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## Training Program Information

### Understanding Medical Literature: A *Simplified* Approach

The majority of medical information available is seriously flawed — and thus, misleading. This is true of even the most popular and reputable sources such as leading medical journals and other medical information sources. Poor information can drive practice decisions and create standards of care that often result in serious harms and waste. It is estimated that at least 20-50% of all diagnostic and therapeutic interventions are inappropriate. That means for every \$1MM you are spending on health care purchasing, between \$200,000 and \$500,000 is going to waste — and worse — potentially harming patients.



the ebm information quest...

Is it true?  
Is it useful?  
Is it usable?

We provide training in the full spectrum of evidence-based medicine techniques and clinical quality improvement methods using a highly successful simplified, sequential and tool-based approach which aids in practical and immediate application. Our training scores average 4.8 out of 5.0.

We are experienced in teaching people at all levels – we know the importance of creating excitement and confidence-building in training and are highly effective in creating an engaging, success-oriented sessions.

### Program Information

**Goals:** This training opportunity is designed to provide health care professionals with important concepts, methods, tools and competencies to successfully accomplish evidence-based critical appraisal of the medical literature.

**Objectives:** Course participants will expand their knowledge of, and ability to practice, evidence-based medicine and critical appraisal of the medical literature. At the end of this course, the attendee will be able to --

1. Identify common shortcomings of published medical literature, including primary and secondary clinical research articles and clinical guidelines.
2. Define evidence based medicine and discuss its relevance and usefulness in improving clinical care.
3. Utilize techniques for finding and using electronic sources of medical literature and clinical practice guidelines.
4. Apply tools to conduct critical appraisals of the medical literature.
5. Assign grades of evidence to primary studies, systematic reviews, meta-analyses and clinical guidelines.

**Teaching Methods:** Teaching/learning methods include lectures, demonstrations, discussions, case presentations, tool reviews, exercises and Q & A sessions. Attendees will be provided with a wealth of reference materials and tools for performing critical appraisals.

#### Testimonial

"Mike and Sheri, I just wanted to thank you once again for the great job you did today, teaching our staff EBM assessment for validity and usefulness. You were inspiring to our staff. I just loved to see how attentive they were and to hear the great questions that were asked. They were getting your messages! Fantastic.

"People are raving about your training. I just heard how professional that it was, that HRSA and the other agencies were presented in style and the staff really appreciated that. I believe they recognized that we brought the very best to them, showing that we value EBM and their work in this area. "Again, thanks so much. It was such a pleasure to work with you to make this day so special for our staff." Siri

Siri Childs, Pharm D  
Pharmacy Policy Office Chief  
Department of Social & Health Services  
Health & Recovery Services Administration  
Division of Medical Benefits & Care Management  
Medical Consulting & Pharmacy Policy Units  
State of Washington

## Sample Training Outline (8-Hour Session)

### Introduction to Evidence-based Medicine & its Importance

- History of Quality/Cost Problems in US
- Terminology of EBM
- Problems in the Medical Literature
- Case Studies: Being Misled by Invalid Science
- Evidence Grading
- Demonstration of Long and Short Tools for Critical Appraisal

### Critical Appraisal of Primary Studies: Design

- Basic Study Design
- Matching Study Type to Clinical Question
- Establishing Cause and Effect
- Case Studies and Exercises: Detecting Design Flaws

### Critical Appraisal: Primary Studies - Validity

- How and Why Bias Tends to Favor Interventions: Evidence on the Evidence
- Ruling out Bias, Confounding and Chance to Establish Cause and Effect
  - Selection and Observation Biases
- Evidence Grading
- Analyses Methods
- Exercises: Finding Biases and Confounders
- Safety
- Exercise: Critical Appraisal of a Study
- Demo: Excellence in Study Reporting

### Critical Appraisal: Primary Studies – Usefulness

- Examining Results
- Measures of Outcomes: ARR, RRR, NNT
- P-values and Confidence Intervals (Why Appraisers Don't Need To Bother With Power Calculations)
- How to Read a Forest Plot
- Calculating ARR, NNT

### Critical Appraisal: Analyzing Reviews

- Narrative Reviews, Systematic Reviews, Meta-analyses
- Advantages and Challenges
- Quality Criteria for Critical Appraisal of Reviews
- Combining Studies
- Quantitative Assessments
  - Heterogeneity
- Examining Results
- Grading Reviews
- Demo or Exercise: Critical Appraisal Issues
- Demo: Impacts of Including Invalid Studies

### Critical Appraisal: Analyzing Clinical Practice Guidelines

- The Evidence on Guideline Quality
- Pitfalls
- Review: Quality Criteria for Critical Appraisal of Guidelines

### Searching & Information Sources

- Matching Questions to Study Type
- Simplified Methods for Creating Clinical Questions and Avoiding Common Pitfalls
- Working with MeSH Headings
- Boolean Operators Made Simple
- Strategies for Effective Filtering to Improve Efficiency
- Quick Tips
- Best Starting Information Sources
- Updating Techniques

### Sample Testimonials

"Mike and Sheri, thanks for presenting this valuable information in a fun and memorable way. You made hard stuff easier to understand." Joyce Gilbert, KP EBM Expert

"Hi Mike...I thought the subject was going to be boring and not much use...I was very wrong. The conference was excellent and I learned a great deal of new information that will help me in assessing the literature in my job...I cannot thank you and Sheri enough." Harold Wittcoff, MD, Chief, Quality & Risk Management, KP Atlanta, Georgia

"Sheri & Mike, thanks again for your wonderful conference. Your clear presentations, great examples & practical tools make a sometimes difficult process seem so transparent. I know a couple hundred people...who have got to hear your message!" Wiley V. Chan, MD, Director, Guidelines & Evidence-based Medicine, Northwest Permanente

"Just wanted to send you both my personal thanks for some of the best education I've received in my 25 years in medicine!" Alison Lauber, MD, Associate Program Director, Columbus Regional Health System, Family Practice Residency Program

"Thanks. Steep learning curve, but well-conducted and valuable. You're a great speaker, and I've been around the block many times." Frank Dornfest, MB,ChB, M.F.G.P. (S.A.), FFAFP, Associate Professor, Oregon Health and Sciences University, Medical Director and Associate Residency Director OHSU Gabriel Park Family Health Center, Oregon Health & Science University

"...I wanted to tell you that your presentation was one of the best I heard...it was clear, dynamic, clinically relevant and with good examples...Often, I worry that epidemiologists and biostats people give very dry, convoluted presentations losing the audience with complex concepts and math analysis, which are boring to us, the clinicians...Once again, thank you so much for an outstanding presentation..." Cecilia Gutierrez, MD, Assistant Clinical Professor and Associate Director, Family Medicine Residency Program, UCSD

"Not only an accomplished speaker who kept her audience interested and attentive, Sheri's a first-rate teacher, who knows how to explain complex concepts in comprehensible terms...The course was "hands-on" and practical, highly relevant to a clinician or pharmacist..." Wayne M. Flicker, MD, PhD, Chair, Pharmacy and Therapeutics, Committee, HealthCare Partners Medical Group

"Thank you very much. Your presentation is most succinct and clear — one of the most clear I have experienced. It has excellent content and offers amazingly practical and useful tools." Carolyn Day, MD, Director of Quality, UCSD Family Medicine

Read many more testimonials — including testimonials to our effectiveness — at [www.delfini.org](http://www.delfini.org).