Listening to Our Learners:

Designing and Maintaining a Residency Evidence-based Medicine Curriculum Using a Learner-Driven Method

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Overview

- Background
- Summary of our curriculum project
- Research methodology
- Results
- Interpretation
- Implications for teaching EBP

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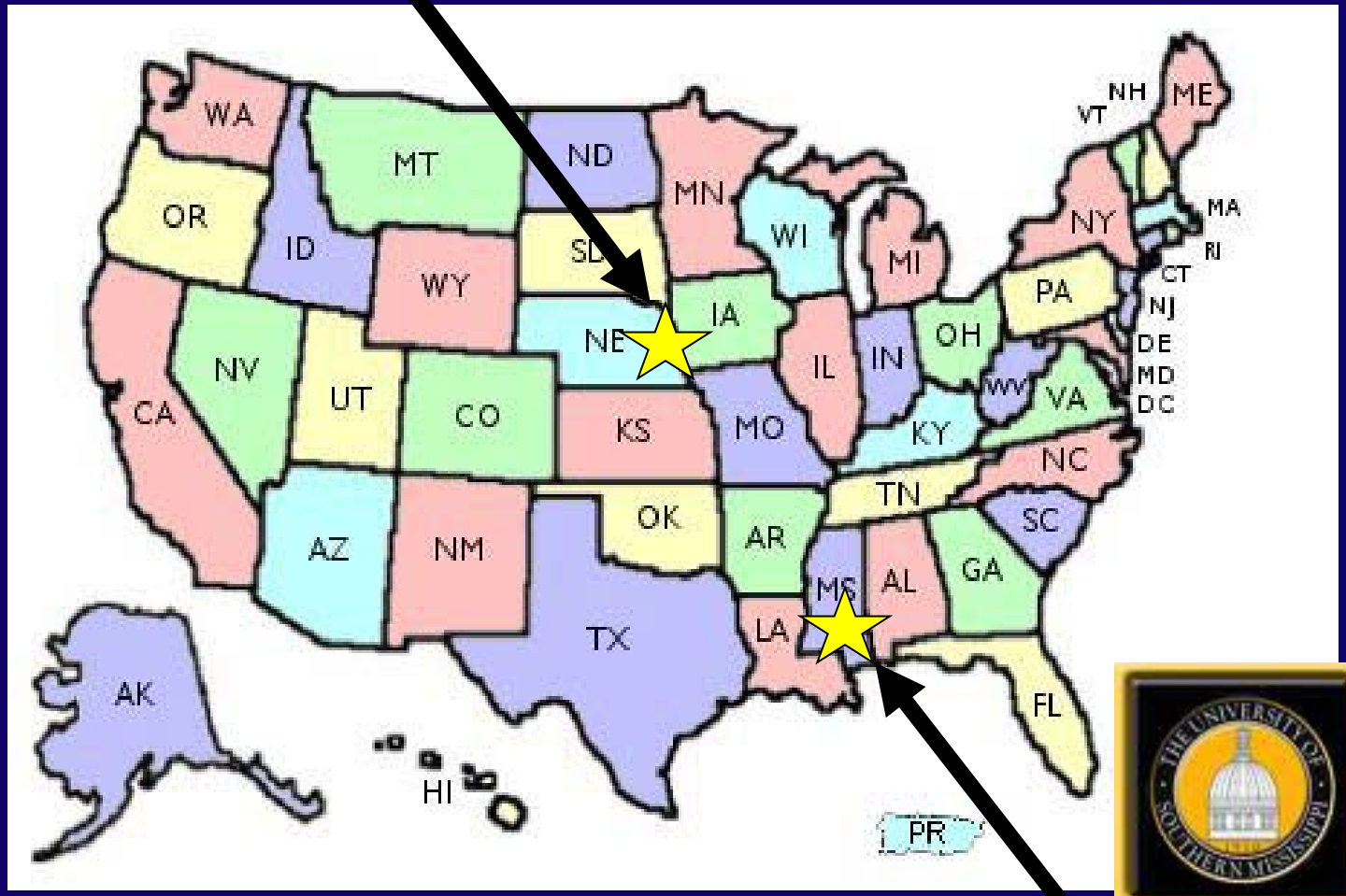
Omaha, Nebraska



Hattiesburg, Mississippi

UNMC Family Medicine Residency

- Integrated military / civilian residency
- 8 civilians / 8 military per class year

- 3 - 5 rural sites
- Top 5 largest residency in U.S.
- 5 hospitals, 5 out-patient clinic sites

- No formal EBM curriculum prior to 2006

EBM Background

- EBM essential to 21st Century medicine
- No standardized EBM teaching

- Adult learning theory not addressed in prior curricula (Straus, 2004)

The Project

- Create a learner-driven EBM curriculum
- Resident feedback informs content:
  - Needs-assessment survey
  - Resident-driven curriculum committee
  - **Focus Group**
- Implement curriculum
- Qualitative curriculum assessment
  - Curriculum committee
  - **Semi-structured interviews- after 6 months**

Why Qualitative Methods?

"Qualitative research methods are an underused and valuable research tool for evaluating EBM and could help identify learners' needs, effective components of intervention, and barriers to behavioral change"

- Hatala & Guyatt, JAMA 2002

Focus Group Methods

- Sample of residents from all class years
- Scripted focus group protocol
- Facilitated by experienced qualitative researcher
- No residency faculty present
- Focus group digitally recorded
- Data transcribed & evaluated for clarity
  - Identifying info removed
- Template analysis

Template for Analysis

- Definition of Evidence-based medicine (EBM)
- Important EBM components
- Barriers to practicing EBM
- Components important for practice
- EBM benefits
- How & When to teach EBM

Demographics

- 12 invited, 11 attended (92%)
- 7 male, 4 female
- Class year-

  Interns: 6
  2nd years: 4
  3rd years: 1
- 10 of 11 participants military (91%)

Focus Group Results

- Our residents want to know EBM
  - Challenge-- learners with different priorities
  - No technique will work for everyone
- EBM teaching should:
  - Be practical
  - Address how to maintain the art of medicine

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Results: Barriers

- EBM takes away the Art of Medicine:

  "It pisses me off…because fully 80 percent of the latest research will either not be reputable in future research or will be disproven."

Focus Group Results

- Our residents want to know EBM
  - Challenge-- learners with different priorities
  - No technique will work for everyone
- EBM teaching should:
  - Be practical
  - Address how to maintain the art of medicine
- Supported use of Information Mastery/ EBM User Model

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The Curriculum

- Six one-hour introductory sessions
  - 5-step model – Sicily statement 2004
- Large “Grand Rounds” setting
  - Use of clinical cases
  - “Buzz groups” and small groups
  - Hands-on skills used

Longitudinal Curriculum

- Resident EBM case series- once / month
  - Passing through the 5 steps
- Faculty-driven presentations- once / month (Examples:)
  - EBM Debates
  - How to Talk to a Pharmaceutical Rep
  - Review of critical statistics
  - Assessing validity

Individual Interview Methods

- Qualitative research methods
- Similar process to focus group
- What was different?
  - Individual interviews
  - Data saturation
  - Template

Template for analysis

- Arose from themes of prior focus group:

- Barriers to practicing EBM
- EBM benefits

Demographics

- 10 participants interviewed (100% participation)
  - 3 face-to-face interviews in December 06
  - 7 telephone interviews done in March/ April 07

- 5 male, 5 female
- Class year-

  1st year: 2, 2nd year: 3, 3rd year: 5
- 7 of 10 participants military (70%)

Barriers: Art of Medicine

- Asked residents:
  1) Define “the art of medicine”
  2) Are science and art opposing paradigms?

“The art of medicine is <u>being able to tailor it</u> and sometimes you can’t always be so statistical… but <with EBM> you have a solid basis on which to ground your decisions. Or you can look at someone and say, ‘There’s no scientific evidence (for this) but anecdotally, we can do it this way...’ ”

Resistance Against EBM
Individual as a Barrier

"I don't know, getting through all the technical stuff
to me…I just don't like to do it.
I would just rather have them cut to the chase
and give me the recommendations,
but as far as like actually sitting down
and trying to figure out
if this study is relevant and all of that….
I don't know. It's just not for me.
It's not something that interests me."

Individual as Barrier

"Honestly, when I look at the weaknesses of the curriculum, I honestly have to look at myself. I can't really say the curriculum has a lot of weaknesses.
The weaknesses come in myself as a resident and maybe other residents…. we just don't pay attention to it."

The Need for Cultural Change

"EBM should be something that's not just a class or a lecture once or twice a month … it should be part of the way we think every day and I think that's what (the curriculum) trying to instill in us, but I think until evidence-based medicine becomes part of our **culture** … until residents and staff change their way of approaching it and approaching how we treat our patients, then it's kind of this elusive ideal that's stuck in a classroom on PowerPoint."

Culture Defined

- “The set of shared attitudes, values, goals, and practices that characterizes an institution or organization”

- “The characteristic features of everyday existence shared by people in a place or time”

(http://www.webster.com/dictionary/culture)

Culture – Faculty

"If the faculty showed a strong interest in it, then that would be fine, but 99% of our faculty don't, so it's not really the curriculum's fault at all."

Is a Culture Shift Underway?

"It seems like the Department
as a whole and like my colleagues
as a whole are turning a lot more
towards using it every day…

so I think one of the strengths is
that it has wormed its way
into the everyday vernacular"

- Importance of resident involvement

EBM Benefits

- All interviewees valued EBM and thought they need it, but…

- We don’t like what we need!
  - Residents faced with many competing demands
  - EBM not easy or enjoyable for many

EBM Benefits

- All had suggestions for improvement
  - Usually coupled with what they disliked
- Stories of EBM applied in daily practice
  - Benefit through application
  - Animated responses
- Disconnect between perceived learning and reality of their experiences

Study Limitations

- Work-in-progress
  - Member checking focus group in Dec 07
- Qualitative research is not generalizable
- Demographic imbalance- mostly military

Implications

- EBP requires a culture shift
  - "It feels new, you know, evidence-based medicine. It feels kind of new and scary."
- EBM Teacher responsibility:
  - Assess readiness for change
  - Meet the learner where they are
  - Involve learners in cultural shift

Implications

- Learner responsibility:
  - Adult learners must pursue topics they value
  - Even unpopular ones

- Role of **entire faculty** in culture change
  - EBM in every teachable moment
  - Modeling EBP

Our Data and Current Literature

- Clinically-integrated teaching essential
  (Coomarasamy 2004)

- Faculty issues
  - Fac development needed
    (Hatala 2006, Beasley/Woolley 2002)
  - EBP training time intensive (Green 1997)

Bottom Line

- This study offers deeper understanding of:
  - Resident attitudes
  - Specific barriers
  - The process required to bring EBP to the masses

Conclusions

- EBM education is challenging
  - Learners demand practical skills on their terms
- EBP cultural shift needed at all levels
  - Maintain the art of medicine
- We have come a long way…

  …but there's still a long way to go

Acknowledgement

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Questions?

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Future Research

- Faculty readiness for EBP
  - Beasley, Woolley 2002
- Qualitative study of successful vs. unsuccessful EBM curricula
- Art vs. Science of Medicine

Fresno Test Data

- No significant difference on mean composite scores between faculty and non-faculty (F=1.361, p=.263)

Trend is for faculty to score lower

	% correct	Mean Composite Score	Standard Dev	Confidence Interval
Faculty	51%	109.50	19.727	93.01 – 125.99
Residents	59%	125.63	33.759	97.40 – 153.85

Focus group results: Barriers

"The statistics killed me on it. It probably killed my drive to find EBM… I don't have the time to play with that and I don't particularly enjoy it and it takes the fun out of medicine to me."

FG Results: Key Components

"Accessibility. You've got to be able to access it and use it."

"Yeah and I like the conciseness... It's got to be time. It's got to be worth the time to look at it."

FG Results: EBM Benefits

“We’ve got to teach ourselves how to be self-learners… I mean we can’t just drop it <after we’re done with residency> cause if we do, we’ll wither on the vine.”

FG Results: We Don't Always Like What We Need

"You've got to have that statistically based baseline. Otherwise, none of it makes sense. You get that in medical school. It sucked."

SI Results: Resident Involvement

- “You’re force to put together a presentation on EBM… it forces you to understand how it operates and I think that’s good. You know, initially it’s a little intimidating, but afterwards, I feel like I’ve learned a ton… I think has been the biggest improvement is that…is having us do lectures.”

- “I think part of the strengths is that there is resident involvement, not only community-wise but with the lectures. It just brings it a little bit more home.“

SI: Art of Medicine

- “I think people are afraid that if they go towards the evidence-based parts, that they’re going to be so constrained by the evidence, they’re not going to have the flexibility to individualize it… the art of medicine is taking this person in this situation with this set of co-factors and saying, I’m going to personalize my care for your situation”