Educating Physicians: A Call for Reform of Medical School and Residency

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IAMSE Webinar
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Reforming Medical Education

-1910-

MEDICAL EDUCATION IN THE UNITED STATES AND CANADA
A REPORT TO THE CARNegie FOUNDATION FOR THE ADVANCEMENT OF TEACHING
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EDUCATING PHYSICIANS
A Call for Reform of Medical School and Residency

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THE CARNegie FOUNDATION for the ADVANCEMENT of TEACHING
Objectives

• Describe the key findings and recommendations of the 1910 Flexner Report
• List the four key recommendations of the 2010 Carnegie Report
Precursor to 1910 Study

- Concern over variability in medical schools
- AMA /AAMC site visited schools in 1906
  - Validated concerns but unable to sanction their own
- Sought impartial third party
  - The newly created Carnegie Foundation for the Advancement of Teaching
    - Abraham Flexner, an educator, hired for study
1910: Flexner’s Observations

- Great variability
- Lax admissions standards
- Passive learning, anemic curricula, poor facilities
- Faculty of practitioners
- No accreditation, certification or residency training

Flexner. Medical Education in the United States and Canada (1910).
Flexner’s Legacy

- High standards for admission
  - College degree with science requirements
- Expanded science-based curriculum
  - Two years basic sciences with laboratory experience
  - Two years clinical experience
- University/teaching hospital
Medical Education Then and Now

1910
Dissecting Room, medical students and professor

2010
Multi-disciplinary lab with media support
Medical Education Then & Now

-1910-

-2010-
2010 Carnegie Research Team
2010 Carnegie Study

• Part of 5 profession study
  – Clergy, law, engineering, nursing, medicine

• Included 14 site visits
  – Interviews, focus groups, observations

• Based on research in the learning sciences and medical education
Recommendations for the Future

• Standardization and individualization
  – Set outcomes and allow flexibility in learning

• Integration
  – Connect knowledge and experience

• Habits of inquiry and improvement
  – Focus on excellence

• Identity formation
  – Develop professional values and dispositions
Standardize on Outcomes

- Standardize on learning and practice outcomes
- Develop competencies and milestones
- Use multiple forms of assessment
### Competency Milestones - Patient Care

<table>
<thead>
<tr>
<th>Sub-Domain</th>
<th>Mid First Year Milestones</th>
<th>Mid Second Year Milestones</th>
<th>Early Third Year Milestones</th>
<th>Late Third Year Milestones</th>
<th>Fourth Year Milestones</th>
<th>Graduate will be able to… (Competencies)</th>
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<tbody>
<tr>
<td>History Taking</td>
<td>• Gather, synthesize, and organize basic information from a patient into the standard format of the medical history</td>
<td>• Gather, synthesize, and organize information from a patient into the standard format of a medical history, including information related to sensitive topics and information relevant to specific populations</td>
<td>• Obtain a complete history in an organized fashion</td>
<td>• Gather history relevant to specific populations or behaviors as outlined in the clerkship learning objectives (e.g., acute pain, geriatric, pediatric, preoperative)</td>
<td>• Gather focused, pertinent history in urgent, emergent, and consultation settings</td>
<td>• Gather complete and focused histories in an organized fashion, appropriate to the clinical situation and specific population</td>
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<td>• Identify and begin to use alternate sources of information to obtain the history when a patient is unable to provide a clear history</td>
<td>• Identify and use alternate sources of information to obtain the history when a patient is unable to provide a clear history</td>
<td>• Identify and use alternate sources of information to obtain history when needed, including from primary care and other physicians and patient caregivers</td>
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<td>• Begin to apply approaches of clinical reasoning to help define relevant information to gather in the history</td>
<td>• Apply approaches of clinical reasoning to focus the history and gather information relevant to the patient’s chief complaint</td>
<td>• Apply clinical reasoning to focus the history, and identify and resolve important missing information</td>
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<td>• Demonstrate clinical reasoning and efficiency in gathering focused information relevant to a patient’s care</td>
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Individualization: Core & Depth

- Medical School
- Residency Training
- Fellowship
- Practice

- Subspecialty Training
- Residency Training
- Medical School

Core & Depth
Recommendations for the Future

• Standardization and individualization
  – Set outcomes and allow flexibility in learning

• Integration
  – Connect knowledge and experience

• Habits of inquiry and improvement
  – Focus on excellence

• Identity formation
  – Develop professional values and dispositions
Integration

- Connect knowledge and experience
- Engage in multiple forms of reasoning
  - Analytical reasoning
  - Pattern recognition
  - Creative and adaptive reasoning
Examples of Integration

• Early clinical immersion
• Longitudinal integrated experience
Recommendations for the Future

• Standardization and individualization
  – *Set outcomes and allow flexibility in learning*

• Integration
  – *Connect knowledge and experience*

• **Habits of inquiry and improvement**
  – *Focus on excellence*

• Identity formation
  – *Develop professional values and dispositions*
Habits of Inquiry & Improvement

- Develop habits of learning and innovation
  - Develop routine and adaptive expertise
- Advance expertise through deliberate practice & feedback
  - Experts vs experienced non-experts
- Participate in communities of inquiry and practice
Everyday Inquiry/Improvement

- Engage in real projects, with training and support
- Document and assess project-based learning
- Learn methods of inquiry and discovery
Recommendations for the Future

• Standardization and individualization
  – Set outcomes and allow flexibility in learning
• Integration
  – Connect knowledge and experience
• Habits of inquiry and improvement
  – Focus on excellence
• Identity formation
  – Develop professional values and dispositions
Professional Identity Formation

• Formation
  – Process of taking on identity
  – Commitment to values, dispositions and aspirations

• Learned through
  – Participation in a community of practice
  – Observation of role models, interactions
  – Coaching, instruction, assessment and feedback
Strategies for Formation

• Courses, rituals, and codes of conduct
• Self-assessment, reflection, planning
• Appreciative inquiry
• Ratings of respect

Institutional Culture
Summary

1. Individualize and standardize
2. Integrate
3. Inquire and improve
4. Identity formation