



Evolution and Adaptation in Education: Surviving the Impact of the Comet Headed Our Way

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Disclosure Slide

- Dr. Mejicano has no personal financial relationships with commercial interests



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Newsweek

Newsweek

#LASTPRINTISSUE

The Agony in Journalism

US Metropolitan Dailies that have closed since March 2007

- Tucson Citizen
- Rocky Mountain News
- Baltimore Examiner
- Kentucky Post
- Cincinnati Post
- King County Journal
- Union City Register-Tribune
- Halifax Daily News
- Albuquerque Tribune
- South Idaho Press
- San Juan Star
- Honolulu Advertiser
- Oakland Tribune
- Contra-Costa Times

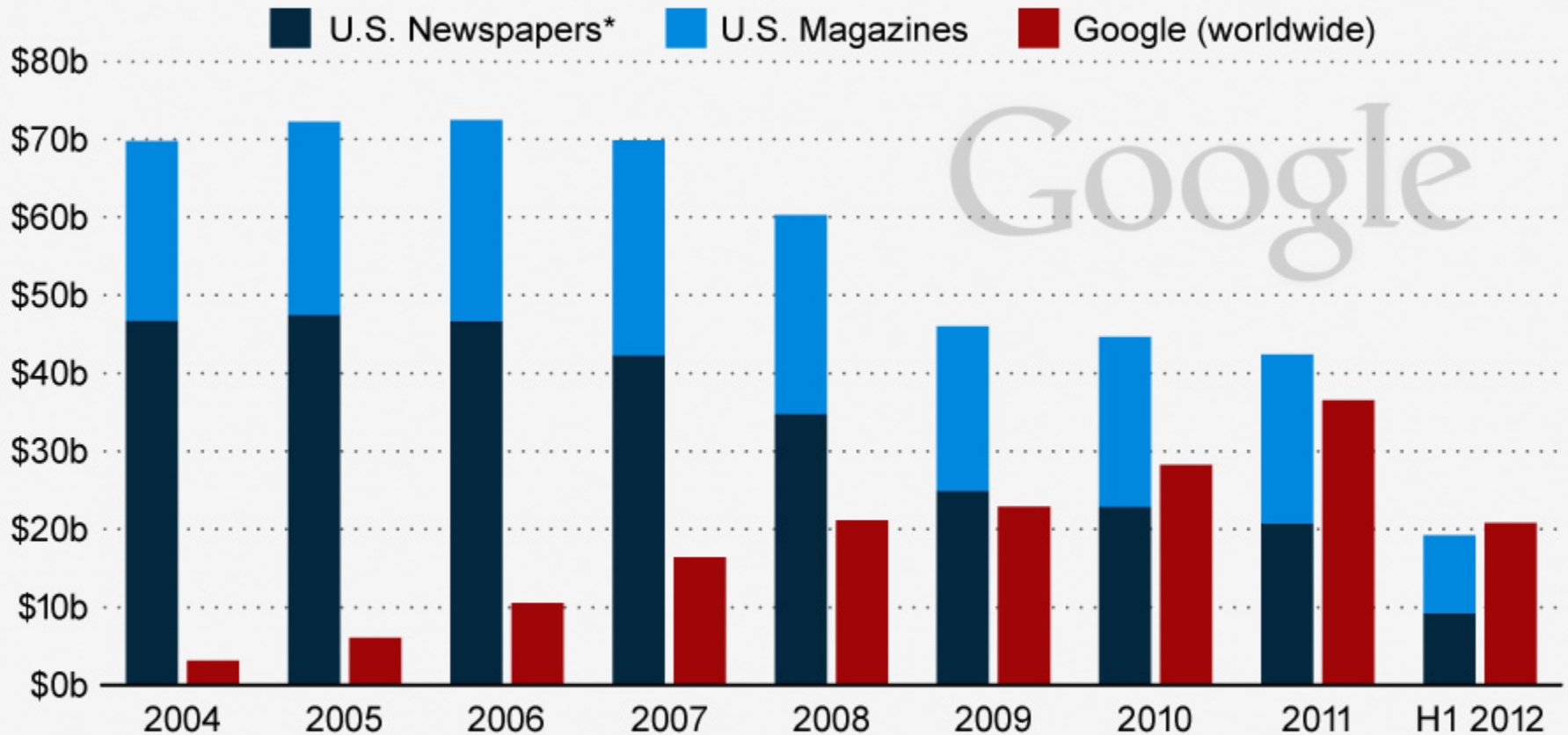
Major Dailies that Have Adopted Different Model or Cut Frequency

- Ann Arbor News
- Catskill Daily Mail & Hudson Register-Star
- Capital Times
- Christian Science Monitor
- Detroit News/Free Press
- East Valley Tribune
- Flint Journal; Bay City Times; Saginaw News
- Harrisburg Patriot-News, Syracuse Post-Standard
- New Orleans Times-Picayune, Birmingham News, Huntsville Times, Mobile Press-Register
- Seattle Post-Intelligencer

[<http://newspaperdeathwatch.com/>]

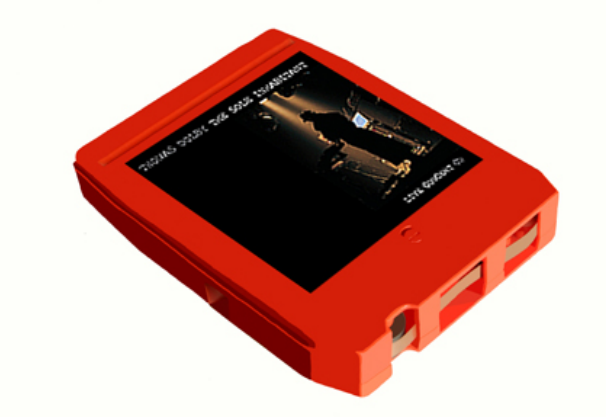
Google Rakes In More Ad Dollars Than U.S. Print Media

Advertising revenue in billion U.S. dollars

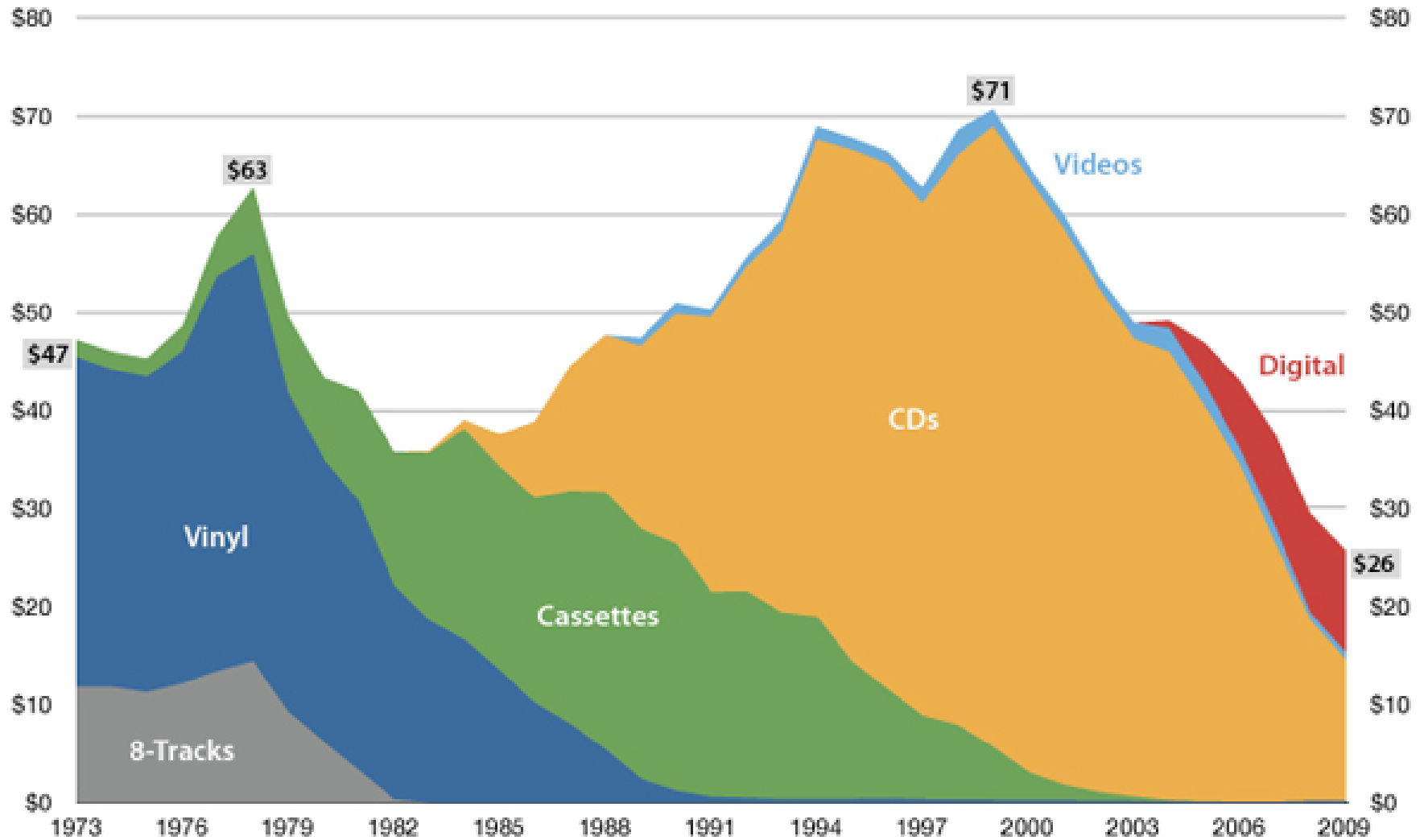


* Excludes advertising on newspaper websites

Recent Evolution of Recorded Music



US Recorded Music Revenue - 2011 Dollars Per Capita



Data: Recording Industry Association of America

Chart/Analysis: Michael DeGusta

Exercise #1

- Take 20-30 seconds to soak in the following two questions and then be prepared to share your responses:
 - On a scale of 1 (none) to 10 (a heck of a lot), how much angst do you believe there is within your organization about the future?
 - On a scale of 1 (none) to 10 (a heck of a lot), how much angst do you believe there is within your CME/CPD unit about the future?

The Failure of Higher Education

- Grade inflation
 - In 1961, 15% of the grades were A's
 - In 2008, 43% of the grades were A's
- Little learning
 - 69% of college graduates could not do basic tasks like comparing opposing editorials or comparing the cost per ounce of different foods
- Unhappy employers
 - 33% of employers think that college graduates are not prepared to succeed on the job

1600 hours

120 credits

40 classes



One degree

How much learning?

[http://newamerica.net/publications/policy/cracking_the_credit_hour]

A Changing Landscape

- Today, students don't need to memorize because they can pull it up on Google
- They can access course materials and watch lecture videos from their dorm rooms, filmed minutes or hours before
- They cite Wikipedia in their research papers
- Technology – and the culture it has created – has altered the landscape of higher education



'Four Horsemen of Apocalypse'
by Michael Newlyn © 2008

The Four Horsemen of the Medical Education Apocalypse

- Teaching patient shortages
- Shortage of instructors
- Conflicting systems
- Financial problems

[Academic Medicine 2008; 83(12):1132-1139]

The Four Horsemen

- Teaching patient shortages
 - Patients are sicker and discharged quicker
 - Outpatients have little time for being a teaching case
 - Early clinical exposure requires more patients
 - Competition with other learners
- Shortage of instructors
 - Resident 80-hour work week
 - Pressure for clinical productivity

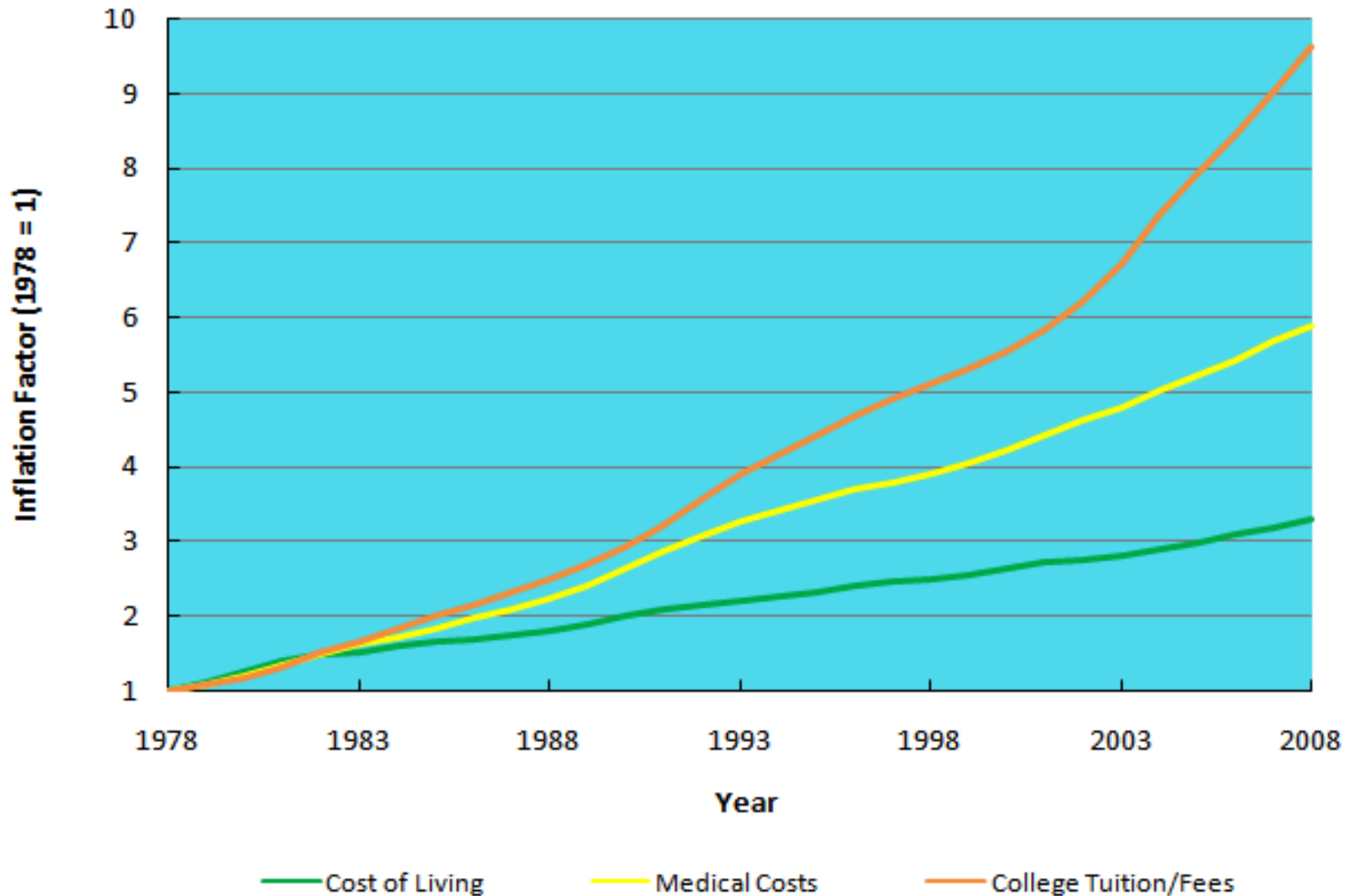
The Four Horsemen

- Conflicting systems
 - Conflicting values and metrics for education
 - Information systems are not designed for education
 - Patient safety and quality trump education
 - The problem of the hidden curriculum
 - The business of medicine comes first

The Four Horsemen

- Financial problems
 - Rising tuition
 - Clinical revenues are getting tighter
 - Direct and indirect GME payments are under scrutiny
 - Research grant indirect payments are decreasing
 - Federal grants for medical education are rare
 - Competition for gifts and philanthropy
 - ADA requirements are increasing
 - State support is drying up

Inflation of Tuition and Fees (Private 4-Year Colleges), Medical Costs, and Cost of Living, 1978 -2008

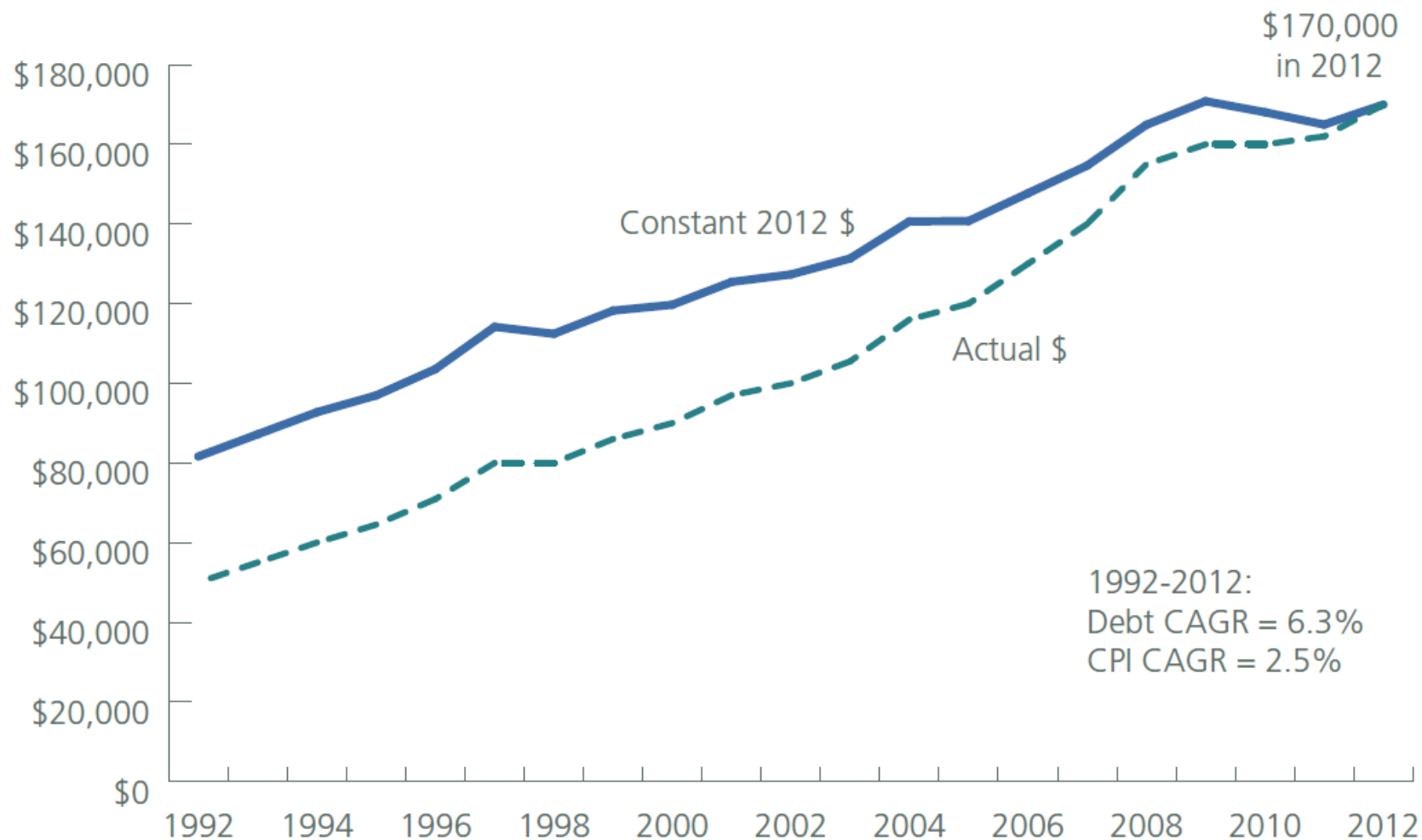


[<http://sethgodin.typepad.com/.a/6a00d83451b31569e201310f364a43970c-popup>]

Potential Consequences of the Horsemen on Medical Education

- Student services decline
- Faculty teaching support goes up in smoke
- Curriculum operations may cease to exist
- Simulation and lab experiences will decrease
- Remote and hostile clinical experiences
- Crushing tuition

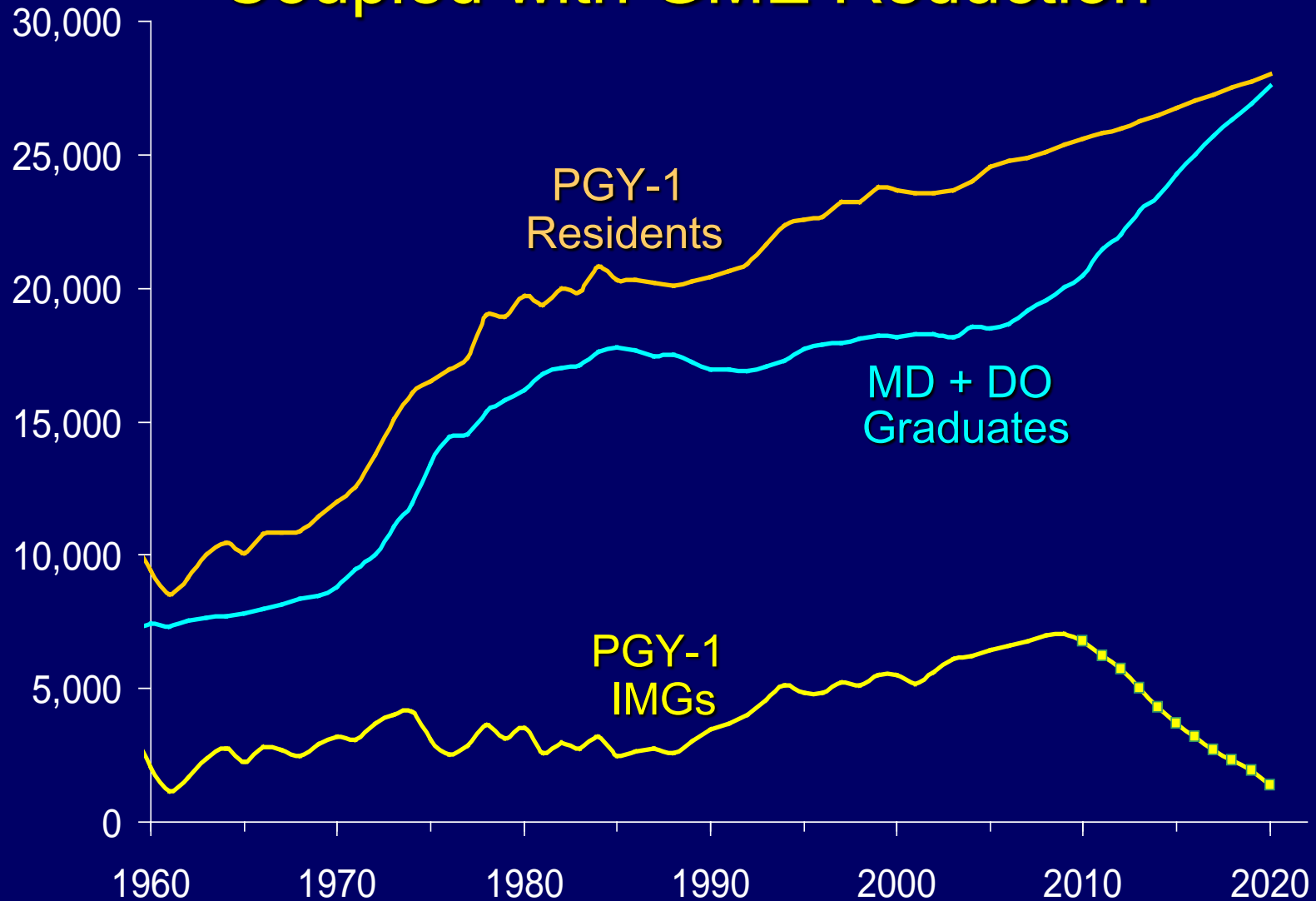
Figure 1: Median Education Debt of Indebted Medical School Graduates, 1992-2012



Source: AAMC Graduation Questionnaire (GQ). CAGR = compound annual growth rate. CPI = Consumer Price Index.

[Physician Education Debt and the Cost to Attend Medical School: 2012 Update; AAMC February 2013]

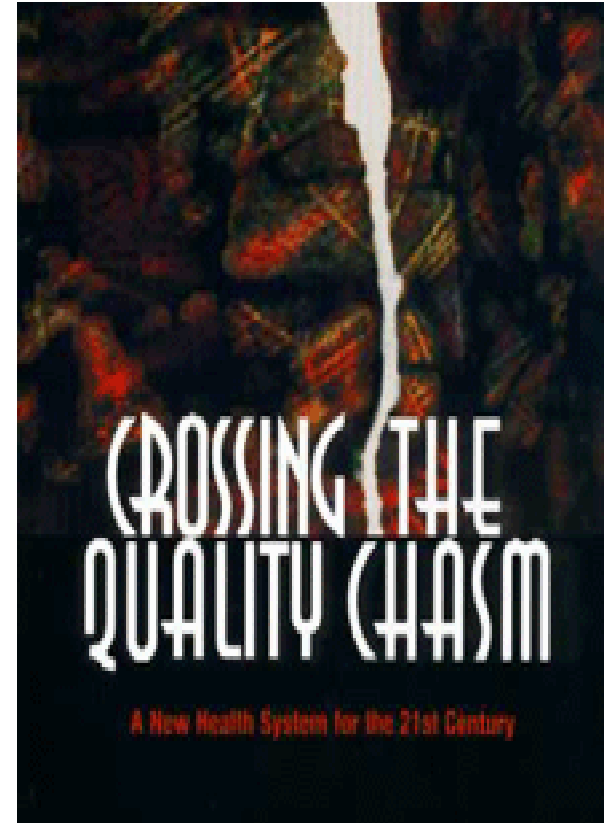
Consequences of UME Expansion Coupled with GME Reduction



[Courtesy of R. Cooper, Former Dean at MCW (2012)]

Six Dimensions of Quality

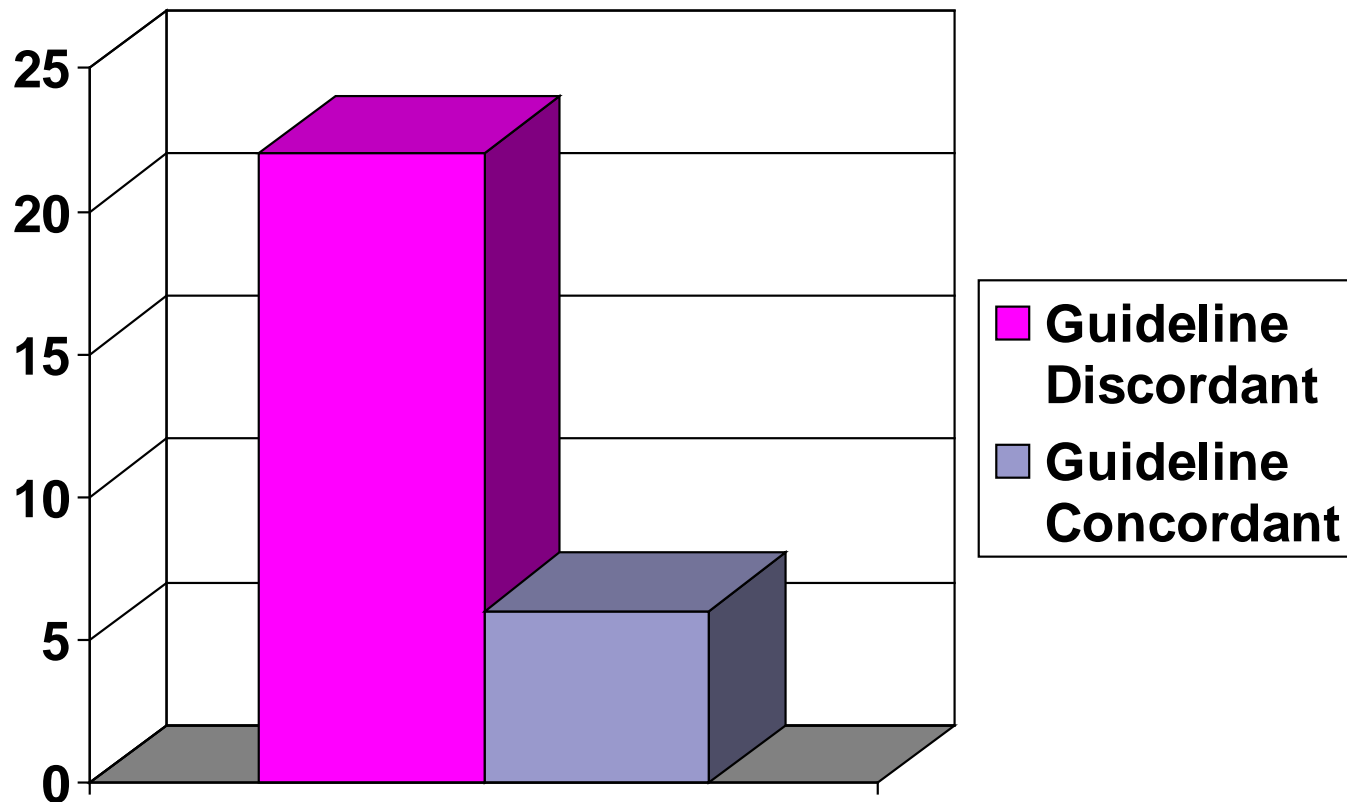
1. Safe
2. Timely
3. Effective
4. Efficient
5. Equitable
6. Patient-centered



[Source: IOM, Crossing the Quality Chasm (2001)]

Following the ATS/IDSA Community Acquired Pneumonia Guidelines

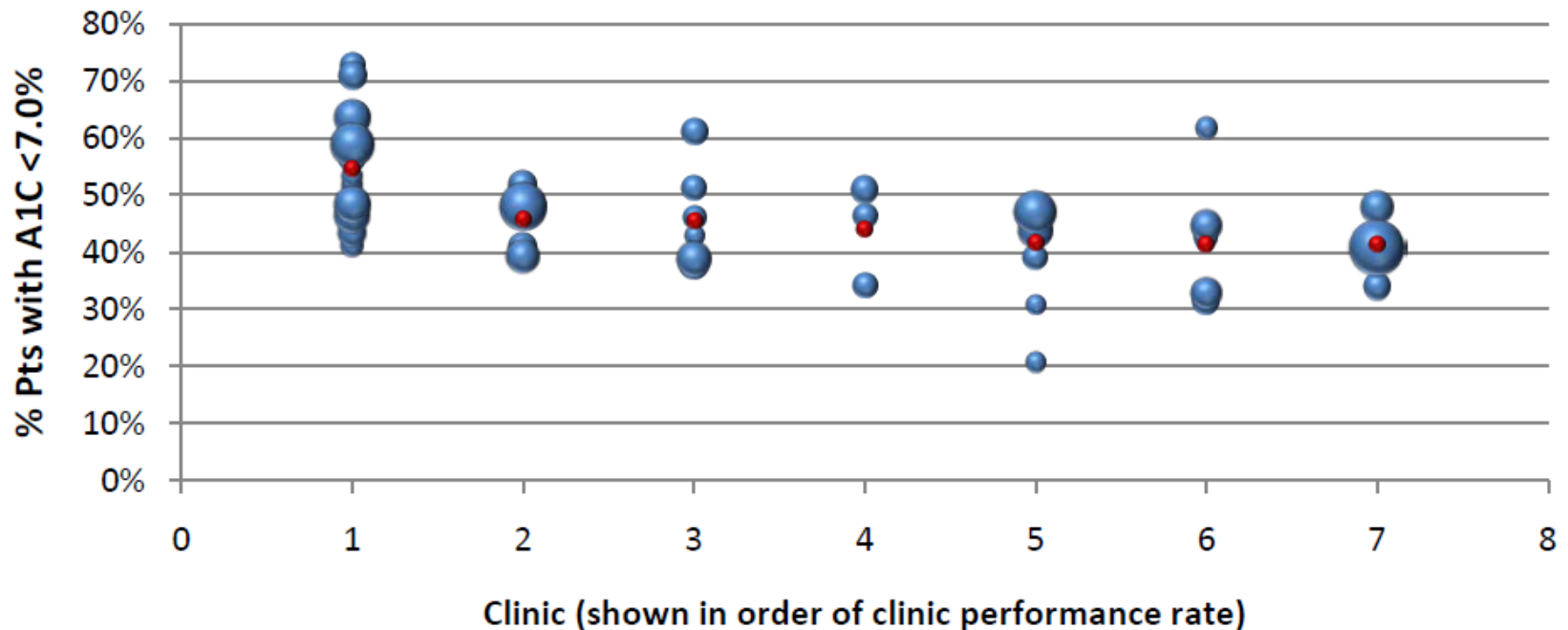
30-day Mortality Rate



[Am J Med 2004; 117:726-31]

Variation in Care: Within a Clinic

Provider Performance at a sample of seven UW Health Primary Care Clinics
July 2008-June 2009



Red represents average clinic rate, blue represents individual provider performance.
The size of the bubble correlates to the size of the diabetes population for that provider.

Source: UW Health Internal Data

Why Doing a PhD may be a Waste of Time

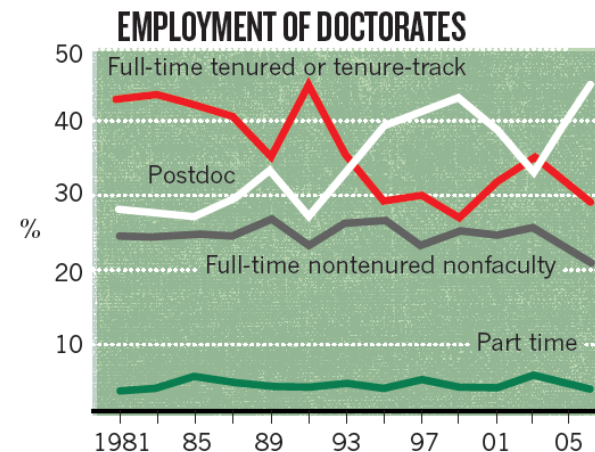
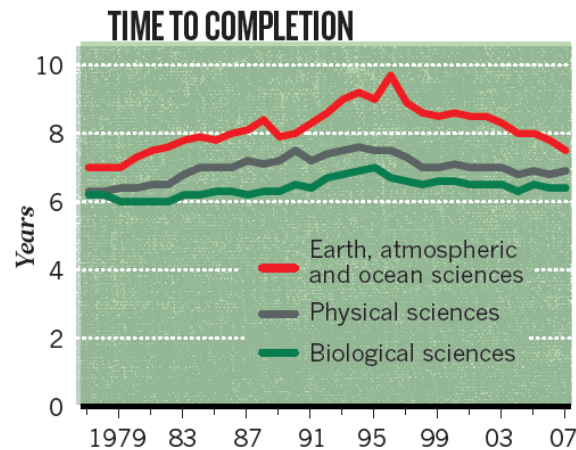
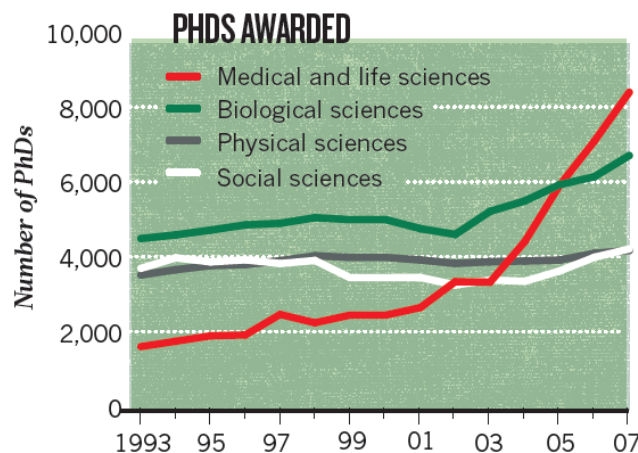
- A PhD may offer no financial benefit over a master's degree – it can even reduce earnings
- The interests of universities and of faculty are misaligned with those of PhD students

[<http://www.economist.com/node/17723223>]

The World is Producing more PhDs than ever Before: Is it Time to Stop?

United States: What shall we do about all the PhDs?

The annual number of science and engineering doctorates graduating from US universities rose to almost 41,000 in 2007 (left), with the biggest growth in medical and life sciences. It took a median of 7.2 years to complete a science or engineering PhD (middle) — yet the proportion finding full time academic jobs within 1–3 years of graduating is dwindling (right).



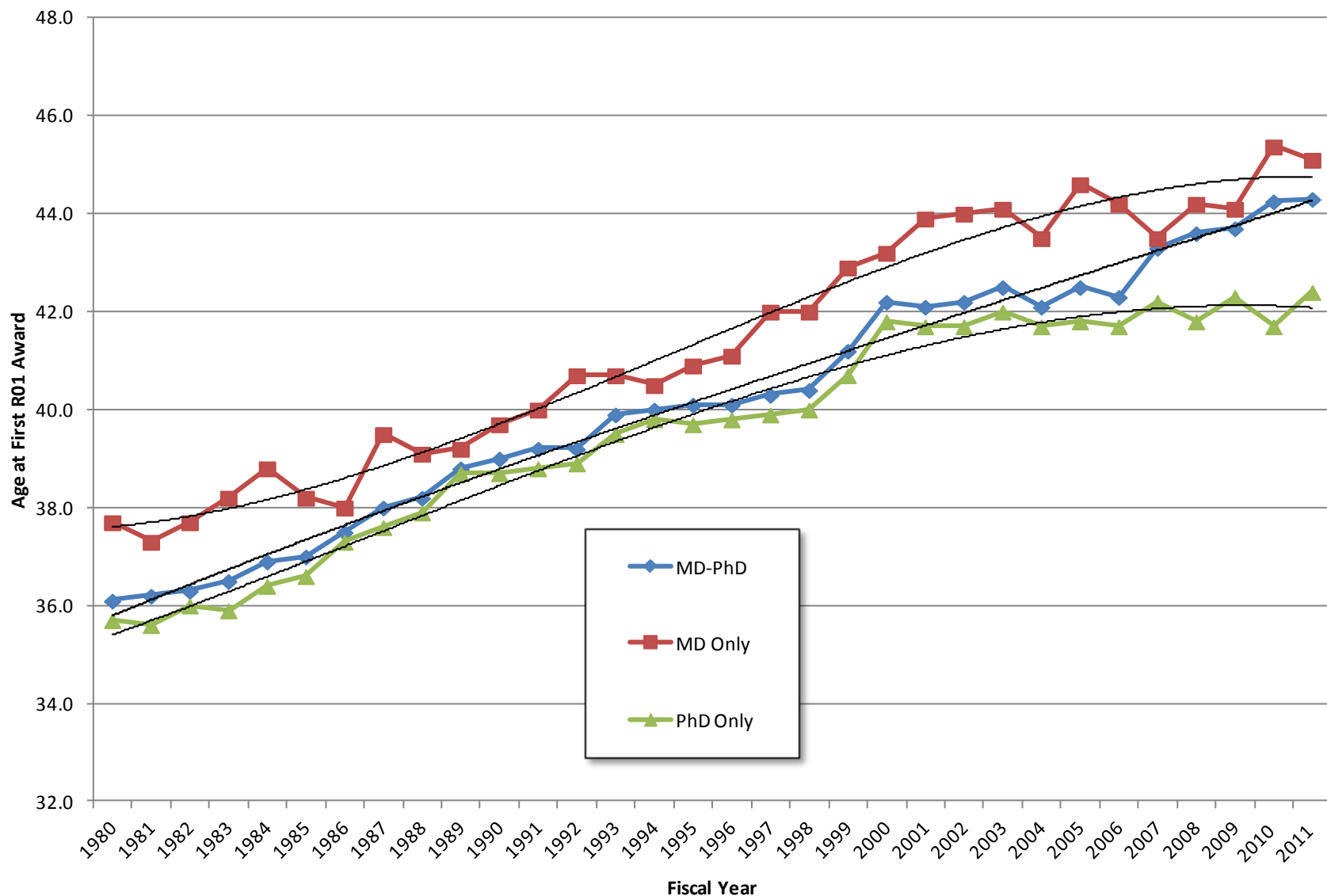
[<http://www.nature.com/news/2011/110420/full/472276a.html>]

Employed Science, Engineering and Health Doctorate Recipients Holding Tenure Track Appointments at Academic Institutions

Years since doctorate and field	1993	1995	1997	1999	2001	2003	2006	2008
<3 years								
All SEH fields	18.1	16.3	15.8	13.5	16.5	18.6	17.7	16.2
Biological, agricultural, and environmental life sciences	9.0	8.5	9.3	7.7	8.6	7.8	7.2	6.5
Computer/information sciences	31.5	36.5	23.4	18.2	20.7	32.5	31.2	22.0
Mathematics and statistics	40.9	39.8	26.9	18.9	25.2	38.4	31.6	31.3
Physical sciences	8.8	6.9	8.5	7.8	10.0	13.3	9.8	8.8
Psychology	12.8	13.6	14.7	16.0	15.6	14.6	17.0	18.1
Social sciences	43.5	35.9	37.4	35.4	38.5	44.8	39.3	45.4
Engineering	15.0	11.5	9.4	6.4	11.3	10.8	12.4	9.3
Health	33.9	34.2	30.1	28.1	32.1	30.3	36.2	27.7
3–5 years								
All SEH fields	27.0	24.6	24.2	21.0	18.5	23.8	25.9	22.9
Biological, agricultural, and environmental life sciences	17.3	17.0	18.1	16.4	14.3	15.5	13.7	14.3
Computer/information sciences	55.7	37.4	40.7	25.9	17.3	32.2	45.7	37.8
Mathematics and statistics	54.9	45.5	48.1	41.0	28.9	45.5	50.6	40.7
Physical sciences	18.8	15.5	14.5	11.9	15.8	18.3	19.7	16.5
Psychology	17.0	20.7	16.8	17.6	17.5	19.9	23.8	18.3
Social sciences	54.3	52.4	50.4	46.5	38.8	46.0	50.4	48.9
Engineering	22.7	19.3	19.4	12.6	10.8	15.9	16.3	15.5
Health	47.4	40.2	41.1	39.5	25.1	40.8	43.1	34.4

[National Science Foundation, National Center for Science and Engineering Statistics, Survey of Doctorate Recipients (1993–2008), <http://sestat.nsf.gov>]

Figure 1. Average Age of Principal Investigators with MD, MD-PhD, or PhD at the time of First R01 Equivalent Award from NIH, Fiscal Years 1980 to 2011



[http://grants.nih.gov/grants/new_investigators/]

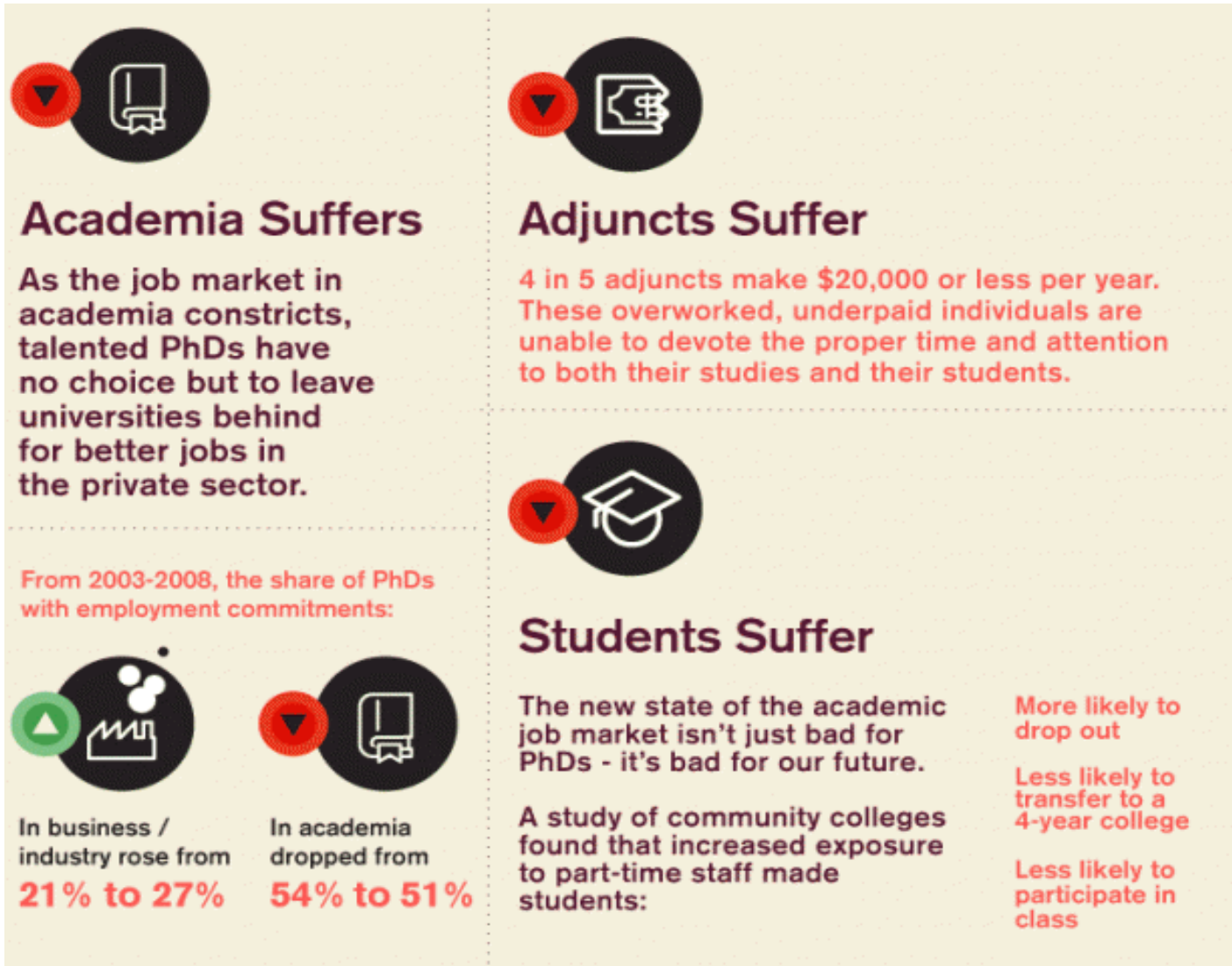
The Effect of the Fiscal Cliff

Table. Estimated Reduction in Budget Attributable to Sequestration for Select Health and Science Agencies^a

Agency	Sequester Amount, \$ in Billions	Sequester Percentage Range ^b
Centers for Medicare & Medicaid Services ^c	11.9	2.0-8.2
National Institutes of Health	2.5	7.6-8.2
National Aeronautics and Space Administration	1.5	7.6-8.2
Environmental Protection Agency	0.7	7.6-8.2
Health Resources and Services Administration ^d	0.6	2.0-8.2
National Science Foundation	0.6	7.6-9.4
Centers for Disease Control and Prevention	0.5	7.6-10.0
National Oceanic and Atmospheric Administration	0.4	7.6-8.2
Food and Drug Administration	0.3	7.6-8.2
Substance Abuse and Mental Health Services Administration	0.3	8.2
United States Geological Survey	0.1	8.2
Department of Veterans Affairs ^e	0	0

[JAMA 2012; 308 (22) 2341-2]

What are the Consequences?



Problems with the Departmental Model?

- There is a sense that the department based structure of universities is essentially at odds with collaboration
- The traditional model of the US research university – based on the pre-eminence of the single-discipline department – needs to be stretched and challenged

[<http://www.nature.com/nature/journal/v446/n7139/full/446949a.html>]

“Thirty years from now the big university campuses will be relics. Universities won’t survive. It’s as large a change as when we first got the printed book.”

Peter Drucker, Forbes



Exercise #2

- Turn to your neighbors and take five minutes to discuss one of the following:
 - 1) What is the biggest failure of the CME/CPD community? Why?
 - 2) Besides money, what's the biggest challenge facing academic CME?
- Be prepared to share your ideas/issues with the group at large!

Meta-Messages from EPIC 2020

- Education is no longer a scarce, local craft; it is now a global commodity
- World class teachers teach everyone
- World class academic media
- Internet based with no prerequisites
- Courses anytime, anyplace, for free
- Badges will equal workplace skills and will be more important than degrees/credentials

[<http://epic2020.org/>]



DNA Fingerprinting

1. Details 2. **Badge** 3. Tasks 4. Publish

Badge Creator



style



fill



icon



text

Add an Icon (Optional)



Tint Color



Clear

Next

[Create Badge](#)



✉ Email address

Mary Major

Mary has 16 badges

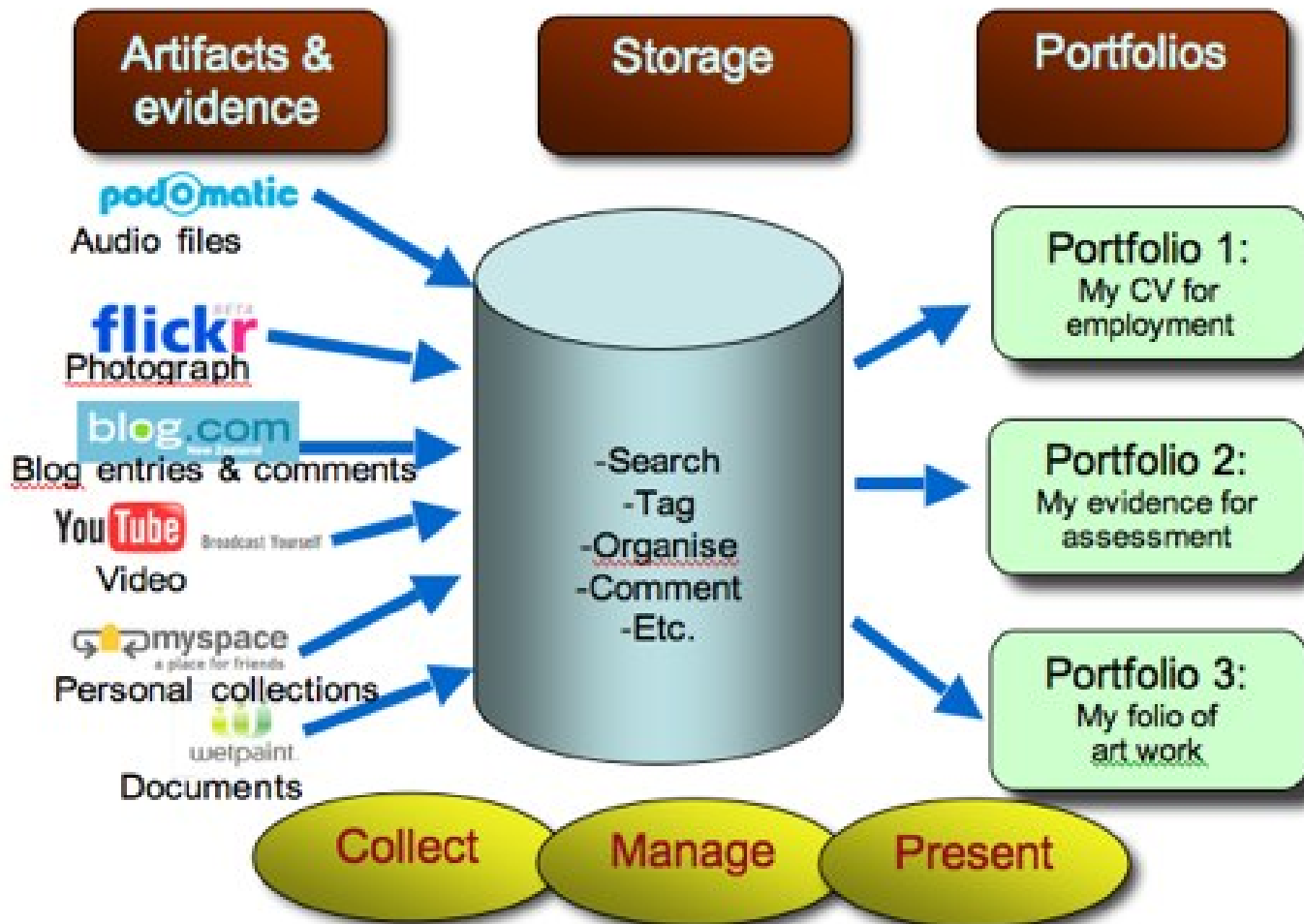


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Will Electronic Portfolios Replace University Transcripts?



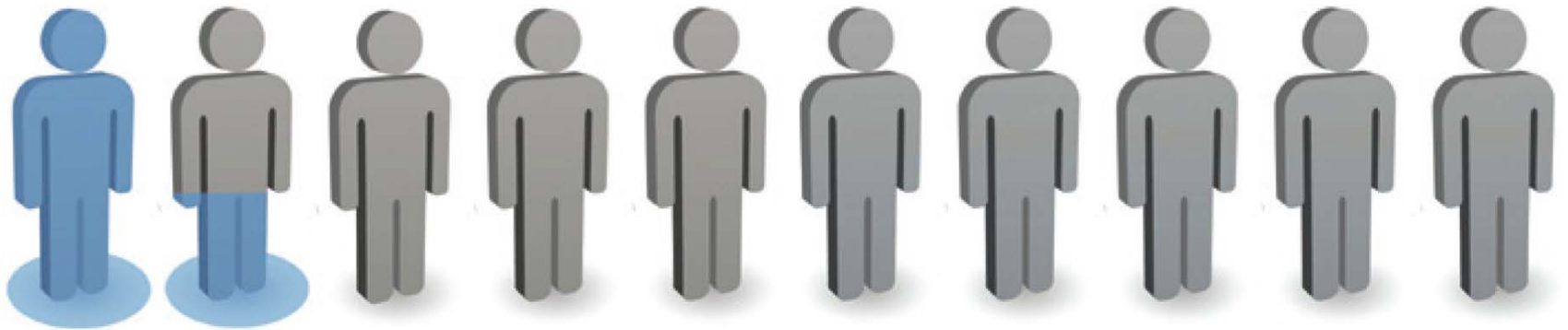
[<http://www.downes.ca/cgi-bin/page.cgi?journal=JISC>]

The Future of the Academy

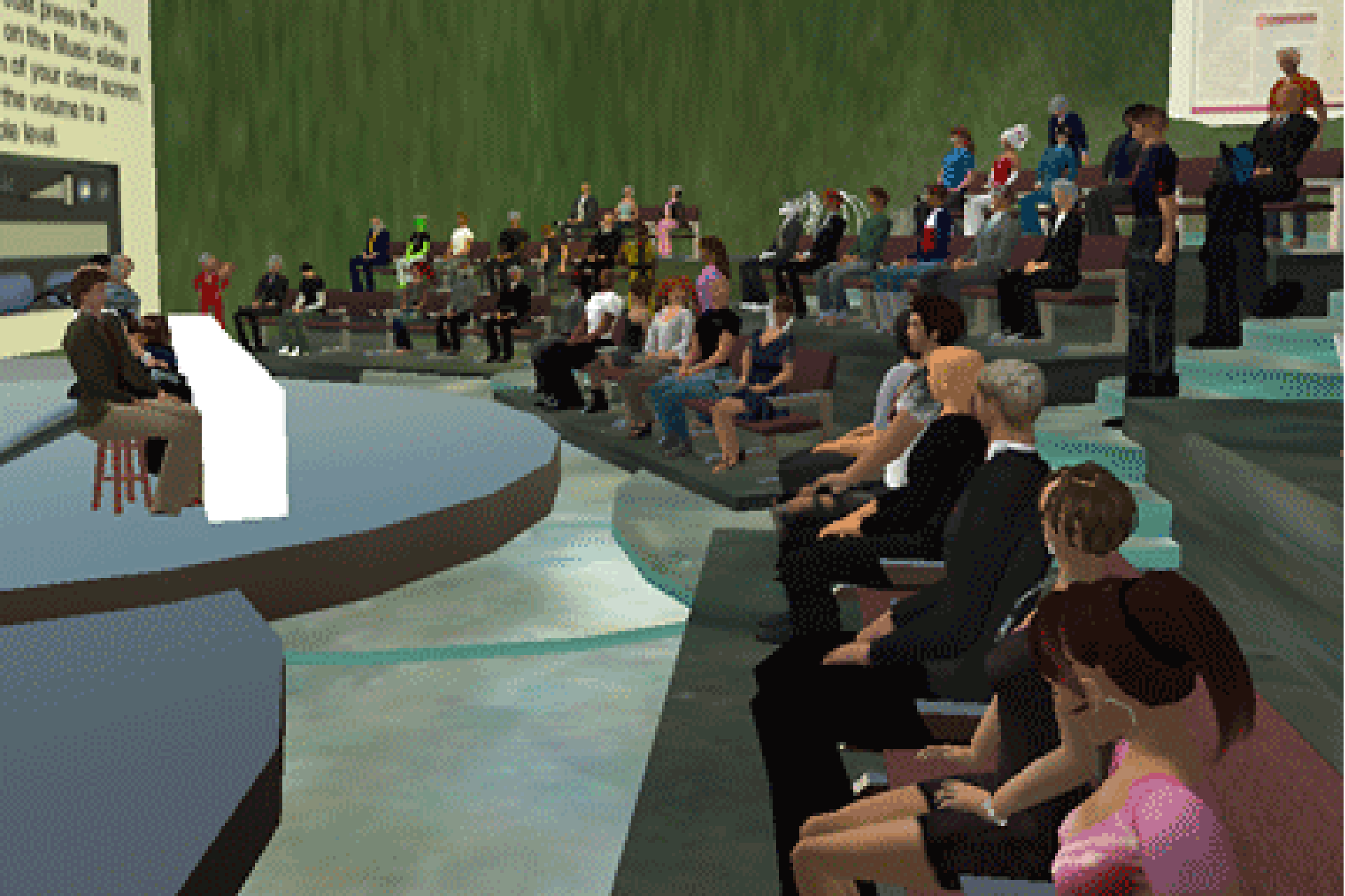
- Globalization of higher education
 - International student body and international faculty & staff
 - International missions and opportunities
- Cyberinfrastructure (e-everything)
 - Hardware, software, people, organizations, and policies
- Universal access to knowledge and learning
 - Open and transparent; not secretive, limited or elite
 - Less intellectual property and control of data
- Lifelong learning
 - Transition from being in school to always learning
 - Virtual campuses may replace residential experiences

[Professor J.J. Duderstadt, University of Michigan, 2011]

Only 14% of All Undergraduates Attend Full Time and Live on Campus



[http://newamerica.net/publications/policy/cracking_the_credit_hour]



[<http://www.news.cornell.edu/stories/oct07/TL.secondlife.aj.html>]

MOOCs and Coursera

- Coursera is a “social entrepreneurship company”
 - Partners with the top universities in the world – 33 so far – to offer free courses online for anyone to take
 - Envisions a future where the top universities are educating not only thousands of students, but millions
 - Enables the best professors to teach tens or hundreds of thousands of students
- Coursera depends on massive open online courses
 - MOOCs are synchronous or asynchronous
 - Content is free, credit and assessment are typically not

[<https://www.coursera.org/>]

The Coursera Partners

- Berklee College of Music
- Brown University
- California Institute of Technology
- Columbia University
- Duke University
- École Polytechnique Fédérale de Lausanne
- Emory University
- Georgia Institute of Technology
- Hebrew University of Jerusalem
- Johns Hopkins University
- Mount Sinai School of Medicine
- The Ohio State University
- Princeton University
- Rice University
- Stanford University
- The Hong Kong University of Science and Technology
- The University of British Columbia
- University of California, Irvine
- University of California, San Francisco
- University of Edinburgh
- University of Florida
- University of Illinois at Urbana-Champaign
- University of London International Programmes
- University of Maryland, College Park
- University of Melbourne
- University of Michigan
- University of Pennsylvania
- University of Pittsburgh
- University of Toronto
- University of Virginia
- University of Washington
- Vanderbilt University
- Wesleyan University

[<https://www.coursera.org/#universities>]

The Demise of the Credit System?

- Carnegie Foundation for the Advancement of Teaching
 - Foundation developed the modern credit system in 1906
 - Defined one credit as an hour of faculty-student contact per week and two hours of outside work over a 15 week semester
 - Driving force was to determine a faculty member's eligibility to receive a pension
 - Announced on December 4, 2012 that it has obtained a grant to review the value and purpose of the old “Carnegie Unit”
 - Foundation expected to release formal report in 2014

[<http://chronicle.com/article/Carnegie-the-Founder-of-the/136137/>]

Big Ideas

- Every single person in the world will have completely unlimited access to education
- Time to degree will decrease substantially
 - “Education, experience, or examination”
- Formal coursework is replaced by high fidelity experiences that will emphasize individualized learning, competencies, portfolios, and real life applications
- Problem solving replaces ideological dogma



The Mission is Alive!

- Although the environment has changed, the fundamental mission of education is intact
 - The literature continues to explode with advances and new knowledge
 - Society will still need highly skilled persons who can help solve problems – both big and small
 - Education is a force for change that helps people transform their lives and those of others

New Ideas and Opportunities

- Flipped classrooms & online learning
- Gaming theory and adaptive learning
- Learning in interprofessional teams
- Simulation – both low and high tech
- Milestones and competencies
- Badges and electronic portfolios

Benetech

Benetech

A unique technology nonprofit

- We started 15 years ago
- Why? Venture capital backed companies have to make a lot of money!
- Started by building reading machines for the blind
- \$5 million/year for a decade: self-supporting
- Sold it in 2000 to create more social enterprises

Questions about the
Social Venture Club?
→ Erin Layburn
Layburn, Erin @ GSX St

Social Entrepreneur
w/ the Echoing Green
this Friday, Oct
12 - 1 PM
S152



OHSU's Collaborative Life Sciences Building

- Platform for interprofessional education
- New classrooms, lecture halls, student lounges
- 20,000 square foot Interprofessional Simulation Center





Notice: ANESTHESIOLOGY 2011 CME: [Build and print your CME certificates for ANESTHESIOLOGY 2011 online - Deadline: December 31, 2011.](#)

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Frequently Asked Questions About Simulation Courses Offered for Part IV MOCA® Credit

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1. Why is simulation part of ABA recertification (MOCA)?

The American Board of Medical Specialties requires the American Board of Anesthesiology (ABA) to include practice performance assessment and improvement in Part IV of the Maintenance of Certification (MOC). The ABA recognizes simulation training as an innovative approach to assess a physician's clinical and teamwork skills in managing critical events and included it in the Part IV Maintenance of Certification in Anesthesiology (MOCA®) requirements.

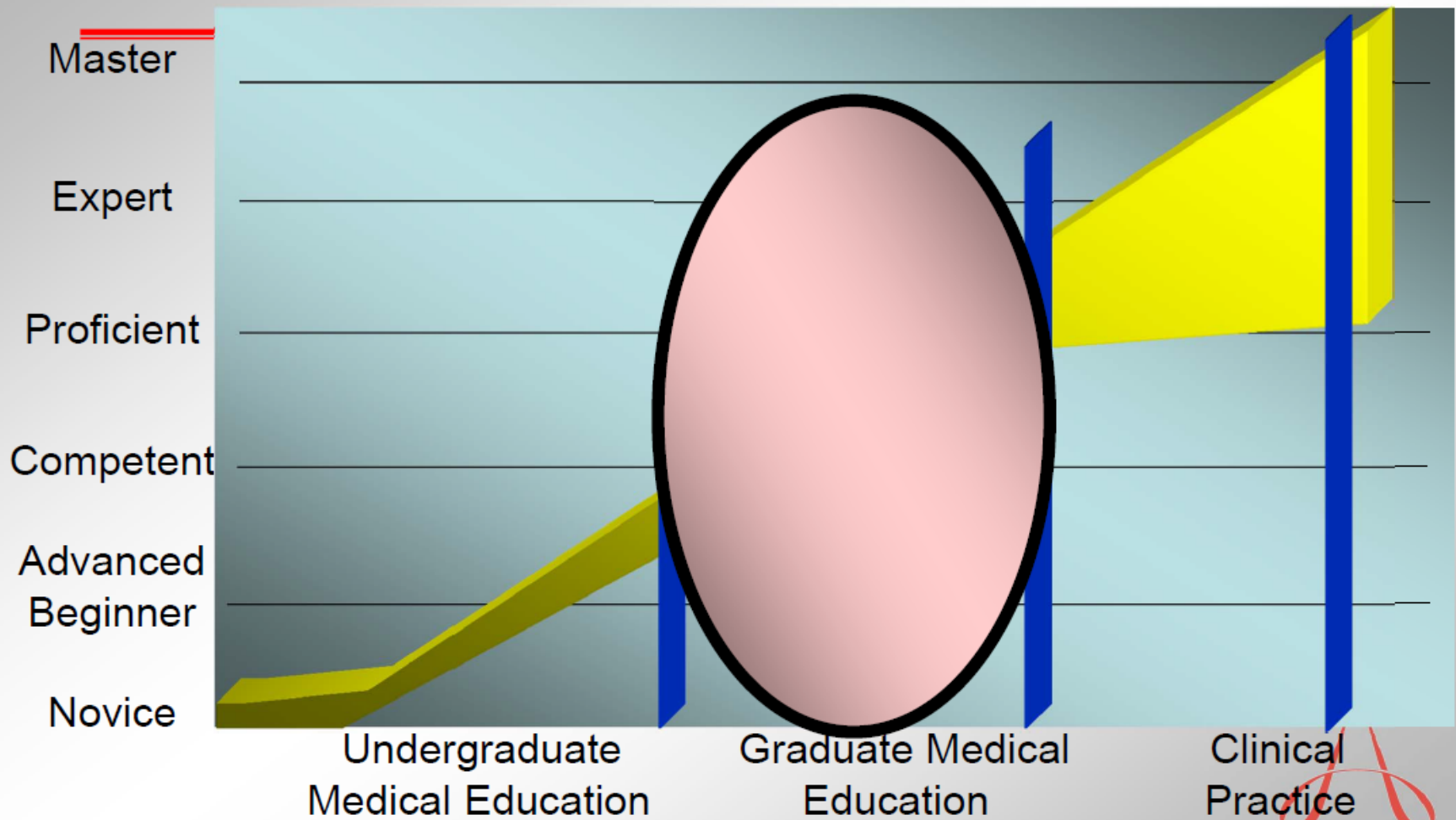
2. Why simulation?

There are relatively few learning forms that help anesthesiologists maintain clinical competence in ways that impact patient care. Many simulation programs now deliver this form of learning. There is a belief that simulation will be valuable for anesthesiologists to refresh and assess their life-saving skills.



[Can J Nursing Informatics; 2011; 5(4):967]

The Goal of the Continuum of Clinical Professional Development





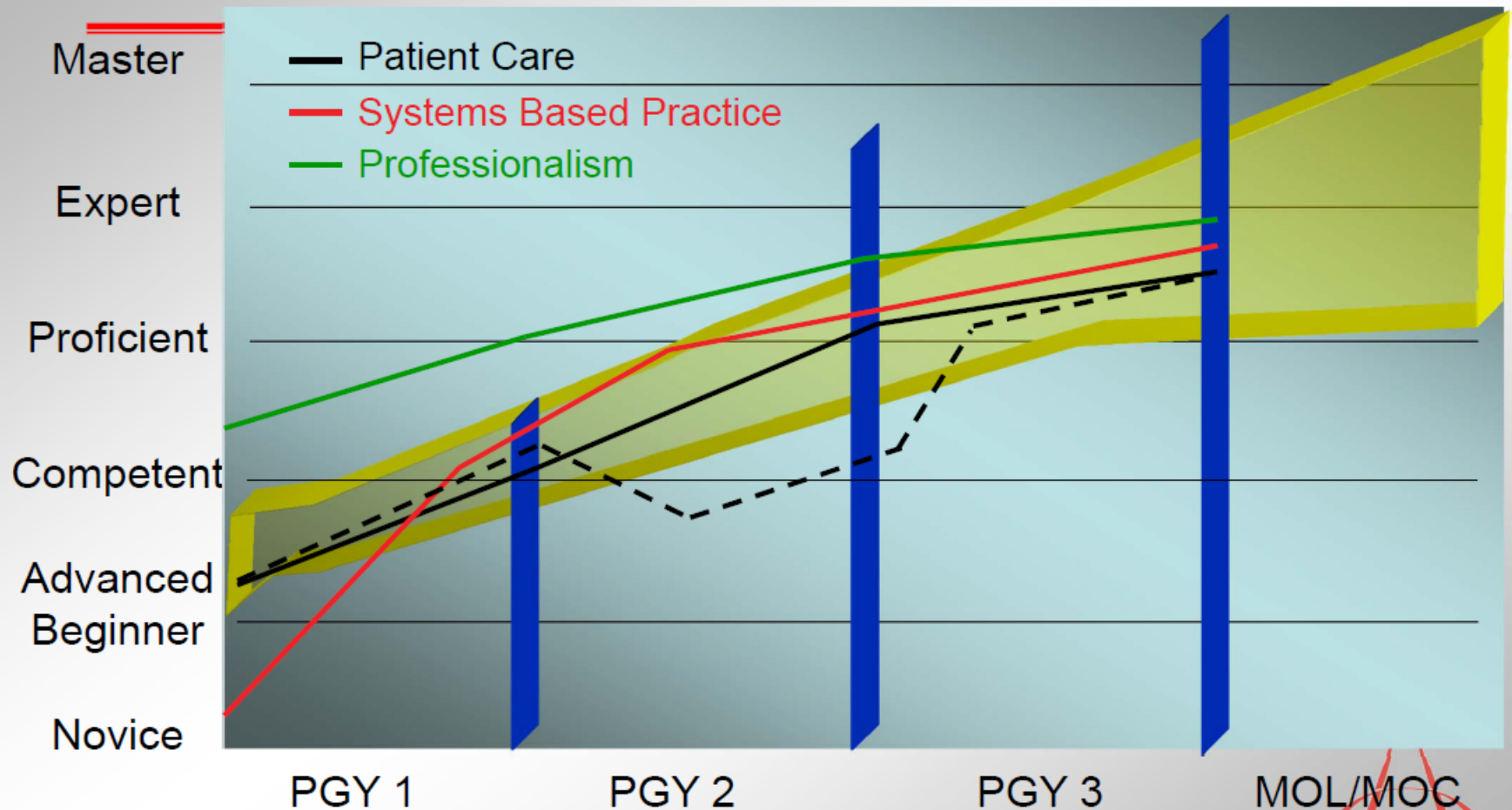
ACGME/ABMS Competency Domains

- Patient Care and Procedural Skills
- Medical Knowledge
- Practice Based Learning & Improvement
- Interpersonal and Communications Skills
- Professionalism
- Systems-based Practice

Surgery Milestones in GME

Practice Domain	Competency	Critical Deficiencies	LEVEL 1		LEVEL 2		LEVEL 3		LEVEL 4	
Care For Diseases and Conditions (CDC)	MEDICAL KNOWLEDGE (MK1)	This resident does not have basic knowledge about common surgical conditions to which a medical student would be exposed in clerkship.	This resident has a basic understanding of the symptoms, signs, and treatments of the "broad" diseases in the SCORE curriculum and has basic knowledge about common surgical conditions to which a medical student would be exposed in clerkship.		This resident has basic knowledge about <i>many</i> of the "broad" diseases in the SCORE curriculum and can make a diagnosis and recommend appropriate initial management. This resident can recognize variation in the presentation of common surgical conditions.		This resident has significant knowledge about <i>many</i> "broad" diseases in the SCORE curriculum and a basic knowledge of the "focused" diseases in the SCORE curriculum, and can make a diagnosis and initiate appropriate initial management.		This resident has a comprehensive knowledge of the varying patterns of presentation and alternative and adjuvant treatments for "broad" diseases in the SCORE curriculum and can make the diagnosis and provide initial care for the "focused" diseases in the SCORE curriculum.	
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Comments:								
	MEDICAL KNOWLEDGE (MK2)	This resident does not have basic knowledge about the common "essential" operations to which a medical student would be exposed in clerkship.	This resident has a basic knowledge of the "essential-common" surgical operations in the SCORE curriculum to which a medical student would be exposed in clerkship.		This resident has basic knowledge of the operative steps, peri-operative care, and post-operative complications for <i>many</i> of the "essential" operations in the SCORE curriculum.		This resident has a significant knowledge of the operative steps, peri-operative care, and post-operative complications for <i>most</i> of the "essential" operations in the SCORE curriculum and a basic knowledge of some of the "complex" operations.		This resident has a comprehensive level of knowledge of the operative steps, peri-operative care, and post-operative complications for the "essential" operations in the SCORE curriculum and a basic knowledge of many of the "complex" operations.	
Performance of Operations and Procedures (POP)		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Comments:								

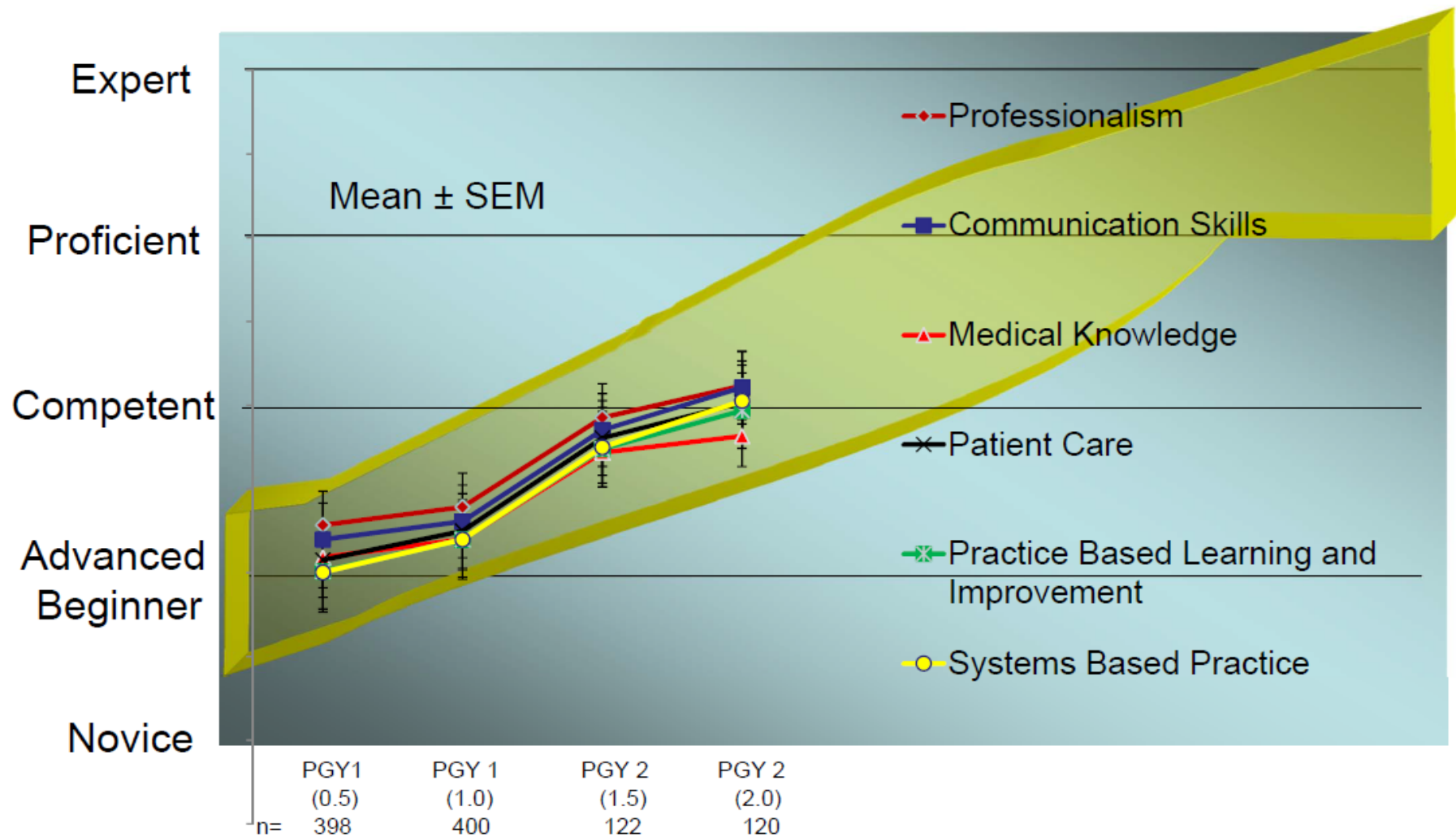
The Goal of the Continuum of Clinical Professional Development in a 3 Year Specialty Program



Increase the Accreditation Emphasis on Educational Outcomes

ACGME

2010-2012 Singapore Mid and End PGY-1, Mid and End PGY-2 Year Evaluation, Mean Overall Rating of Six Competencies across All Specialties



Increase the Accreditation Emphasis on Educational Outcomes



Some Assessment Methods

- Medical record review
- Chart stimulated recall
- Checklists
- Global ratings
- Standardized patients
- OSCEs
- Neuropsychiatric screen
- Script concordance test
- Clinical case simulation
- Site review
- Simulations & models
- Procedure or case logs
- 360 degree global ratings
- Portfolios
- MCQ examinations
- Oral examinations
- Patient surveys
- Bender Gestalt
- Searching the literature
- Analysis of EMR data

ACGME Competencies: Suggested Best Methods for Evaluation

		Evaluation Methods												
Competency	Required Skill	Record Review	Chart Stim. Recall	Check-list	Global Rating	SP	OSCE	Simulations & Models	360° Global Rating	Portfolios	Exam MCQ	Exam Oral	Procedure or Case Logs	Patient Survey
Medical Knowledge	Investigatory & analytic thinking		1					2	3			1		
	Knowledge & application of basic sciences							2	3		1	1		
Practice-Based Learning & Improvement	Analyze own practice for needed improvements	2	2			2	2	3	3	1				2
	Use of evidence from scientific studies	1	1			3	2			1	1	1		
	Application of research and statistical methods		2	3	3					1	3			
	Use of information technology					2	2		1	1			2	
	Facilitate learning of others			2	3				1	3				
Interpersonal & Communication Skills	Creation of therapeutic relationship with patients			3		1	1		2					1
	Listening skills			3		1	1		2					1

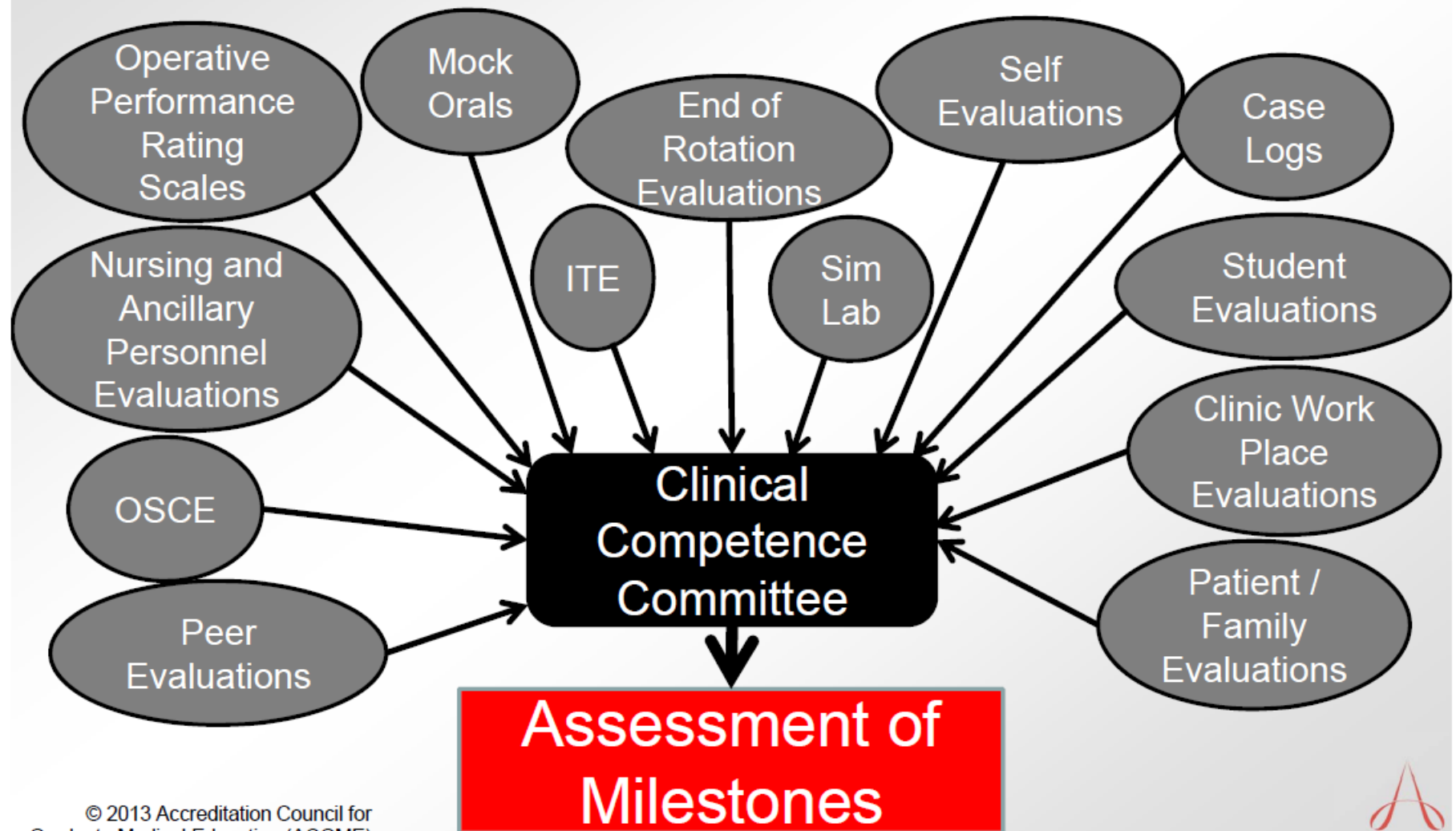
Ratings are 1 = the most desirable; 2 = the next best method; and, 3 = a potentially applicable method.

Toolbox of Assessment Methods® Accreditation Council for Graduate Medical Education (ACGME) and American Board of Medical Specialties (ABMS). Version 1.1.

[<http://www.acgme.org/Outcome/assess/ToolTable.pdf>]



Clinical Competence Committee



Exercise #3

- Turn to your neighbors and take 5 minutes to discuss the following question:

What can the CME/CPD community do to add rigor to educational outcomes?

- Be prepared to share your thoughts!

Some Possible Solutions to the Four Horsemen

- Employ and utilize technology as faculty, clinical, and patient extenders
- Develop a national bank of learning objects and curriculum materials shared by many/all
- Give the learners more control over education
- Adopt standard, competency based curricula

[Academic Medicine 2008; 83(12):1132-1139]

OHSU's New MD Curriculum

Learner-centered

Active learning methods

Competency-based

Fully integrated basic
& clinical sciences

Opportunities for
individualization

Critical thinking, inquiry,
and lifelong learning

Quality improvement,
informatics & systems

New Content Areas

- Precision medicine/healthcare
- Informatics and data analytics
- Quality improvement science
- Systems thinking and science
- Greater emphasis on professionalism and interpersonal communication

Goal of New MD Curriculum

“Effectively prepare the MD graduate for residency training and professional practice to best serve and meet the needs of society in the 21st century”

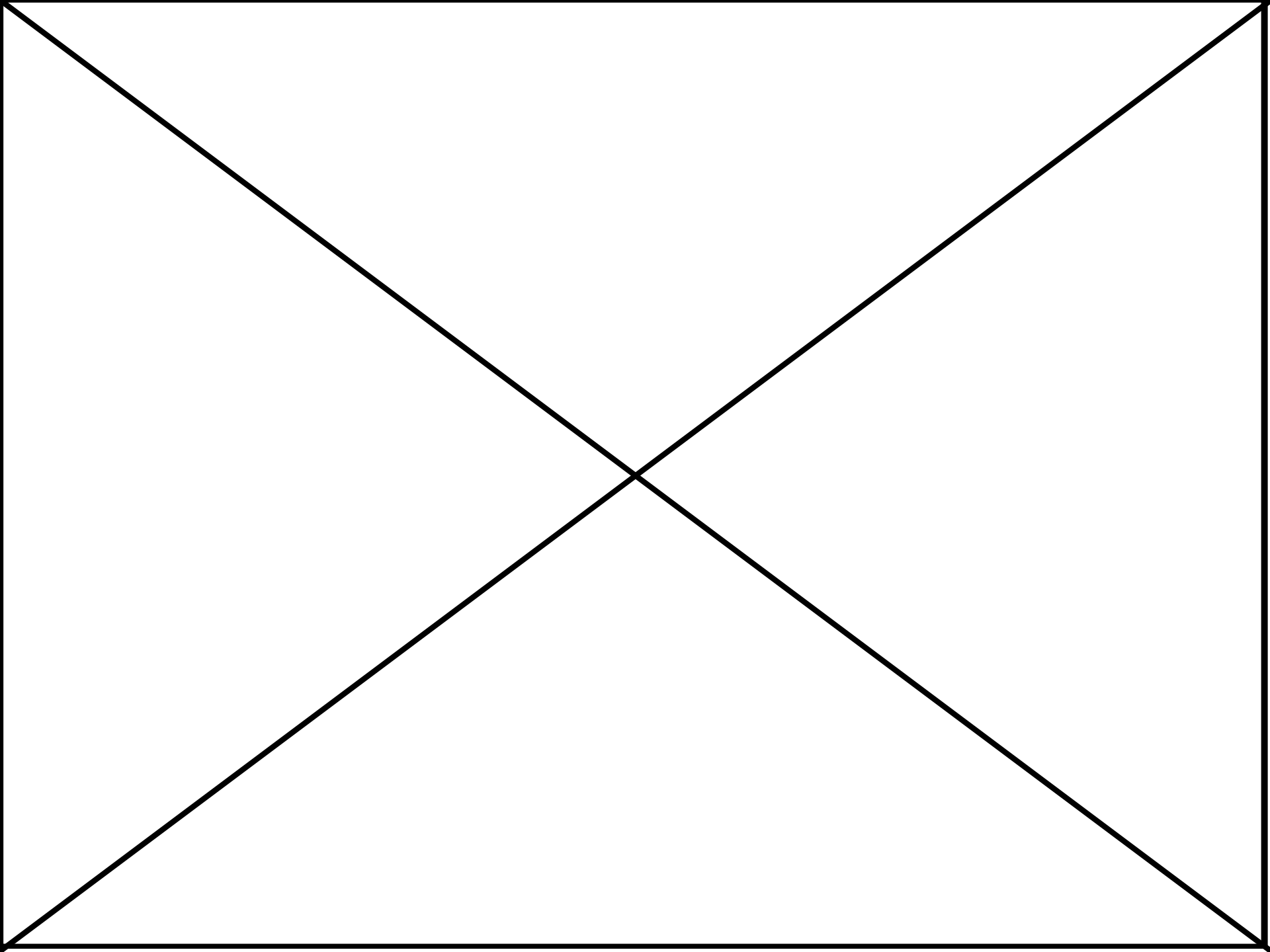
AMA Grant Support will Provide Resources to do the Following

- Develop a customized curriculum for each individual student
- Develop an electronic portfolio-based tracking system across all 6 competencies
- Produce MDs with lifelong learning, data analytics and guided self-assessment skills that meet needs of patients and society

Lifelong Learning in Medicine

- Lifelong learning in medicine requires the ability to:
 - Humbly accept data about the patient and population outcomes associated with one's clinical practice;
 - Continuously and honestly reflect on one's individual knowledge, skills, attitudes, behavior and performance;
 - Know how to interpret data, work in teams, and navigate complex adaptive systems;
 - Understand the principles of quality science; and
 - Constantly strive to improve oneself as well as the organization within which one works

[Mejicano GC, Bumsted T, Carney P, et al. Preparing Future Physicians: A Bold Proposal for Oregon and Beyond. Portland, OR; 2013.]



*“Going to a competency
based framework will flip
the instructional paradigm
on its head.”*

Carol Aschenbrener, MD
Chief Medical Education Officer
Association of American Medical Colleges



The Profound Implications of a Competency Based Curriculum

- All competencies are equivalent
- Time is irrelevant
- Assessment is all that matters
- Floors are more important than ceilings
- Content is shuffled and the organization of courses and clerkships needs to change



All Competencies Equivalent

- Attributes used to screen applicants during admissions process or teachable content?
- Competencies assessed with high fidelity instruments and solid psychometrics
- Ordinal versus nominal dimensions → everything moves to a binary decision
- Developmental stages and the importance of using the right tool at the right time



“Equivalence” Consequences

- Admission processes will need to change (i.e., what is optimal versus acceptable)
- Prerequisites for UME must evolve
- Much more sophistication of assessment methodology, especially in the “ignored” competency domains of professionalism and interpersonal & communication skills



Time is Irrelevant

- Students may accelerate or decelerate based upon achievement of competence
- Is there any difference between a student who demonstrates competence on the first attempt versus one who “fails” the first four attempts and then succeeds on the fifth?



“Time” Consequences

- Time spent learning should be flexible
- Frequent assessments should be offered
- Pre-intervention assessments should be given in order to increase efficiency and customize the curricula for each student
- Assessment attempts need to be tracked
- Tuition and fees should be individualized
- Permit off-cycle starts and finishes

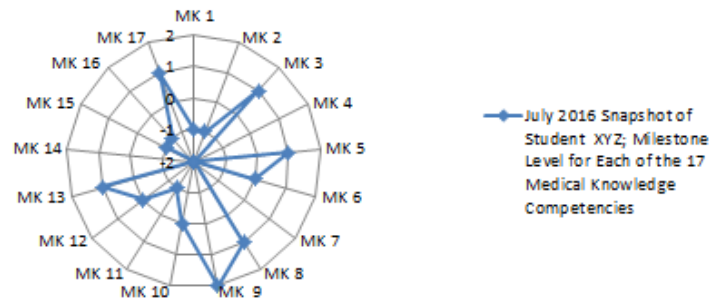


Assessment is All that Matters

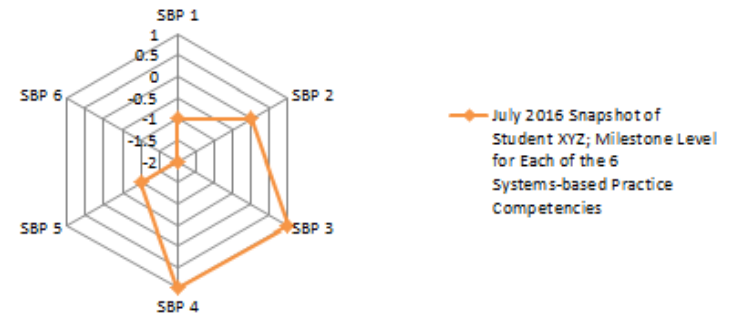
- If one can demonstrate competence, why attend class or participate in clerkships?
- Detailed feedback and results will be needed to guide remediation efforts
- Milestones and EPAs
- Helpful to tag expected trajectory and curricular content with each milestone in order to optimize advising and scheduling

Spider / Radar Charts

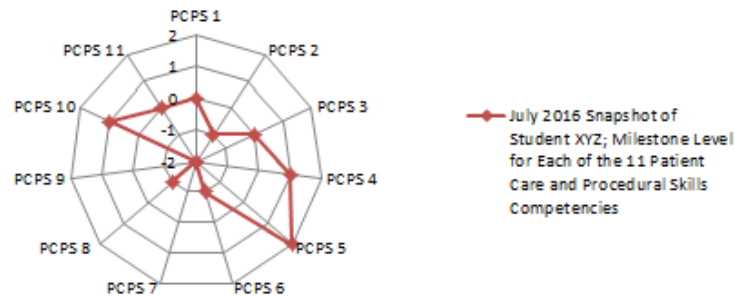
**July 2016 Snapshot of Student XYZ;
Milestone Level for Each of the 17 Medical
Knowledge Competencies**



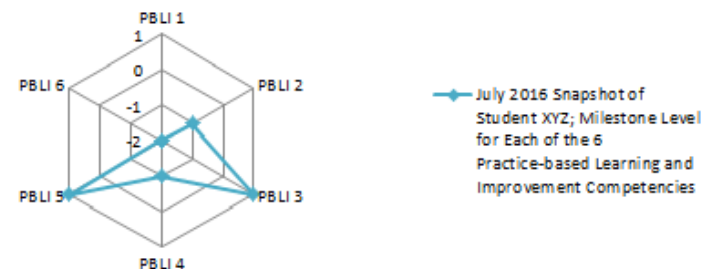
**July 2016 Snapshot of Student XYZ;
Milestone Level for Each of the 6
Systems-based Practice Competencies**



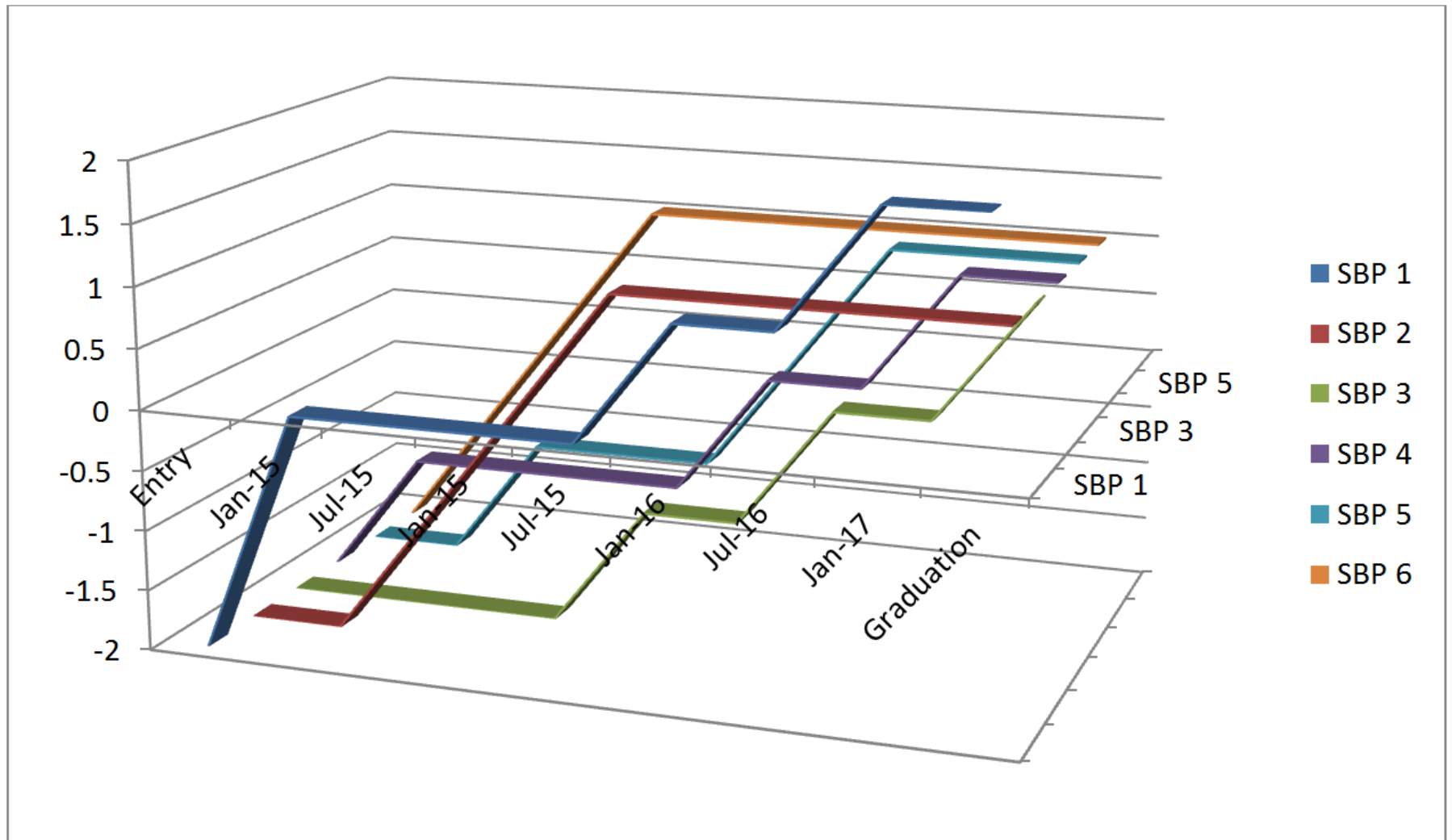
**July 2016 Snapshot of Student XYZ;
Milestone Level for Each of the 11 Patient
Care and Procedural Skills Competencies**



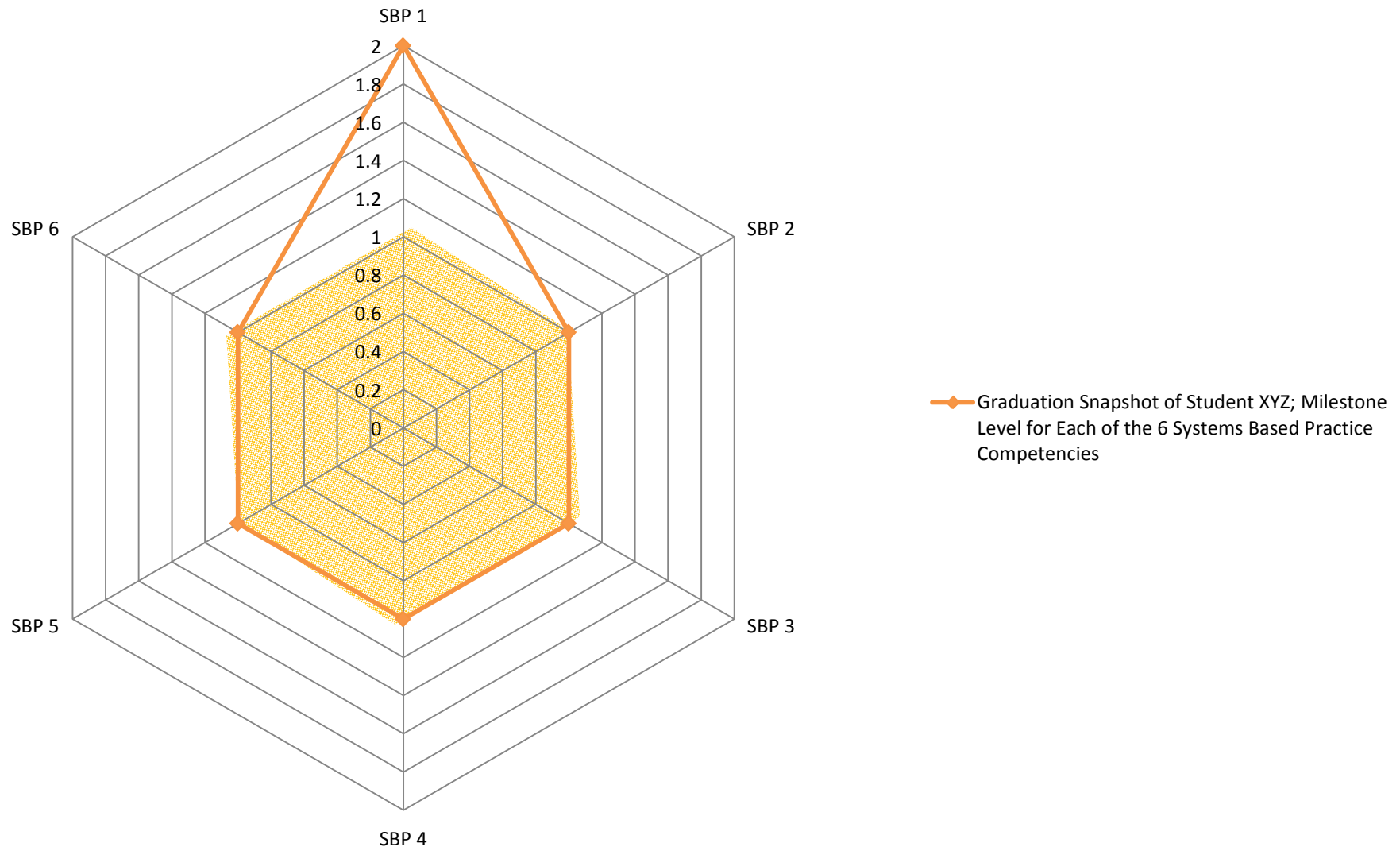
**July 2016 Snapshot of Student XYZ;
Milestone Level for Each of the 6
Practice-based Learning and Improvement
Competencies**



Student Trajectories



Graduation Snapshot of Student XYZ; Milestone Level for Each of the 6 Systems Based Practice Competencies



Entrustable Professional Activities

Illustrative EPAs	MK	PC	ISC	P	PBLI	SBP
Performing an appendectomy	.	.				
Executing a patient handover
Designing a therapy protocol	.				.	
Chairing a multidisciplinary meeting	
Requesting organ donation			.	.		
Chronic disease management	

“Assessment” Consequences

- Educational content is available 24/7 and content does not need to be home grown
- Student feedback trumps exam security
- Re-assessment issues:
 - When and how often allowed?
 - Subset or the whole?
 - Decay effects (Tetris versus a brick wall)
 - Will more students be let go?
- Much better methods to assess learners



Floor more than Ceiling

- Less attention to mastery and excellence than a minimum level needed to progress or pass or obtain a credential
- The ultimate and/or optimal goal of an undergraduate medical education program
 - What we can learn from the philosophical perspectives of the FSMB versus the ABMS
- Competition for an “employable graduate”



ABMS and FSMB

■ American Board of Medical Specialties

- Assists 24 approved medical specialty boards in the development and use of standards in the ongoing evaluation and certification of physicians
- Higher standards means better care for patients
- Maintenance of Certification (MOC) – a program

■ Federation of State Medical Boards

- Represents and supports the ~ 70 state medical & osteopathic boards of the USA and its territories
- Public protection mandate
- Maintenance of Licensure (MOL) – a process



Organizational Issues

- Academic discipline no longer matters
- Parallel experiences, not sequential
- Cohorts won't matter; learners will come and go based upon assessment results
- Individuals → Team-based care
- Transcripts → Electronic portfolios
- Grades → Badges that reflect skill sets
- Clinical outcomes matter in assessment

A Voice in the Wilderness?

- George: As a CEO of a large healthcare system that employs thousands of physicians and other health professionals, what “product” do you need in 5-10 years?
- Jim: Two characteristics are needed in the workforce – emotional intelligence and predictive analytics. Produce that & while you’re at it, help our current workforce.

Enhancing MOC: Questions About CME

- Quality of CME
 - How often is clinical content evidence-based?
 - How often is educational format evidence-based?
 - How often is learning/improvement demonstrated?
 - Are all 6 competency domains adequately covered?
- Quantity of CME
 - How much CME is appropriate for MOC?
 - Is ‘credit’ the right metric?
- Choice of CME
 - Up to the individual or their employer?

COMET

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Exercise #4

- Take 2-3 minutes to reflect on this morning's presentation and discussions.
- Think about 2 action steps you commit to do.

Exercise #4

- Take 2-3 minutes to reflect on this morning's presentation and discussions.
- Think about 2 action steps you commit to do.
- Write them down, send an e-mail to someone, post them on Facebook, Tweet them, share them on Snapchat, tell your dog, etc.
- Most important, on Monday just do them!

Final Thoughts

Learning Organization

“A learning organization is a group of people working together collectively to enhance their capacities to create results they really care about.”

[Peter Senge. The Fifth Discipline (1994)]

Learning Organization

1. Systems thinking (interconnectivity)
2. Personal mastery (individual development)
3. Mental models (organizational culture)
4. Shared vision (all on the same page)
5. Team learning (communication)

[Peter Senge. The Fifth Discipline (1994)]



Thank You!!