A Call for Reform of Medical Education

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Medical Education Grand Rounds
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Preview

• Carnegie study
• 4 recommendations for the future
• UCSF curriculum plans
Carnegie Study of Medicine

- Part of 5 profession study
- Included 14 site visits
- Based on research in the learning sciences and medical education
Recommendations for the Future

• Standardization and integration
  – 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

THE CARNEGIE FOUNDATION for the ADVANCEMENT of TEACHING
Individualize Learning Process

• Build on learner’s prior experience and expertise
• Increase educational flexibility and efficiency
• Expand breadth of learner expertise
Examples of Individualization

Layered individualization

- Duration of clinical assignment fixed
- Learner undertakes activities of progressively greater complexity as competencies attained
  - Clinical activities
  - Systems improvement
  - Field-building

Linear individualization

[Diagram showing individualization in Internal Medicine Residency with stages such as Year One - Core, Year Two - Core, Year Three - General Med Focus or Subspecialty, Additional subspecialty training, Non-practice core IM boards, Hospital or ambulatory GIM boards, Subspecialty boards]
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Integration of Knowledge and Experience

• Connect knowledge and experience

• Engage in multiple forms of reasoning
  – Analytical reasoning
  – Pattern recognition
  – Creative and adaptive reasoning
Examples for Integration

• Curriculum
  – Early clinical immersion/integrated courses
  – Longitudinal integrated clerkships

• Pedagogy
  – Blended learning, simulations

• Assessment
  – Comprehensive, competency-based
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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
Beyond Routine Expertise

- Expert (Adaptive)
- Expert (Routine)
- Proficient
- Competent
- Advanced
- Beginner
- Novice

Medical school | Residency | Early Practice | Advanced Career
Educating for Inquiry

• Engage learners in
  – Authentic problems in the field
  – Quality improvement projects
  – Innovations in care
  – Research

• Provide opportunities to develop expertise in areas of interest
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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

• Curriculum
  – “Doctoring” and ethics courses, rituals
  – Learner-focused, individualized, developmental

• Pedagogy
  – Active, inquiry-driven learning with supportive guidance
  – Reflection, appreciative inquiry

• Assessment
  – Multi-dimensional and multi-source
  – Self-assessment, reflection, planning
  – Aspirational framework
Strategies for Formation

• Curriculum content
  – “Doctoring” courses and humanities courses, including ethics
  – Rituals such as honor codes, pledges, and white coat ceremonies

• Curriculum design
  – Individualized: developmental and learner-focused

• Pedagogy
  – Active, inquiry-driven learning with supportive guidance
  – Reflection, appreciative inquiry

• Assessment
  – Multi-dimensional and multi-source
  – Self-assessment, reflection, planning
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Plans for UCSF Curriculum

• Early clinical skills/immersion
• Collaborative learning
• Longitudinal clinical experience
• Competency-based assessment
• Inquiry – Pathways to Discovery
• Forth year – Pathways, electives, remediation, residency
Summary

1. Standardize and individualize
2. Integrate
3. Develop inquiry
4. Focus on formation
Excellence Through Policy

1. Revise admissions requirements
2. Coordinate standards across levels
3. Align patient care and clinical education
4. Support the teaching mission
5. Fund in a transparent and fair manner
6. Support infrastructure, innovation and educational research
7. Develop a medical workforce policy
Policy and Advocacy

• Coherent framework across levels
  – Common competencies
  – Consistent standards
  – Single oversight agency

• Align patient care and education
  – Create high quality patient care and exceptional learning
  – Allow more flexibility to innovate