	-	32	

Voice of Customer

- What is it our customers Want and Need!
- Customer segmentation
  - Medical Students, Residents, Physicians
- Method: Interviews

Voice of Customer

	Medical Students	Residents	Attendings
Profile	Age 20-30 Some research	Age 25-40 Very little research	Age 30-65 No research
Research Attitude	Can be Motivated	Motivated by Requirements	Extremely Not Motivated
Needs	Case Report; Competitive for Residency	Research Requirements	Mentor Residents
Challenges	No protected time	No protected time	No protected time

Voice of Customer (Trainees)

	Medical Students	Residents
Solution	• "Motivational" research orientation • Protected Time • Research through experience	• One-on-one consultation • Targeted topics for didactics • Research committee representative
Successes	• Increased publication, posters and awards • Multi-site collaboration among students	• Increased posters and awards • Multi-site collaboration among residents • Residents go beyond minimum research requirements

DMEDI----*Define, Measure, Explore, Develop and Implement*

Define	**Provide the CORE Attending with the opportunity to strengthen their research skills from ideation to dissemination through a hands-on curriculum.**
Measure	Needs Assessment
Explore	-Year-long, hands-on, complete a simple research project individually. -Schedule with flexibility built in.
Develop	Train the Trainers Pilot Program –central location meetings, Attendings from disparate fields
Implement	Train the Trainers Improved Program-hospital located, specialty area- specific

Train The Trainers Program Module

I. Introduction
II. Overview of the Research Process
III. Defining Research Question
IV. Literature Search
V. Research Design Presentation
VI. Protocol Creation Template for Retrospective and Prospective Research
VII. Protocol Creation and IRB Documents Example
VIII. Data Collection/Analysis, Abstract
IX. Publication and Dissemination
X. Case Reports
XI. Develop Individual Research Questions
XII. Hands-on Literature Search for Each Project
XIII. Conclusion and Wrap –up

Tools are wonderful!

OB GYN Research Checklist

PG Year	Quarter	Deliverable	Completion Status
PGY 1	Fall	Attend CORE PGY1 Orientation (will include basic info about the research process)	
		Complete CITI or NIH Training (depends on hospital requirement)	
		Submit CITI/NIH certificate to (core_research@oucom.ohiou.edu)	
	Winter	Register project at: http://research.ohiocore.org/index.do	
		Consult with Program Director and CORE Research regarding research idea (e-mail dogbey@ohio.edu)	
		Conduct literature search to refine idea	
	Spring	Review Green Journal format style guide at: http://www.greenjournal.org/misc/guidetowriting.pdf	
		Review ACOG Reviewer Guidelines and Grade Scale at http://www.greenjournal.org/misc/ifora.shtml	
		Finalize literature review	
	Summer	Begin proposal writing (Intro/Literature Review, Methods, References)	
		Work with CORE Statistician and Editor on proposal	
		Apply for seed funding if needed	
		Complete Institutional Review Board (IRB) application (cut and paste from final proposal)	
		Submit IRB application/Revise as needed	
		SUBMIT WRITTEN PROPOSAL TO PROGRAM DIRECTOR FOR APPROVAL	
PGY 2	Fall	Collect data	
	Winter	Collect data	
	Spring	Check if IRB and CITI/NIH renewals are needed. NOTE: do not let approval lapse!	
	Summer	Collect data	

Poster Template

CORE Research Growth

Outcome	1995-2000	2001*-2005	2006-2010**
Registered Projects	3	250	832
Posters	0	15	152
Publications	0	0	25
Ohio Osteopathic Association Poster Competition Participants	-	32	126

Conclusion

Using competencies are an effective and helpful path in preparing future physicians in Evidence-Based Medicine.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