ABS Retreat – The Redesign of Surgical Residency Training

First Session – 8:00 am – 9:30 am

1. Introduction- What ABS can and cannot control
   David Mahvi, MD

2. History of residency redesign
   Mark Malangoni, MD

3. The impact of GME funding on residency redesign
   Paul Rockey, MD

4. Defining general surgery
   Mary Klingensmith, MD

5. Current experience with FIST as a possible pilot
   John Hunter, MD

6. Can we alter the tests?
   Jo Buyske, MD

7. Strawman and charge to break out groups
   David Mahvi, MD

Breakout Sessions – 9:30 - 11 am

The following questions should be addressed in the context of the 7 questions listed below.

A. What are the barriers to changing general surgery training?
B. What can be accomplished?
C. What should be accomplished?

Breakout Session report out/discussion – 11:00– 11:30

Summary Session – 11:30 – 12:00

A. How do we prioritize?

Breakout Group Questions (Each table will take one question.)

1. How can we balance resident/fellow autonomy and patient safety?
   Ron Hirschl, MD

2. GME funding – Is the current state of GME funding an impediment to residency redesign? What would need to change to support this process? Is it possible?
   Steve Evans, MD

3. Should the CE/QE be altered to support any change in residency? Should we add a CE/QE for fellowships? Is there an alternate method of candidate (GS and/or fellow) evaluation than our current methods of MCT and CE?
   Mary Klingensmith, MD

4. Can we educate a general surgery resident in 4 years? How?
   Dave Mercer, MD

5. What do we want from fellowships and what do fellowships want from us?
   Fred Luchette, MD

6. How can we alter the eligibility for our tests to improve our end product? What are the options other groups have used?
   Karen Brasel, MD

7. Should the ABS certify trainees who complete non-ACGME fellowships?
   John Hunter, MD
GME in the United States: Federal Incentives and State Initiatives

American Board of Surgery
January 11, 2015

Paul H. Rockey, MD, MPH
Scholar in Residence
Accreditation Council for Graduate Medical Education
U.S. Spends Nearly $3 Trillion Per Year on Health Care

- $8,400 per person per year
- Median household income $51K
- Enough money to invest in the health-care workforce, including physicians
- **How should we pay for GME?**
Where does the health care dollar go?

- Consumer Services*, Provider Support and Marketing
  - Government Payments, Compliance, Claims Processing and Other Administration
  - Insurance Industry Profit
  - Other Medical Services

- Drugs - 15c
- Physicians - 21c
- Hospitals** - 35c
- Cost of Medical Liability and Defensive Medicine

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*Includes prevention, disease management, care coordination, investments in health information technologies and health support.

**Includes the inpatient costs of hospitals and the outpatient costs of hospitals and free-standing clinics.

Based on a PricewaterhouseCoopers' analysis, Factors Fueling Rising Healthcare Costs 2006. © 2006 America's Health Insurance Plans.
### U.S. Has Relatively Low Ratio of Practicing Physicians per 100,000 Population

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<th>Country</th>
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Source: OECD Health Data 2009 (June 09)

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Physicians, Non-physician Clinicians, and Other Health Workers, 1850-2010

Health Employment per 100,000 of Population

- Managers
- Physicians
- NPCs
- Dentists
- Pharmacists
- LPNs
- RNs
- Aides
- Therapists
- Technicians

Adapted from Kendix and Getzen and the Bureau of Labor Statistics
“Let’s just start cutting and see what happens.”
GME Funding Issues

• Need **more GME positions** to keep up with population growth, aging, chronic diseases and medical school expansion

• Need **new training venues** to meet community health needs

• Need GME positions in **new models of health care** (medical homes/chronic care models)

• Need to fund **emerging costs** (accreditation, technology, simulation, faculty, duty hours, etc.)
Projected shortages of physicians, 2008 to 2020

With ACA
Without ACA

7,400
30,200
58,000
91,500
64,100

Projections prepared by the Lewin Group for the AAMC.
Medicare funding of Graduate Medical Education

- Medicare is funded by a payroll tax
- Spends $525 Billion/year on medical services
- Pays $9.7 Billion/year to teaching hospitals for GME as part B (hospital revenue)
- Less than 2% of Medicare is spent on GME
- GME payments are tied to hospital beds occupied by Medicare patients
- Medicare funding of GME “capped” in 1997
Other GME Funding Sources

• **Medicaid** (annual state appropriations and matching federal payments; in 2009 GME funding totaled **$3.9 billion/year** in 42 States and DC)

• **Veterans Administration** (10% of residents at any moment - **$1 billion/year**)  Recent Legislation of **$16.3 B** authorized 1500 new residency positions.

• **Department of Defense (DOD)** (2,200 residents)

• **Children’s hospitals (CHGME)** (5,600 residents; **$250 million/year**; requires annual appropriation)

• **HRSA** ($230M for Teaching Health Centers; ~$160M for Primary Care Residency Expansion over 5 years; funding expires in 2015)

• **Private payers?** (cost shifting is going away)
Explicit Payments for GME

• Total for GME as much as $15 Billion from all sources: Medicare, Medicaid, VA, DOD, CHGME, HRSA, direct state support, other...

• GME spending slightly more than ½ % (0.54%) of 2.8 Trillion spent on health care

• Fundamental to the future medical workforce

• What’s the problem?

• “Public good” vs. “subsidy to professional education”
Most GME funds go to teaching hospitals
ACGME Accredited
Pipeline and Continuing GME (Fellowship) Programs
11 Year Trend


© 2013 Accreditation Council for Graduate Medical Education (ACGME)
Primary Care Specialty Graduates 2001-2011

- Internal Medicine: (7.9% increase)
- Family Medicine: (4.6% decrease)
- Pediatrics: (8.7% increase)
No Meaningful Growth in Graduates from Obstetrics/Gynecology, General Surgery or Psychiatry 2001-2011

- Obst/Gyne (1% decrease)
- General Surgery (1.6% increase)
- Psychiatry (8% decrease)
Hospital-based Core Specialty Graduates
Showing Significant Growth 2001-2011

Anesthesiology
(28.3% increase)

Emergency Med
(33% increase)

Diagnostic Radiology
(36.2% increase)
Growth of Subspecialty Graduates 2001-2011

Completed Internal Medicine Subspecialty (37.3% increase)

Completed a Non-Internal Medicine Subspecialty (93.3% increase)
Most data on GME are national.

Why look at states?
State Governments in the U.S. Control the Delivery of Health Care

States determine

• **who** can deliver health care through professional licensing boards and scope of practice legislation

• **what** services are paid for by Medicaid and private insurers through insurance regulations and legislated benefits

• **how** care is provided through regulations of health-care facilities
States’ Roles are Expanding

- States fund **public medical schools** and several are funding new medical schools.
- The Affordable Care Act (**ACA**) **strengthens States’ roles** by vesting in them **authority to expand Medicaid and/or to create state-based insurance exchanges**.
- There is a high degree of variability among the States.
Active Physicians /100,000 Population by Degree Type, 2012

Sources: July 1, 2012 population estimates are from the U.S. Census Bureau (Release date: December 2012). Physician data are from the 2013 AMA Physician Masterfile (December 31, 2012).
GME Graduates Likely to be Generalists

Figure A-7: Percent of 2011 GME graduates likely to be generalists

Ratio = (PC generalist grads - PC subspecialty grads) / total resident grads

Source: American Medical Association 2011 Graduate Medical Education database (collected via GME Track). Sarah Brotherton, personal communication 27 September 2012

Note: This calculation subtracted the number of graduates completing subspecialty training from the number of core specialty GME programs in internal medicine, pediatrics, family medicine, surgery, and psychiatry, and divided by the total number of graduates of all residency programs in each state. See Appendix 1 for the detailed methodology.
Resident physicians per 100,000 state population

- 10 or fewer residents
- 11 – 20 residents
- 21 – 30 residents
- 31 – 40 residents
- 41 – 50 residents
- 60 or more residents
Each of our nation’s 10 most populous states have more citizens than 14 of the 36 OECD nations, many of which are often held up as examples of having more efficient and higher quality medical-care systems.
GDP per cap vs. Health Expenditures per cap

OECD
US$ ppp

R² = 0.8796

USA +60%
Why is the U.S. off the chart?

- Paraphrasing several viewpoints:
  - Dartmouth researchers have promulgated “geographic variation due to medical waste”
  - Ezekial “Zeke” Emanuel & Peter Orszag agree and point to “efficient systems” of health care
  - Richard “Buz” Cooper says it’s “price” and the “nexus of wealth and poverty”
  - A recent study by Reschovsky shows that “Geographic Variation in FFS Medicare Costs is Largely Explained by Disease Burden”
Why the variation in healthcare spending? The answer resides in population health.

“It is well known that disease prevalence is greatest among individuals who are poor, poorly educated, often minorities, and usually residing in poor neighborhoods. Healthcare utilization among them is much greater than in wealthy populations. Yet their outcomes are poorer. Moreover, because poverty is geographic, their increased utilization follows geographic patterns.”

Cooper RA “The War on Waste”
From Richard "Buz" Cooper

GDP per cap vs. Health Expenditures per cap / Gini, after Taxes and Transfers

Gini after taxes and transfers

OECD US$ ppp

USA

+20%

R² = 0.8588

w/o Denmark

Ave Gini x 3.0
Medicare spending per Beneficiary

- Low
- Moderate
- High
- Very High

Map of the United States showing different spending levels by state.
Income Inequality Tracks High Medicare Spending in States

Mean Gini Coefficient Grouped by Medicare Spending
All Years, All States and DC, 6 Year Rolling Average

- Very High
- High
- Moderate
- Low
Number of Resident per 100K by Medicare spending per beneficiary by State Gini Index

Number of medical residents per 100,000 population

Annual Medicare spending per beneficiary in US dollars
A Caveat for States

Retention is much higher for physicians completing both UME and GME instate.

- 40% NC medical graduates remain in state
- 42% NC residency graduates remain in state
- 69% of Physicians completing BOTH NC Med School & Residency remain in state

Similar data for WWAMI and Nevada
Active Physicians Completing GME in State

Figure A-4: Percent active physicians who completed GME in-state, 2010

The issue is how GME will meet population needs: A paradigm shift is needed

- Shift focus from increasing the overall supply with federal funds for current teaching hospitals
- **View GME as a policy lever for states to address:**
  - Provider distribution
  - Specialty choice
  - Care improvement
  - Practice innovation
  - Population health needs
- **Data are critical** to make any public investment accountable
Funding Graduate Medical Education

• Include workforce training as an explicit and well-distributed cost of health-care delivery

• Insurance exchanges under the ACA represent an opportunity for states to create a sustainable source of revenue and develop a new paradigm for GME funding
  – Bill in California Assembly would have surcharged health insurance to establish $100 M/year for GME, but did not pass.
Using Medicaid to finance GME

- States control decisions about Medicaid expansion under the Affordable Care Act.
- Most states already use public funds to support residency training, either through appropriations and/or Medicaid.
- Medicaid has the advantage of Federal matching.
- Medicaid could be a “policy lever” for states to shape GME.
What States Can Do

• Assess health care workforce regularly

• Target GME expansion to high priority needs

• Develop sustainable all payer funding

• Train in settings accountable to populations

• Expand public health measures hand-in-hand

• Create new state-wide structure to allocate GME among specialties, geographies and sites
ADVISORY COUNCILS

GENERAL SURGERY ADVISORY COUNCIL  
(GENSAC)

DEFINITION OF A GENERAL SURGEON

General surgery is a discipline that requires knowledge of and familiarity with a broad spectrum of diseases that may require surgical treatment. By necessity, the breadth and depth of this knowledge will vary by disease category. In most areas, the general surgeon will be expected to be competent or proficient in diagnosing and treating the full spectrum of disease from the commonest to the most complex situations. This may include treatment of uncommon diseases for which a surgeon acquires expertise based on additional training or experience.

General surgeons are able to perform complex emergent procedures and can work in environments where resources and specialty support may be limited.

Comprehensive knowledge should be gained by training for the following areas:

• Abdomen and its contents
• Alimentary tract (to include endoscopy skills)
• Breast, skin and soft tissues
• Endocrine system
• Hernia
• Surgical critical care
• Surgical oncology
• Trauma and emergency surgery
• Vascular surgery
Flexible Rotations during General Surgery Residency

Introduction

In 2011 the American Board of Surgery (ABS) approved a new policy to permit greater flexibility in the structure of general surgery residency education.

With advance ABS approval, program directors may customize up to 12 months of a resident's rotations in the last 36 months of general surgery residency to allow for "early tracking" into the resident's chosen specialty. No more than six months of flexible rotations are allowed in any one year. This is an entirely voluntary option for program directors and may be done on a selective, case-by-case basis.

Approval Process

Requests for ABS approval must be made in advance by letter to the ABS office and should outline the plan for the flexible rotations. The requirement that no more than four months in the chief year be devoted to one area will be extended to six months, if necessary, upon approval. Approval will be sent by letter from the ABS office. The letter of approval must be retained by the resident and submitted to the ABS along with the application to the ABS Qualifying Examination. This policy does not affect any other ABS requirements for certification.

To take advantage of this unique educational opportunity, programs may wish to assign residents up to six months of chief experience during the PGY-4. [Per ACGME Program Requirement IV.A.5.a).(3).(f).(ii)] Approval for this experience must be obtained in advance of implementing the plan.

Flexible Rotations vs. ESPs: While the guidelines below mention the curricula of early specialization programs (ESPs) as a reference, ABS approval is not required for ACGME-accredited ESPs. The approval process above relates solely to flexible rotations within a five-year general surgery residency.

Required Information

To apply for flexible rotations, a letter of request must be sent to both the ABS and the Executive Director of the Review Committee for Surgery to the following addresses:

Jo Buyske, MD
Associate Executive Director
American Board of Surgery
1617 John F. Kennedy Boulevard, Suite 860
Philadelphia, Pennsylvania 19103
The letter must be co-signed by both the program director and the Designated Institutional Official (DIO), and must be accompanied by:

1. A block diagram outlining the specific resident's individualized block diagram; chief rotations must be identified
2. A request to assign up to six months of chief experience in the PGY-4, if the flexible rotations will require the extension

The program will receive separate approval letters from the ABS and the Review Committee. Both approval letters must be received prior to implementation of flexible rotations.
Shortening Medical Training by 30%

Ezekiel J. Emanuel, MD, PhD
Victor R. Fuchs, PhD

Experts agree that there is substantial waste in the US health care system. This waste drives up costs, threatens the government's long-term fiscal stability, suppresses incomes, and reduces resources for public education and other essential services. Similarly, there is substantial waste in the education and training of US physicians. Years of training have been added without evidence that they enhance clinical skills or the quality of care. This waste adds to the financial burden of young physicians and increases health care costs. The average length of medical training could be reduced by about 30% without compromising physician competence or quality of care.

The Obsolete Image of the Ideal Physician

For decades, the ideal academic physician has been the triple threat: an incisive diagnostician and empathetic clinician, a productive researcher, and a scintillating teacher. Similarly, the clinical practitioner was supposed to be omniscient, capable of managing all illnesses. The consequence is a broad training regimen that includes mandatory research experience for all physicians, and emphasizes the autonomy of the physician rather than team-based care.

The new model recognizes that with increasing clinical and scientific complexity, no physician can be a competent triple threat; that few clinicians will also be investigators; that no single clinician can know everything even in his or her own specialty; and that effective care requires collaborative, multidisciplinary teams. Medical education in the United States needs to adapt to this changing environment and physician ideal. Four elements in the present structure of medical education offer significant opportunities to shorten the training period for most physicians.

Premedical Training

More than 30 medical schools successfully operate 6- or 7-year medical programs in which premedical training is reduced from the typical 4 years of college to 2 or 3 years. Moreover, most medical schools in the United Kingdom and Europe have 6 years of medical school training after graduation from high school. While data are limited, there is no evidence that graduates of 6-year programs perform more poorly on standardized board examinations or as practicing physicians. Students who want the traditional 4 years of college should be free to pursue them, but medical schools should not make it an entrance requirement.

Medical School Training

Why is medical school 4 years in length? The answer probably has to do with the Flexner Report’s recommendation in 1910 for 2 years of preclinical science training followed by 2 years of clinical training. Yet most physicians could be trained in significantly less time. Since 1997, the University of Pennsylvania has only 1 ½ years of preclinical science training. Duke University medical students focus on the basic sciences in the first year, complete core clerkships during the second year, and devote the third and fourth years to research and electives. While outcomes data on alternative training arrangements are limited, there is no evidence that students from either school perform worse on board examinations, placement in residency programs, or other significant metrics of competence.

The important patient care skills can be obtained in less than 2 years of clinical training. The medical school at Harvard University requires students to complete only 15 months of clinical rotations. It is not difficult to eliminate 1 year of medical school training (1 ½ year of preclinical and ½ year of clinical training) without adversely affecting academic performance. Having 1 ½ years of clinical training would still give students sufficient exposure to a range of specialties. This change would be consistent with the increasing emphasis on individualized instruction and assessing students on core competencies rather than on time served. Consistent with this proposal, Texas Tech School of Medicine as well as 2 Canadian medical schools now offer 3-year programs.

Residency Training

It is also possible to reduce residency training by 1 year. For internal medicine, pediatrics, and similar 3-year residencies, the third year is not essential to ensure competent physicians. This residency year is mainly engaged in supervising and teaching interns, in taking electives, or in some cases conducting research. While valuable, these activities are hardly essential to becoming a knowledgeable practitioner. Indeed, many trainees are permitted to short track into subspecialty fellowships, reducing their residency from 3 to 2 years. Shortening training in an era of work-week limits will force hospitals to reengineer programs to ensure residents’ clinical competence—a worthwhile exercise.

Most surgical training programs include at least 1 year of research. The most important factor in becoming a competent surgeon is high volume—performing specific procedures many times over. A research year does not add to surgical volume and skills building. A required research year might be relevant if all trainees were destined to become academic physicians. But most trainees will become practitioners; they will not use these gained research skills in their career and their training will be reduced by 1 year. The third year of internal medicine or pediatric residencies or the research year in surgical specialties could be eliminated without compromising the clinical quality of trainees.
Subspecialty Fellowship Training

The typical medical and pediatric subspecialty training is a 3- or 4-year program. The structure involves 1 or 2 years of clinical training that entails caring for patients, performing consultations, and other patient-centered activities, typically followed by 2 years of mentored research with reduced clinic time. This structure indicates that learning the patient care aspects of a medical subspecialty can be accomplished in the 1 or 2 years of intensive clinical training. The time devoted to research is relevant only for trainees destined to become academic researchers. In surgical subspecialties, time could be saved by reducing the amount of training in general surgery. Instead of having reconstructive surgeons become experts in appendectomies, subspecialist surgeons could be trained to achieve clinical competence without spending several years performing general surgery.

A Proposal for the Future of Physician Training

Currently, it takes an average of 14 years of college, medical school, residency, and fellowship to train a subspecialty physician. This period could be reduced to 10 years or by approximately 30%.

Why should a reduction in the training time of physicians be considered? Efficiency has its own value. Waste, especially wasting the time of some of society’s most highly educated and talented people, is unethical. Inevitably in the near future, efforts to reduce the Medicare budget will likely be accompanied by a reduction in the federal government’s support of graduate medical education. Streamlining residencies will save academic health centers money because they would have to spend less on the extra costs associated with training that are now compensated by federal support for medical education. In addition, shortening the length of training would benefit medical students and trainees. With 1 year less of medical school, they would have lower debts from tuition. This reduction could be significant because the average medical student graduates with $160,000 in debt.

Another advantage of shortening the length of training would be to focus attention on the essential content of medical training. Changing the structure of training would force medical leaders to eliminate unnecessary and repetitious material and emphasize training physicians to become part of a care team; enable physicians to recognize their limitations as well as their competencies; enable physicians to use evidence more effectively to improve care; and enable physicians to become comfortable with group decision making, standardization of practices, task shifting to nonphysician providers, and outcomes measurement.

Objections Considered

Some physicians may fear that shorter training will not produce high-quality clinicians. However, several first-rate institutions have already shown that each of the reductions discussed can be achieved without decreasing physician competence. Medical schools that provide only 3 years of required classroom and clinical instruction, residencies that certify short-tracking trainees after only 2 years, and subspecialty fellowships that do not require prior specialty training all have shown that added years are not needed.

Shortening medical school training to 3 or 4 years might reduce the maturity, life experience, and socialization of practicing physicians who might start practicing as young as 26 years of age. Certainly clinicians would be younger, but that should not be conflated with immaturity.

Removing time that residents and fellows spend conducting research might affect academic medicine because fewer physicians might choose a research career. Trainees interested in academic careers as researchers will certainly need additional time to develop their basic science, clinical, or policy-related research skills. However, it is wasteful to add years of training for all physicians to ensure the small minority destined to be researchers has the opportunity to engage their interest in research.

A final objection to shortening training will be the coverage that residents and fellows provide in hospitals at night. Residency programs are already grappling with a reduction in work hours. However, the education of residents and fellows should not be held hostage to clinical service responsibilities.

Conclusions

Through slow accretion, years have been added to medical training. Yet many medical schools and residency and fellowship programs have already shortened their training in various ways, definitively demonstrating that these added years are not essential to training high-quality, knowledgeable practitioners. In an era when unnecessary medical services are being intensely examined to reduce costs, similar critical attention should be applied to eliminating waste from medical training, with a goal for US medical education to shorten training by 30% by 2020.

Conflict of Interest Disclosures: The authors have completed and submitted the ICMJE Form for Disclosure of Potential Conflicts of Interest. Dr Emanuel reported receiving payment for speaking engagements unrelated to this work. Dr Fuchs did not report any disclosures.

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REFERENCES