



THE CARNEGIE FOUNDATION
for the ADVANCEMENT *of* TEACHING

A Call for Reform of Medical Education

David Irby, PhD

University of Pittsburgh School of Medicine

Medical Education Grand Rounds

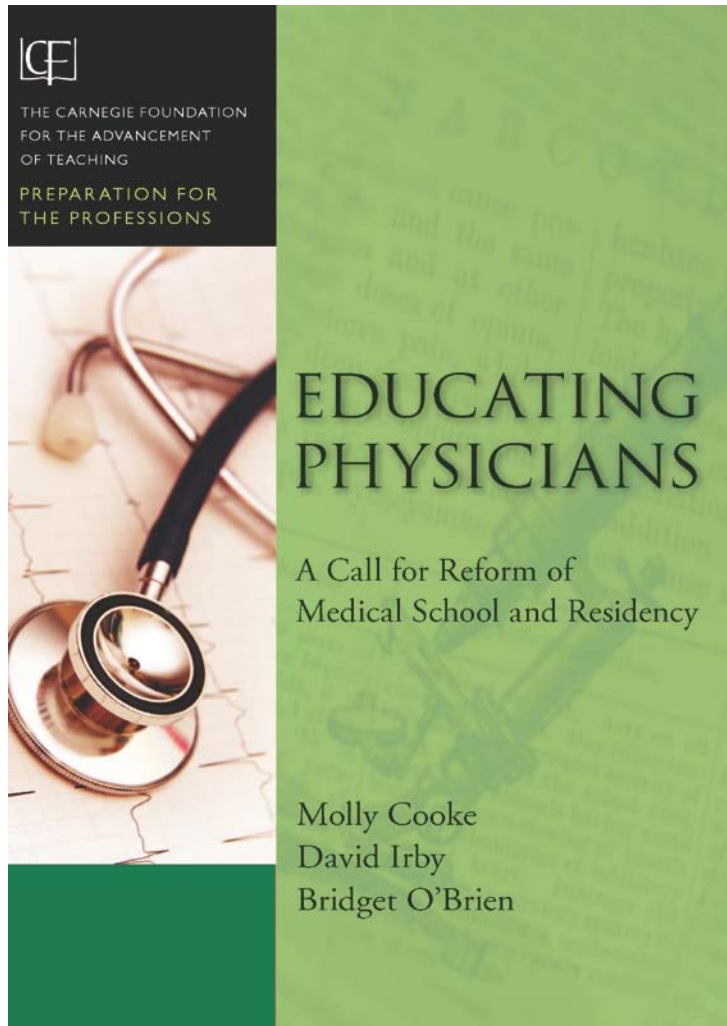
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Preview



- Carnegie study
- 4 recommendations for the future
- UCSF curriculum plans

Carnegie Study of Medicine

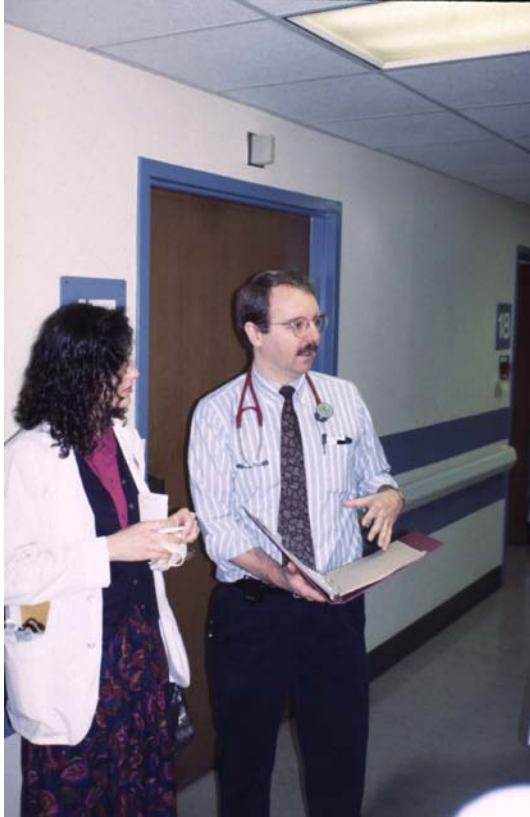


- Part of 5 profession study
- Included 14 site visits
- Based on research in the learning sciences and medical education

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

Individualize Learning Process



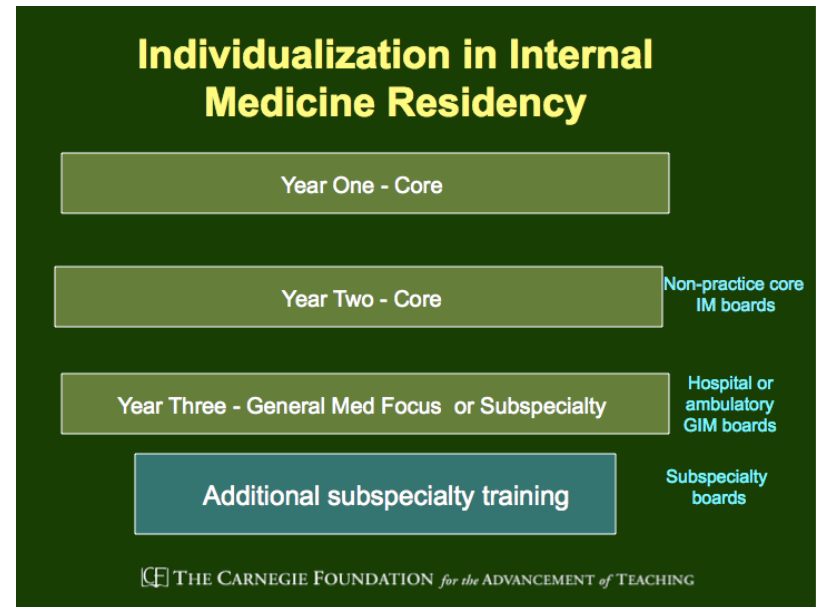
- Build on learner's prior experience and expertise
- Increase educational flexibility and efficiency
- Expand breadth of learner expertise

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



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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

Recommendations for the Future

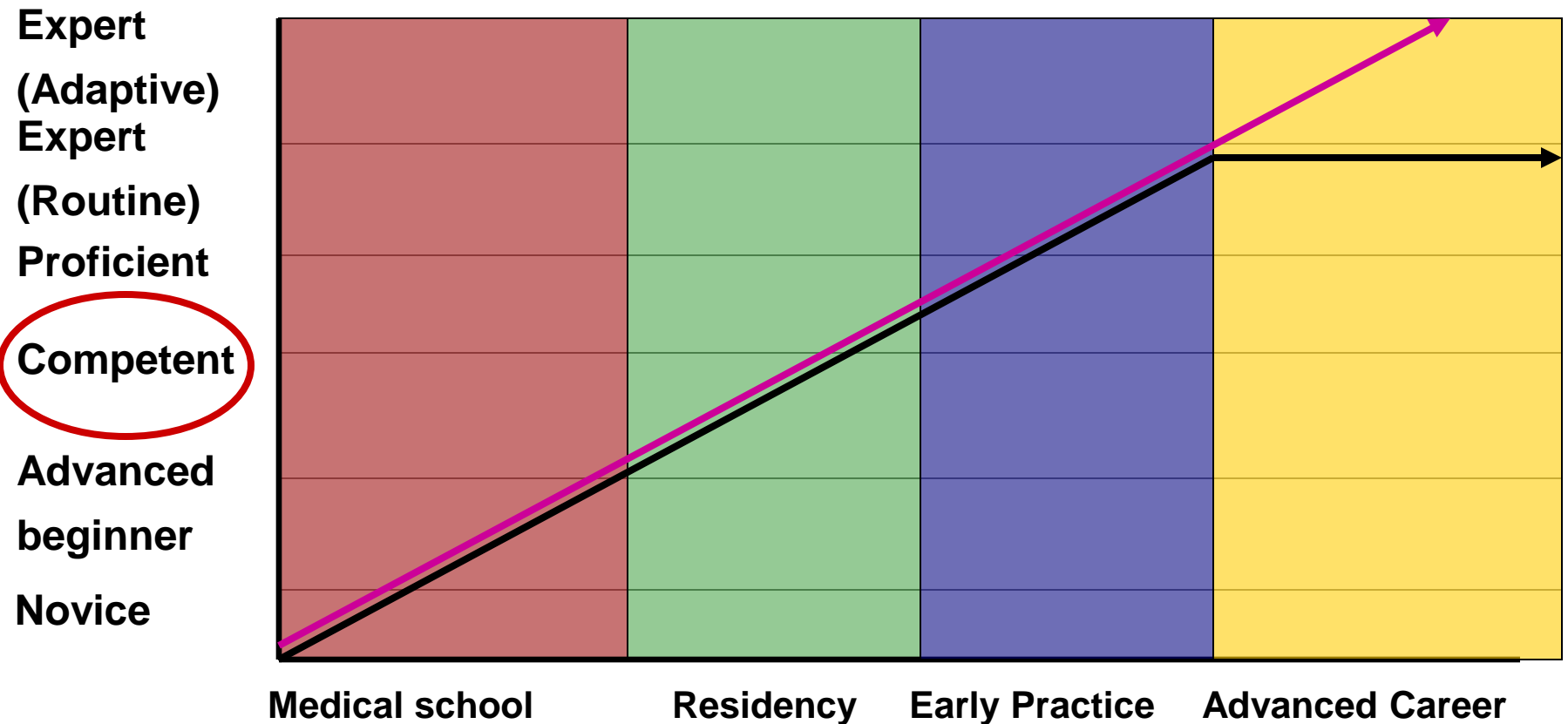
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Habits of Inquiry & Improvement



- 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



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
 - Aspirational framework

Institutional culture

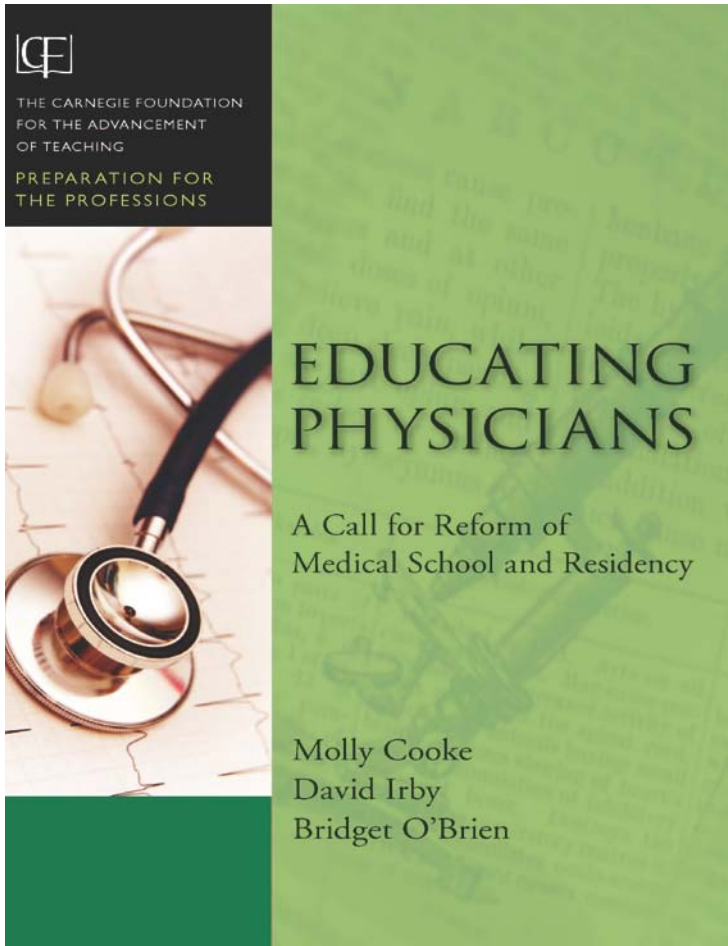
University of California San Francisco



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