Health Services, Research and Education? ..... Really?

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Understanding the Nature of our Field

What is a doctor?

Identities of the future?

The triple/quadruple threat

- Patient Care
- Research
- Administration
- Teaching

"As every medical professor knows, you just find a patient with some fractures and escort a gaggle of students to the bedside for a good long stare.

As long as the sufferer is not prodded too hard, or denied a clear view of the television, no ethical rules are violated"

The Economist, March 24, 2007
"No man can teach successfully who is not at the same time a student"

William Osler

The triple/quadruple threat

✔ Clinician
✔ Researcher
✔ Administrator
?
Educator ?

Medical Education is rapidly developing new field of practice and research

More Journals: 100+

More readers
Higher quality

More Association and Conferences

Rising expectations

• To improve the knowledge, skills and competence of students and other clinicians
• To improve the care of patients and the health care outcomes generally through education
• To innovate, disseminate, evaluate
### What We Have Achieved
- A growing cadre of educator/scholars
- Career tracks in education
- Faculty with higher degrees in education
- International education organizations AAMC-RIME, ASME, AMEE, APMEC, CCME
- “Serious” grant capture and publication

### But...
- The difference in expectation between a clinical teacher and a clinician educator is significant
- Promotions, recognition and prestige pull strongly toward education research output using classical research productivity measures

### Can good teachers get promoted?

### Barriers
- “teaching is less valued than research”
- “teaching is less scholarly than research”
- “the educational products cannot be evaluated (counted) like grants and publications”

### Devaluing teaching
- Devaluing teaching is the result of five assumptions held about teaching
- These assumptions may be held intuitively, but are manifest in the practice of instruction
- They are inaccurate and, in order to redress fundamental instructional inequities, they must be changed

### Assumptions that devalue teaching
1. Teaching excellence is nothing more than a matter of technique
2. Teaching requires no training or professional development
3. Practice and scholarship can exist without standards
4. The wisdom of teaching practice entails no really worthwhile knowledge
5. Content should drive instructional decision making

Weimer M. 1997
Wisdom of practice: not worth knowing?

- Thousands of hours of teaching occur every year
- However even the best teachers may be hard-pressed to identify their instructional strategies or philosophies
- In a field that strongly values “evidence” in medical practice, we ignore it when we teach

Teaching Excellence is More Than Student Ratings

- What are the standards?
- The most commonly (over)used measure is students ratings
- How high do they have to be to define “excellence”? How low for corrective action?
- What else could we use?

Good teachers are being promoted!

- The best, scholarly and “professorial” of teachers:
  - Learn about educational theory
  - Undertake professional development
  - Use “evidence-based” methods
  - Demonstrate effectiveness and excellence
  - Employ systematic frameworks to show evidence of effectiveness of teaching
Did the learners deploy the knowledge and skills on the job?

Did the training program impact patient outcomes?

Did the training investment pay off?

Understanding the Role of Research in/for Education

Two Dimensional Model

Stokes Quadrant Model of Research
Theory-based Research

- Sustained program of research
- Each study should build upon the results of previous work
- If prematurely constrained by demands for practical use, loses its effectiveness
- Builds fundamental understanding

Practice-based Research

- It's about solving practical problems
- Projects are targeted to real life, immediate problems
- Goal is to have immediate impact
- If overly constrained by theoretical concerns or the need to build a body of research, the underlying problems will remain unaddressed

Risk of an “Ivory Tower”

Left to their own devices, Scientists are at risk of conducting research with little applicability.

Risk of “many small fires”

Left to their own devices, Clinicians at risk of conducting research that meets only local needs, with little impact on field.
Is it actually Bird Watching?

A single "study" at Kirkpatrick level 1 (Student Satisfaction)
- We created a course about #fv*7%d
- 5 people took it
- 3 of them filled out the evaluation form
- They all thought it was great

Sweeping generalization
- We have shown it is feasible and acceptable to implement a course in #fv*7%d
- Medical schools around the world should created courses in #fv*7%d

Striving for Pasteur’s quadrant

Collaborative effort:
Negotiation between useful and knowledge generating research

Living in Pasteur’s Quadrant

- Driven by basic goal of understanding:
  - Process of disease
  - Microbiological processes
- Driven by applied goal
  - Preventing spoilage in vinegar, beer, wine, milk
  - Conquering cholera & rabies

From Practical Evaluation to Knowledge Building Research

Eg. Course for learning in a Simulator

<table>
<thead>
<tr>
<th>Program Outcome</th>
<th>Practical Evaluation</th>
<th>Knowledge Building Research</th>
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</thead>
<tbody>
<tr>
<td>Did our simulation learning program operate well / as intended?</td>
<td>what effects does the simulation program have on outcomes at an institutional level?</td>
<td></td>
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</tbody>
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Student Outcome (assessment data)

| Did students learn? | How does simulation-enhanced education impact learners’ self-efficacy, readiness for practice, competence to practice independently? |

Instruction using a high-fidelity cardiopulmonary simulator improves examination skills and resource allocation in Family Medicine trainees

(Frost et al, 2011)
Mean percentage of murmurs correctly diagnosed

Frost DW, Cavalcanti RB and Toubassi D. 2011

Ability to:

Frost DW, Cavalcanti RB and Toubassi D. 2011

Percentage of murmurs for which 2D-echo requested

Frost DW, Cavalcanti RB and Toubassi D. 2011

Collaborate

Collaboration between education Meds, PhDs & clinicians keeps the research practical and advances knowledge

Context is everything

'I don’t have time!’: issues of fragmentation, prioritisation and motivation for education scholarship among medical faculty.

Zibrowski EM, Weston WW, Goldszmidt MA. Medical Education 2008
• 108 medical faculty with an interest in medical education
• 40% had fellowship or masters training in education
• Few with education training had obtained funding or published scholarly work
• No significant differences in academic productivity between those with and without additional education training

Zibrowski EM1, Weston WW, Goldszmidt MA. 2008

• “Despite their interest and regardless of their background training in education, faculty were able, on average, to devote only negligible amounts of time to education scholarship.
• Three themes:
  – fragmentation (opportunities to work on education projects sporadic)
  – prioritisation (work responsibilities including after-hours work and administrative workload compete for time, and there is difficulty in securing financially remunerated time)
  – motivation (the degree of recognition and support for education work by both the department and colleagues is limited)

Zibrowski EM1, Weston WW, Goldszmidt MA. 2008

“...the dilemma caused by lack of time involves a complex, multi-faceted set of issues which extends beyond the number of hours available in a day.

Personal interest and having background training in education do not appear to be sufficient to encourage involvement. Multiple institutional support mechanisms are necessary.”

Zibrowski EM1, Weston WW, Goldszmidt MA. 2008

Creating a Culture of High Quality in Education Practice and Research: The Education “Centre”

Culture and a critical mass

• Dundee, Scotland
• Maastricht, Holland
• Chicago, USA
• Canada:
  – Toronto
  – Montreal
  – McGill
  – Ottawa
  – Sherbrooke
  – Western
  – UBC
  – McMaster
• SINGAPORE

Centres for Health Professions Education

• A concentration of educators and researchers
• Training next generation
• Welcome faculty and students interested in education from around the world
• Stimulation of collaborations that attract significant funding
• Theoretical and methodological depth
• Sustainability of careers and the field
Advancing healthcare education and practice through research

The last word to William Osler...

Medicine should be "in the charge of men who have, first, enthusiasm, that deep love of a subject ... and the desire to teach and extend it..."

Health Services, Research and Education? ..... Absolutely!

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References

- Instruction using a high-fidelity cardiopulmonary simulator improves examination skills and resource allocation in family medicine trainees. Frost DW, Cavalcanti RB, Toutassi D. Simul Healthc. 2011 Oct;6(5):278-83