AMA Innovations in Medical Education Webinar Series
Transforming education: Leading Innovations in Health Professions Education

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Kimberly Lomis, MD
Bill Cutrer, MD, MEd
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June 5, 2017

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Today’s Host

• Richard Hawkins, MD, Vice-President, Medical Education Outcomes, American Medical Association
Objectives

• Describe changes in health care delivery affecting medical education

• Discuss innovations in medical education to address those changes including competency-based education and the student e-portfolio, the master adaptive learner, and academic coaching

• Articulate challenges to implementing educational innovations
Calls for Reform of Medical Education by the Carnegie Foundation for the Advancement of Teaching: 1910 and 2010

David M. Irby, PhD, Molly Cooke, MD, and Bridget C. O’Brien, PhD

Abstract

Purpose
To review the recommendations of 15 U.S. and Canadian reports, published in the last decade, that call for significant change in medical education.

Method
The author selected for review 15 reports published over the last ten years that emphasize general recommendations for change in medical education in the United States and Canada and that represent a broad spectrum of sources.

Results
The purpose, methods, and content of each report are briefly described. The reports were selected because they address comprehensive change in medical education and have been recently published. The reports are categorized based on their inclusion of eight major themes: integrating the educational continuum, need for evaluation and research, new methods of financing, importance of leadership, emphasis on social accountability, use of new technology in education and medical practice, alignment with changes in the health care delivery system, and future direction of the workforce. The overview and analysis reveals themes to be addressed in the next decade.

Conclusion
There is recognition throughout the reports that the selection of the author proposes that the medical education profession have long faced many of these issues. It is time to act on them.
Changes in Health Care Delivery

Moving care from:
- Acute
- One physician
- One patient
- Clinic

Moving care to:
- Chronic
- Teamwork
- Population health
- Community
21st Century Health Care Context

- Annual health care expenditures of 2.7 trillion dollars
- Wide variation in quality, costs and outcomes
- Increasing levels of health disparities
- Limitations in access to care
- Delivery system and payment reform
- Patient and consumer advocacy
AMA Accelerating Change in Medical Education

Goals:

• Create competency based assessment & flexible individualized learning plans

• Develop exemplary methods to achieve patient safety, performance improvement and patient centered team care

• Understand the health care system and health care financing

• Optimize the learning environment
Accelerating Change in Medical Education Initiative

- $13.5 million in grants to medical schools
  - 11 schools in 2013
  - 21 schools in 2016
  - 19,000 students ~ 33 million patient visits each year

- Consortium formed to jumpstart and speed dissemination of ideas
  - Venue for collaboration, innovation and scholarship
Presenter

• Kimberly Lomis, MD, Associate Dean for Undergraduate Medical Education, Professor of Surgery and Professor of Medical Education and Administration, Vanderbilt University School of Medicine
Presenter

• Bill Cutrer, MD, MEd

• Assistant Dean for Undergraduate Medical Education; Director of Learning Communities

• Associate Professor of Pediatrics, Critical Care Medicine, Vanderbilt University School of Medicine
Presenter

• Nicole M. Deiorio, MD, Professor and Co-chief, Education Section, Department of Emergency Medicine, Assistant Dean, Student Affairs and Colleges, Undergraduate Medical Education, Oregon Health & Science University
Question

• What is your primary responsibility in education?
  • UME
  • GME
  • CME
  • Allied Health Professions
  • Not for profit organization or society
  • For profit organization or company
  • Other
Competency-based Education

Kimberly Lomis, MD
Associate Dean for Undergraduate Medical Education
Professor of Surgery and of Medical Education & Administration
Vanderbilt University School of Medicine

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Disclosures

- Dr. Lomis receives funding from the American Medical Association (AMA) as a PI in the Accelerating Change in Medical Education Initiative and co-directs the competency-based assessment interest group in the ACE consortium.

- Dr. Lomis receives funding from the Association of American Medical Colleges, serving as Associate Project Director for the “Core EPAs for Entering Residency” National Pilot.
Why change?
Desired Outcomes

Activities

Assessment

ALIGNMENT

Anderson, *Theory into Practice*, 2002
Advantage of a criterion-based approach

Assessment for Learning:
individualized pathways;
standardized outcomes
Competencies describe (trainable) attributes of the individual

Entrustable Professional Activities describe units of work

Milestones describe the developmental trajectory of the individual

Entrustment for a task requires the synthetic application of multiple competencies at a specified level of performance
Assessment in context
Intern John steps out into the hallway and meets his supervisor. “Here’s the consent form for Mrs. Lopez’s flu shot. She’s all set to go.” John’s supervisor looks at the sheet and says to John, “She hasn’t filled in the contraindications section. Did you ask her about a history of Guillain-Barre, prior reactions to the flu shot, or an egg allergy?” John admits he did not, and notes that he was not sure what Guillain-Barre was or why it was on the list.

Which of the following would be most useful feedback to John?

a. “This is not acceptable. I’ll take care of it from here.”

b. “You’re not entrustable.”

c. “John, you’re not entrustable yet for informed consent. You need to bolster your medical knowledge, and I expect you to seek help proactively with any aspect of a task that you are not sure of.”
Portfolios: monitor trends in performance

- Multiple assessments using a variety of methods
- Digital portfolio provides longitudinal view

- Blurring the lines of “formative” and “summative”

Van Der Vleuten, Medical Teacher, 34:205-214, 2012
Portfolios: Data management

IPCS7

Establish and utilize effective communication strategies with patients, families, and healthcare colleagues, regardless of their cultural background.

Aspire

Scores

Entry

Sub

ipcs7b.1  ipcs7a.1  ipcs7b.2  ipcs7a.2  ipcs7a.3  ipcs7a.4  ipcs7a.1,ipcs7a.2  ipcs7a  ipcs7b
Portfolios: Structured process
Question

Do you use an e-portfolio for your students?

• Yes
• No
Culture change
Role of front-line assessors
Student perceptions
Coaching...
The Master Adaptive Learner

Bill Cutrer, MD, MEd
Assistant Dean for Undergraduate Medical Education
Director of Learning Communities
Associate Professor of Pediatrics, Critical Care Medicine
Vanderbilt University School of Medicine

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The Master Adaptive Learner

Incorporates what was learned into practice

Assessing

Tries out what was learned

Learning

Engages in learning

Adjusting

Identifies a gap between what is and what should/could be

Planning

Selects an opportunity for learning

Searches for resources for learning

Questioning

Prioritizing

Planning

Goal-setting

Searching

Cutrer et al. (2016) Acad Med
The Master Adaptive Learner

Incorporates what was learned into practice
Identifies a gap between what is and what should/could be
Selects an opportunity for learning
Searches for resources for learning
Tries out what was learned
Engages in learning

Cutrer et al. (2016) Acad Med
The Master Adaptive Learner
The Master Adaptive Learner

- Adjusting
  - Routine vs. Novel Application
  - Individual vs. System Implementation
- Assessing
  - Tries out what was learned
- Planning
  - Identifies a gap between what is and what should/could be
  - Selects an opportunity for learning
  - Searches for resources for learning
- Learning
  - Engages in learning

Cutrer et al. (2016) Acad Med
The Master Adaptive Learner

• **Practical Strategies**

  ➢ To Help Our Students Become Master Adaptive Learners

  ➢ Developing and/or Refining their approach and skills
VUSM Learning Communities

• Longitudinal courses spanning all four years, focused on student development as professionals

• Learning Environment
  • Longitudinal in nature
  • Trusting environment created within the Colleges program

• Typical Session
  • Pre-class Assigned Readings (25 pages)
  • Post a question in a on-line reading forum
  • 30 minute “Context Talk”
  • Group discussion about the topics, facilitated by College Mentors
VUSM Learning Communities

• Year 1
  • How We Learn (focuses on Learning Strategies)
  • Being Wrong and Making Mistakes
  • How We Reflect
  • Recurrent Theme of Metacognition

• Year 2
  • Questioning to Improve Learning
  • Self-Assessment

• Years 3 & 4
  • Lifelong Learning
Coaching

Nicole M. Deiorio, MD
Professor and Co-chief, Education Section, Department of Emergency Medicine
Assistant Dean, Student Affairs, Undergraduate Medical Education
Oregon Health & Science University

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Why coaching?

Improving self-assessment
+
Incorporating assessment from others
Question

Are you currently using coaching in this way (whether you call it coaching or not)?

- Yes
- No
PERSONAL BEST

Top athletes and singers have coaches. Should you?

By Atul Gawande
What is coaching?
OHSU coaching program in UME

Privy to ALL academic information

Not evaluators

Paired with students in their College at matriculation

Coach 5 students from each entering class through their training

Paid 0.1 FTE
Faculty development

E-portfolio training
Mock coaching sessions with feedback
Introduction to student services
Journal Club
“M&M”

Coach cohort meetings
Curriculum updates
Visiting guests/modules eg MI
Validation of tools
Impact awards
Program evaluation and goals
Meeting structure

Individual meetings

- Dedicated time every 4-6 weeks
- Structured form with room for free text
- Emphasize goals and progress toward goals

Cohort meetings with all 5-10 students

- Dedicated time every month
- Standardized themes:
  - Resilience/Grit
  - Imposter syndrome
  - Grief
  - Revisiting motivation for medicine
Program evaluation

Student satisfaction is high

Coaches report students understand the relationship and its boundaries

No requests to change coach

High return rate of coaches each year/robust applicant pool

Mock coaching sessions → COSCEs

Validated coaching relationship instruments

Future opportunities for evaluation:

- Trend student improvement by coach
- Measure “SMART”-ness of goals?
- Follow how student self-assessment aligns with coach’s assessment
### Coaching Assessment Tool – Faculty

Instructions: Please complete the questions to the left below using the scale to the right.

<table>
<thead>
<tr>
<th>The Coaching Relationship</th>
<th>Not at All</th>
<th>Somewhat</th>
<th>Moderately</th>
<th>Mostly</th>
<th>Fully</th>
</tr>
</thead>
<tbody>
<tr>
<td>To what extent do you feel the coaching relationship represents a commitment from both you and your student?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>To what extent do you feel like you and your student are responsible to each other in the work you do together?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>To what extent do you and your student inspire each other to learn to make the coaching process as good as it can be?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>To what extent do you trust your student to be active in helping to navigate their learning experiences?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>To what extent do you trust your student to be honest in helping to navigate their learning experiences?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>The Coaching Processes</th>
<th>Not at All</th>
<th>Somewhat</th>
<th>Moderately</th>
<th>Mostly</th>
<th>Fully</th>
</tr>
</thead>
<tbody>
<tr>
<td>How able or willing are you to…</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Use reflective questioning techniques to help this student gain insight into their goals, values and preferences?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Convey any weaknesses or challenges you think this student is faced with?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Develop a shared agenda with your student, so that you make progress at your coaching sessions?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Work with your student in setting specific, measurable, achievable goals?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Work with your student to select, organize and interpret information they need to understand how to approach their goals to achieve success?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Work with your student to determine timelines within which they can meet their goals?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Monitor your student’s progress in the program and provide guidance to help them develop toward meeting their goals?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
The purpose of each coaching session is to help students reflect upon her/his educational experiences in order to improve performance, develop academic progression plans and identify resources needed to be successful. The student is responsible for focusing the agenda for each meeting, based upon her/his careful review of the below items.

<table>
<thead>
<tr>
<th>Pre-meeting preparation check-list</th>
</tr>
</thead>
</table>

**Student and coach: Please review the following (as applicable):**

Assessments  
Exam scores  
Course grades  
Self-reflections  
Goals from last meeting  
Achieved competencies

**Student: please prepare the following (as applicable):**

Revised goals  
Proposed experience/advancement schedule  
Plan to mitigate identified gaps in knowledge/experience

**Student and coach:** Please use the questions below to guide your conversation. Please click the box next to each topic you discuss. It is not necessary to discuss every topic at each meeting. Feel free to discuss topics not listed below.

https://www.e-value.net/index.cfm#
Threads

Patient Encounter Scenarios

Graph Type: Column

Scores

- Communication
- Physical Examination
- Professionalism
- Patient Interview
- Clinical Reasoning
- Total

Class Mean (All)

Highcharts.com
<table>
<thead>
<tr>
<th>Domain</th>
<th>Overall Competencies Progress</th>
</tr>
</thead>
<tbody>
<tr>
<td>ICS</td>
<td>Demonstrate interpersonal and communication skills that result in the effective exchange of information and collaboration with patients, their families, and health professionals. 51% Complete</td>
</tr>
<tr>
<td>MK</td>
<td>Demonstrate knowledge of established and evolving biomedical, clinical, epidemiological, and social-behavioral sciences, as well as the application of this knowledge to patient care. 57% Complete</td>
</tr>
<tr>
<td>PBLI</td>
<td>Demonstrate the ability to investigate and evaluate the care provided to patients, to appraise and assimilate scientific evidence, and to continuously improve patient care based on analysis of performance data, self-evaluation, and lifelong learning. 28% Complete</td>
</tr>
<tr>
<td>PCP</td>
<td>Provide patient-centered care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health. 35% Complete</td>
</tr>
<tr>
<td>PPPD</td>
<td>Demonstrate a commitment to carrying out professional responsibilities, an adherence to ethical principles, and the qualities required to sustain lifelong personal and professional growth. 55% Complete</td>
</tr>
<tr>
<td>SBPC</td>
<td>Demonstrate an awareness of and responsiveness to the larger context and system of healthcare, as well as the ability to effectively call upon other resources in the system to provide optimal care, including engaging in interprofessional teams in a manner that optimizes safe, effective patient and population-centered care. 93% Complete</td>
</tr>
</tbody>
</table>
Status of Competency Achievement (Total = 8)

<table>
<thead>
<tr>
<th>Level</th>
<th>Achieved</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not Able to Assess (Level 0)</td>
<td>0</td>
</tr>
<tr>
<td>Pre-Entrustable (Level 1)</td>
<td>0</td>
</tr>
<tr>
<td>Approaching Entrustable (Level 2)</td>
<td>0</td>
</tr>
<tr>
<td>Entrustable (Level 3)</td>
<td>8</td>
</tr>
<tr>
<td>Total Competencies Achieved</td>
<td>8 (8 of 8)</td>
</tr>
</tbody>
</table>

Level 0 (Not able to assess)

Level 1 (Pre-Entrustable)
Question

How likely are you to incorporate coaching concepts into your program now?

- Very likely
- It’s possible
- I need to think about it more
- No, this doesn’t offer anything of value to me
- We are already doing this
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Questions

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## Future Events

### Continue the discussion

**Please join us** to ask questions of our panelists at:

[ace.communities.ama-assn.org](http://ace.communities.ama-assn.org)

- Pros and cons of competency-based education
- Characteristics of a self-directed learner
- Differences between coaching, advising, and mentoring

### Future webinars

**August 21 at 3 p.m. Central**

**Using Big Data to Learn about Population Health**

**October 2017**

**Health Systems Science**

### ChangeMedEd 2017

**Mark your calendars:**

September 14-16 in Chicago