

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

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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.

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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.

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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*.

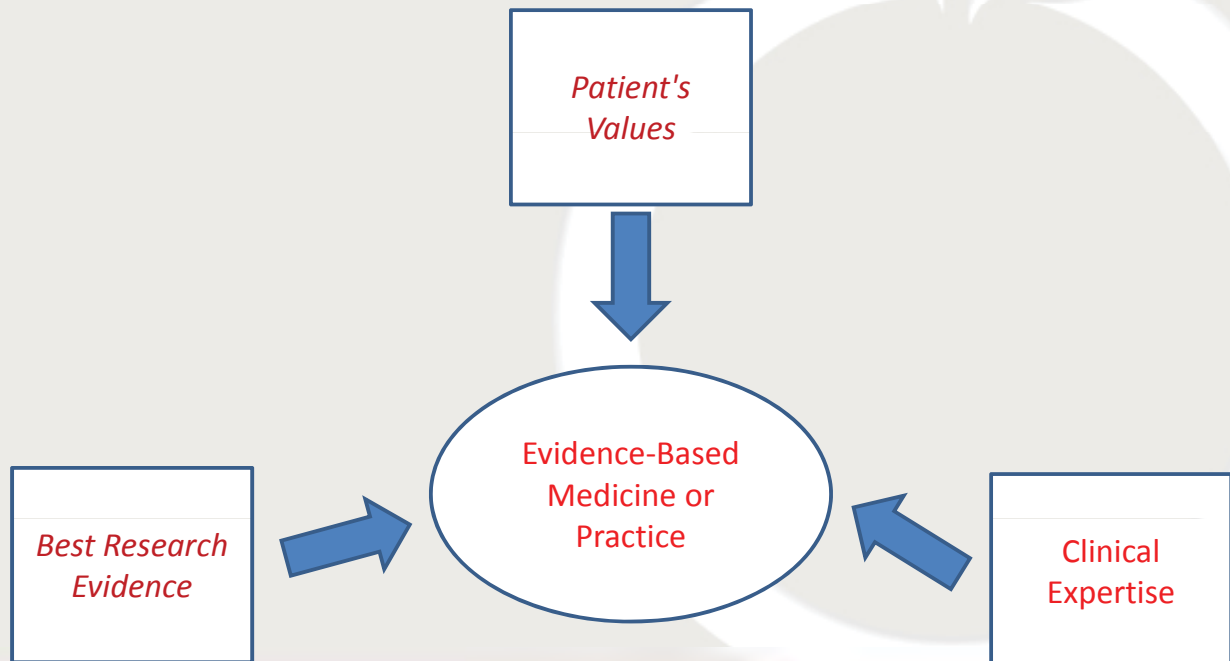
This method is to help physicians make proper diagnosis, devise best testing plan, choose best treatment and methods of disease prevention, as well as develop guidelines for large groups of patients with the same disease.” (from JAMA 296 (9), 2006)

Year introduced: 1997

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

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Evidence Based Medicine



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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.

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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.*

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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

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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	-		

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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

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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	<ul style="list-style-type: none"> • “Motivational” research orientation • Protected Time • Research through experience 	<ul style="list-style-type: none"> • One-on-one consultation • Targeted topics for didactics • Research committee representative
Successes	<ul style="list-style-type: none"> • Increased publication, posters and awards • Multi-site collaboration among students 	<ul style="list-style-type: none"> • Increased posters and awards • Multi-site collaboration among residents • Residents go beyond minimum research requirements

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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

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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

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Tools are wonderful!

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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.ohio.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/fora.shtml	
Summer	Finalize literature review		
	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	

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Poster Template



The Title Of Your Poster Goes Here. Use Title Case.
Do not use all CAPS (all CAPS makes title hard to read).

Author One, Degree, Author Two, Degree.
Institution Name, Dept., City, State. Make sure you list this information!
Checklist for authors to complete before submitting a manuscript. This checklist is intended to help authors prepare their manuscripts for submission to the journal. It is not intended to replace the journal's instructions for authors. It is not intended to replace the journal's instructions for authors. It is not intended to replace the journal's instructions for authors.




Abstract

Helpful hints:

- copy text. Layout, you point, to resize text boxes use the text box corner handles. Using top and middle handles can distort text.
- Resizing with corner handles is the better choice.
- A 30 to 36 pt font size is easy to read at a 4 to 5 foot viewing distance. You can use a smaller pt font size if your poster is text heavy.
- Remember that posters are much more readable if you:
 - use text blocks that are not wide or cross more than two columns width (this is a 4 column template)
 - limit your text content, make it read quickly, total poster viewing time averages between 7-30 minutes
 - use visuals (graphs, tables and photos), and number or letter in sequence
 - add figure legends(1) to all photos, diagrams, graphs and tables, number or letter in sequence

More helpful hints:

- When using bullets (or numbers), adjust the text and bullet distance using the blue indent slide bar located in the ruler display above the text blocks that you are working in. Look at the right indent markers, use the bottom marker to adjust the distance between bullet and text. This will also line up your text without using the space bar. Never use the space bar to center or position text!
- Learn to use the margins and the align text tools (icons for left, center and justified) these are located in the text tool bar and formatting palette. These tools will save you text editing headaches. later!
- There are 2 styles of text in the template, bold and regular. Examples are for you to choose. Remember a sans serif font is easier to read on a large poster than a serif font (Times Roman is a serif font).
- Turn off snap to guides under View/Guides. They will drive you crazy. Really. Turn on Dynamic Guides. These are very helpful in lining up EVERYTHING. Learn to use them - you will learn to love them. Really.

Table 1. This table was created from MS Word. To edit a word table double click on the table and it will appear in MS Word so that you can edit. Paste and make your format changes in Word and PowerPoint. If you make a word table in PowerPoint it will paste in Word. Change the table name to MS Word. Save changes. Return to PowerPoint. You will make your changes here. Never edit in the table.

Results

Table 2. This table was created in power point. To edit using the formatting palette. Consider doing a check before and after in PowerPoint as you don't have to fit the table in PowerPoint to make changes. You can use the border and shading menu in the formatting palette to change table colors.

	Week 1	Week 2	Week 3
Coffee	3.141	26536	8972
OJ	28	8	403
Water	9832	752	0.483
Cider	9843	93	938.02

Figure 1. This graph was made in Word, copied and pasted into PowerPoint. It is easily edited by double clicking on elements. Remember to make graph heading over the top of it. Do it the same time as you edit the table.

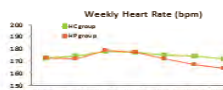


Figure 2. This bar graph was made in PowerPoint. It is much easier to edit using the formatting palette. This graph was made in PowerPoint.



Figure 3. To make a photo that you have inserted. Remember(2) to hold the shift key on all four sides at the same time you are dragging the corner to adjust the photo size. This will keep the aspect ratio of the photo normal and it will not stretch the image. Make sure your image is at least 300 dpi before inserting into your poster. This is not a slide presentation where you can use a low res. 72 dpi image and assume it will look great after you have enlarged it (200-250%). This should come in a large format and not a small image to have 300 dpi resolution. This photo has high resolution and has been edited after it was inserted into PowerPoint. Check the shadow to be able to see the formatting palette for editing options. You can change the color (or no color) in the line color palette.

Conclusions

EVEN more helpful information:

- When creating a graph, photo or diagram from another program (that you have saved as a jpeg) remember you will not be able to edit it in PowerPoint. In the program you use to create these files, make the text, font and color as close as possible to your poster template. Inserted file types that PowerPoint accepts are jpeg and png.
- Some Sigma Plot and CorelDraw files (mostly graphs) are troublesome (missing axis mostly). Export these graphs as jigs and insert into PowerPoint. Do not use cut and paste.
- Try not to use shadow on text. A deep shadow makes text hard to read on a poster especially in the main title. Keep it simple.
- If you have problems using this template please contact CORE research office for help.

This is placeholder text. I ran out of helpful hints! Via 1.818 dolore magna aliquam erat volutpat. Viv enim ad minim veniam, quis nostrud, hendrerit in at vulputate velit esse molestie consequat, vel illum dolore eu feugiat nulla facilisis at vero eros et accipit et eirmod tempor invididunt ut labore et dolore magna aliquam erat volutpat. Ut tamen amet. Ut enim ad minim veniam, quis nostrud, hendrerit in at vulputate velit esse molestie consequat, vel illum dolore eu feugiat nulla facilisis at vero eros et accipit et eirmod tempor invididunt ut labore et dolore magna aliquam erat volutpat.

References

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Acknowledgements

It is especially important to list any department, organization or grant that sponsored your research.

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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

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Conclusion

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

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Thank You!

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