AMA Accelerating Change in Medical Education Initiative

Developing Health Systems Science as Medical Education's Third Pillar

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September 25, 2017
Overview of the Accelerating Change in Medical Education Initiative

- Purpose and background
- Outline main themes of work
  - Introduction of Health Systems Science
  - Summarize innovative products, methods, processes and ideas
- Implications for GME and CME/MOC
Disclosures

• Richard Hawkins
  – Salaried employee of the AMA
  – Co-editor of a textbook on the evaluation of clinical competence
  – Co-editor of a textbook on health systems science

• Mellie Pouwels
  – Salaried employee of the AMA

• Michael Dekhtyar
  – Salaried employee of the AMA
A Decade of Reports Calling for Change in Medical Education: What Do They Say?
Susan E. Stoeckel, MD, MPH

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 directions for the health care workforce.

Conclusion
There is remarkably little agreement amongst the reports on the need for and the specifics of change. The author proposes that perhaps the current financial constraints facing contemporary medical schools have been so severe for so long that it is time to consider seriously exploring many alternative paths.
AMA Accelerating Change in Medical Education Goals

• Create competency based assessment and 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
AMA Accelerating Change in Medical Education
Consortium Innovation Themes

• Integration of medical education and health care systems
  – Emergence of Health Systems Science
• Technology in support of learning and assessment
• Competency-based programming
• Workforce solutions to improve population-based care
• Metrics to support CQI of educational programs
• Faculty development: Coaching and quality improvement
• Envisioning the learner of the future
Integration of Medical Education and Health Care Systems

• Engagement of health systems leaders in developing curricula
• Early integration of students
  – Emergence of “Health Systems Science” (HSS)
  – Value-added roles for medical students (and faculty)

Health Systems Science – “the principles, methods, and practice of improving quality, outcomes, and costs of health care delivery for patients and populations within systems of medical care”
- Patient population management
- Health care disparities
- Informatics
- Healthcare financing structures
- Epidemiology of errors
- Quality improvement science

- Leadership / change management
- Root cause analysis
- Working in teams
- Care coordination
- Care transitions
- Error disclosure
- Using HIT, EHR….
Health Systems Science Domains
Current Education Model: The Mini Physician Model

- Preceptorships
- Student-Run Free Clinics
- Service Learning

“Chasm”

Physician

Nutritionist

Social Worker

Nurse

Physician Assistant

Care Coordinator

Patient Navigator

Physical Therapist

Patient
Integration of Value-added Roles

While students are integrated into health care systems to acquire the knowledge, skills and attitudes of health systems science, they serve in value-added roles to improve system performance and enhance patient care.

<table>
<thead>
<tr>
<th>“Value-added Roles”</th>
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<tbody>
<tr>
<td>Patient Navigators</td>
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<tr>
<td>Care Transition Facilitators</td>
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<tr>
<td>Safety and Patient-Care Analysts</td>
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<tr>
<td>Quality Improvement Team Extenders</td>
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<tr>
<td>Population Health Managers</td>
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<tr>
<td>Patient-Care Technicians</td>
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<tr>
<td>Medical Scribes</td>
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J. Gonzalo, 2016
Outcomes

Proximal Outcome:
Fully integrated Health Systems Science competencies in medical education (UME, GME, and CME)

Distal Outcome:
Achievement of the Triple Aim – improved health for patient populations, patient experience, with reduced healthcare costs.

Key Drivers

- National board and accreditation partnerships
- Comprehensive and standardized curricula
- Robust assessments
- Seamless transitions in UME/GME
- Knowledgeable and skilled teachers
- Value-added medical education
- Hidden and formal curriculum

Integration of Medical Education and Health Care Systems

Systems focus of the new schools:

- Immersive learning in PCMHs, ACOs, community-base sites
- Chronic disease, population health, equity and social determinants
- Measuring health care outcomes
Integration of Medical Education and Health Care Systems
Technology in support of Learning and Assessment

**teachingEMR**  
Indiana University School of Medicine  
in conjunction with the Regenstrief Institute

**Health Care by the Numbers**  
New York University School of Medicine

**REDEI System**  
Oregon Health & Science University School of Medicine

**Vstar ePortfolio**  
Vanderbilt University School of Medicine

M. Villahermosa Pouwels, 2016
Competency-based Programming

**Competency-based programming**
- Time independent progression through medical school
- Badging (certificates)
- Early differentiation

**Focus on ‘systems’ competencies**
- Quality improvement
- Patient safety
- High-value, cost-conscious care
- IPE → IPP
- Telemedicine-based IPE and IPP
- Leadership & change agency
- Advocacy
Workforce Solutions to improve Population-based Care

• Ensuring a diverse workforce
• Accelerating training in primary care
  – Focus on leadership and population management
  – Partnership with health care system
Metrics to support CQI of Educational Programs

- Fostering common curricula across sites
- Development of metrics – value equation for medical education innovation
- National Evaluation Plan
  - National infrastructure for providing feedback to medical schools
    - NBME subject exam and USMLE performance, ACGME milestones outcomes, qualitative feedback from health care systems and GME programs
Faculty Development: Coaching and Quality Improvement

Developing coaches
• Position description
• Use of ePortfolios
• Coaching Manual

Faculty Development in quality and safety

Teachers of Quality Academy
Health System Improvements

Inpatient-Focused Improvement Efforts

• Reducing readmissions among geriatric patients in family medicine through improved transitions of care
• Reducing hypoglycemia through increased use of order sets on an IM inpatient service
• Improving transitions of care for patients at risk for suicide in an academic psychiatry practice
• Improving handover procedures from post-anesthesia care unit to Pediatric Intensive Care Unit to reduce delays in medication administration
• Increasing utilization of the safety intelligence reporting system by residents on a pediatric inpatient service
• Improving integration of a clinical ethics in multidisciplinary inpatient rounds
Health System Improvements

Acute Care-Focused Improvement Efforts

- Improving the radiographic ordering process for acute appendicitis in children under twelve years of age
- Increasing appropriate medication reconciliation among boarding psychiatric patients in a regional hospital emergency department
- Improving surgical history and physical documentation among residents
- Implementing an enhanced recovery after surgery protocol among patients with pancreatic resection
- Enhancing screening for obstructive sleep apnea on an inpatient rehabilitation unit
- Utilizing nursing protocol orders to decrease length of stay in a children’s emergency department
Health System Improvements

Ambulatory Practice-Focused Improvement Efforts

• Reducing no show rates in 3 clinical practice sites (Family Medicine, Endocrinology, Child Psychiatry)
• Standardizing dose objectives for radiotherapy in breast cancer
• Improving time to care for Spanish-speaking patients in the pediatrics outpatient center
• Enhancing home visit referrals for infant and post-partum assessment
# Medical Education Products

<table>
<thead>
<tr>
<th>PBL/TBL Cases</th>
<th>Educational Modules</th>
<th>Exercises/Simulations</th>
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<tbody>
<tr>
<td>Recognizing and acknowledging medical error</td>
<td>TeamSTEPPS training + QI Olympics</td>
<td>Improving transitions of care simulation</td>
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<tr>
<td>QI/Patient safety of inpatient insulin dosing</td>
<td>Flipping the clerkship didactic re: patient safety</td>
<td>Improving safety in the surgery clerkship: A system’s approach</td>
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<tr>
<td>Cancer care – med error, IPE, EBM</td>
<td>Simulation modeling of patient flow through system</td>
<td>Simulated RCA to teach Error Analysis and QI</td>
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<tr>
<td>Poverty, privilege and professionalism</td>
<td>Safe prescribing practices and med reconciliation</td>
<td>Social determinants of health and community resources exercise</td>
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<tr>
<td>Team-based care with CON students</td>
<td>Creating high value, cost-conscious care</td>
<td>Hotspotting exercise in PCMH with IPE, population health</td>
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L. Lawson, 2016
Envisioning the Learner of the Future

Conceptualization of the Master Adaptive Learner

Student well-being
Consortium: A Community supporting Collaboration and Scholarship

- Venue for communication, benchmarking, and collaboration
- Annual and thematic meetings
  - Clinical informatics competencies, community-based learning, technology
- Interest groups
  - Health systems science
  - Faculty development
  - Social determinants of health
  - Master adaptive learner
  - Chronic disease management
  - Competency-based assessment
  - Clinical informatics and learning technology
  - Leadership and change agency
  - Student wellness
- 47 publications / 247 invited and peer-reviewed presentations
Future Directions and Considerations

- Enhancing the transition from UME → GME
- Dissemination of HSS
- Future of the Consortium
  - Self-sustaining
    - HSS textbook royalties
    - HSS subject examination fees
    - Revenue from innovative products and services
    - Fee-based model
      - “Community of Innovation” – continuous
      - Expansion of the consortium
Implications for GME and CME/MOC

Benefits

• Better prepared graduates
• Tools and services for residents, faculty and practicing physicians
• Vision of education and practice
  – Systems thinking

Challenges

  – Uniform acceptance of HSS relevance across the continuum
  – Readiness for ‘new’ learners across the education continuum
QUESTIONS?

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