GME- Past, Present and Future

Nelson M. Oyesiku, MD, PhD, FACS
Al Lerner Chair and Vice-Chairman, Dept. of Neurosurgery
Professor, Neurosurgery and Medicine (Endocrinology),
Emory University School of Medicine
Director, Neurosurgery Residency Program
Editor-in-Chief, NEUROSURGERY®
History of U.S. Medical Education

- 19th century medical education in the U.S. consisted of 8 months basic science study
- Clinical training was based on apprenticeship model
- No formalized Graduate Medical Education (GME)
- Uneven clinical exposure
- Lack of standardization in education and training
- European medical education
The Flexner Report

- Abraham Flexner, a research scholar commissioned by the Carnegie Foundation, undertook an assessment of 155 medical schools then in operation in the US and Canada
- 1910 report changed American medical education
- Criticized the mediocre quality and profit motive of many schools and teachers
- Lead to the standardization and reformation of medical school education
Flexner Report Findings

- Training facilities were mostly inadequate
- Training experience varied widely amongst institutions
- Format of training needed to incorporate more basic science
- European medical schools incorporated more translation of basic science theory to clinical medicine
Flexner’s view

- Flexner believed that formal analytic reasoning should be the first priority in the intellectual training of physicians.

- Recommended clinical phase of education in academically oriented hospitals, where clinicians could pursue research stimulated by questions that arose during the course of patient care.

- Research was important because it led to better patient care and teaching.
Transformation of Medicine in the 20th Century

- The academic environment has been transformed since Flexner.

- In academic hospitals, research quickly outstripped teaching in importance, and a “publish or perish” culture emerged in American universities and medical schools.

- Research productivity became the metric by which faculty accomplishment was judged.
Transformation of Medicine in the 20th Century

- After 1960, medical research became increasingly basic and became necessary for the most prestigious scientific projects.

- Clinical teachers found it increasingly difficult to be first-tier researchers, and fewer investigators could bring the depth of clinical knowledge and experience to teaching that they once had.
Transformation of Medicine in the 20th Century

- The increasing turbulence of the health care environment in the past 20 years has generated conditions inimical to medical

- Clinical teachers have been under intensifying pressure to increase their clinical productivity

- Less time available for teaching.
Death of teen brings issue into sharp relief...

- Libby Zion, 18, was admitted to NY Hospital on Oct. 4, 1984 with fever, agitation and jerking movements.

- A first-year intern was charged with her care. Second-year resident on duty, but napping. Senior physician at home, advising by phone.

- Libby was given meperidine, then haloperidol, to calm her 107 degree fever, then fatal heart attack.

- Cause of death: serotonin syndrome.

---

The Legacy of Libby Zion
New York Times (1923-Current file); Jun 8, 1987:
ProQuest Historical Newspapers: The New York Times (1851-2009)
pg. A18

The Legacy of Libby Zion

After his 18-year-old daughter, Libby, died at the hospital, the focus was...
Libby’s father blamed inadequate hospital staffing

Libby’s father, Sidney Zion, wrote in *The New York Times*:

“You don’t need kindergarten to know that a resident working a 36-hour shift is in no condition to make any kind of judgment call.”
Reforms follow Libby’s death

- In 1989, the NY State Department of Health (NYDOH) enacted the ‘405’ Regulations - the culmination of the Bell Commission Report which implicated the overwork of residents as contributory to the death of Libby Zion.
- Code 405 established limits of 80 hr/wk; 24 hrs/ shift and at least one 24-hour period per week off.
- In 2003, with the federal government moving towards limiting resident hours, the Accreditation Council for Graduate Medical Education (ACGME) followed New York’s example
Background

Long hours and sleep deprivation long have been hallmarks of medical residency. And for many years, the question of what constitutes an optimal schedule for residents has been debated.
Pros and cons of long hours

- Arguments in favor of longer hours:
  - Needed to provide adequate clinical experience and education for residents
  - Promotes more continuous, and therefore safer, care for patients

- Arguments for shorter hours:
  - Promotes patient safety by allowing residents more rest
  - Enhances resident well-being
Institute of Medicine

- Part of National Academy of Sciences
- Deans, Chairs, CEOs, Presidents, Pioneers,
- Provides national advice on medicine and health policy to policy-makers
- Unbiased, evidence-based, authoritative
“Between the healthcare we have and the care we could have lies not just a gap, but a chasm.”

- **Costly**
- Serious problems in **quality**
- Patient **safety** problem is large
- Most patient injuries due to **poor systems**
  - Not bad people
ACGME’s New 2003 Standards

The major features were:

- No shift longer than 24 hrs (extra 6 hrs permitted for educational programs and “hand-offs”)

- No more than 80 hrs per week (averaged over a month)

- A 10-hr rest period between shifts
ACGME Standards

- 1 day/week free of program responsibilities (averaged monthly)

- House call no more than every 3rd night (averaged monthly)

- House call hours to be spent in the hospital to be counted towards 80-hour limit

- The option, in some cases, to increase weekly duty hours to 88

http://www.acgme.org/acWebsite/dutyHours/dh_ComProgrRequirmentsDutyHours0707.pdf
The Institute of Medicine, concerned that the ACGME standards were neither sufficient nor sufficiently enforced, proposed new parameters in 2008.
Petition seeking OSHA action

On Sept. 2, 2010, Public Citizen, the Committee of Interns and Residents/SEIU Healthcare, the American Medical Student Association and several others asked the Occupational Safety and Health Administration to take over regulating hours worked by the nation’s medical residents.

They requested several changes in the duty-hours standards adopted by ACGME in 2003, including no averaging of time on and off duty, and more rest between shifts.

http://ohsonline.com/articles/2010/09/03/osha-may-limit-resident-work-hours.aspx
New ACGME duty standards

Less than a month later the ACGME approved changes to duty standards, effective July 1, 2011:

- Maximum 80-hr week, averaged over 4 weeks. In-house call and all moonlighting included. A review committee may grant exceptions up to 88 hours for education. Moonlighting must not interfere with the resident’s educational performance. PGY-1 residents may not moonlight.

http://acgme-2010standards.org/pdf/Common_Program_Requirements_07012011.pdf
More Limits on Duty Hours

- Residents must be free of duty 1 day/wk (averaged over 4 wks).

- PGY-1 residents no more than 16 hours; more senior residents no more than 24 hours consecutively, with a 4hr-transition period.

- Must have 8 hours off, and 14 hours off after 24-hour shift.

http://acgme-2010standards.org/pdf/Common_Program_Requirements_07012011.pdf
Undergraduate Medical Education

- Allopathic Medical Schools = 129
  - 17,759 first-year students

- Osteopathic Medical Schools = 25
  - 4528 first-year students
Graduate Medical Education

- ACGME
  - 8589 approved programs
  - 106,012 residents and fellows

- American Osteopathic Association
  - 718 approved programs
  - 4934 residents
First Year GME Positions

- In 2007-2008...
  - 23,759 first-year residents
  - Increase of 7.9% from 2002-2003
  - 6795 (28.6%) of first-year residents were International Medical Graduates (IMG)
GME Distribution By State (Residents per 100,000 pop)

- District of Columbia: 308
- New York: 81
- Massachusetts: 78
- Rhode Island: 69
- Ohio: 45
- Illinois, Michigan: 44
- Vermont, Missouri, Maryland: 42
- Minnesota: 41
- West Virginia: 35
- Wisconsin: 29
- Iowa: 26
- California: 25
- South Dakota: 12
Healthcare Expenditure Growth

- 25% growth from 1991-1998
- 60% growth from 1998-2005
Figure ES-1. International Comparison of Spending on Health, 1980–2004

Average spending on health per capita (SUS PPP)

- United States
- Germany
- Canada
- France
- Australia
- United Kingdom

Total expenditures on health as percent of GDP

## H/C Spending as % of GDP

<table>
<thead>
<tr>
<th></th>
<th>1970</th>
<th>2004</th>
</tr>
</thead>
<tbody>
<tr>
<td>USA</td>
<td>7</td>
<td>15.3</td>
</tr>
<tr>
<td>Canada</td>
<td>7</td>
<td>9.9</td>
</tr>
<tr>
<td>Germany</td>
<td>6.2</td>
<td>10.6</td>
</tr>
<tr>
<td>UK</td>
<td>4.5</td>
<td>8.1</td>
</tr>
</tbody>
</table>
Approx cost of training a resident = $130,000
Sponsors of GME

- Hospitals
- Medical Schools (with teaching hospitals)
- Federally Qualified Community Health Centers
- Only Hospitals and FQHC’s can receive Medicare reimbursement for GME.
GME Funding

- Social Security Act (Medicare) in 1965

- Established Medicare as a funding source for GME: Direct medical education (DGME) for resident stipends and direct costs

- Indirect medical education (IME) for expenses hospitals incur for training residents (e.g., labs, extra services)

- 2010 total = $9.5B ($6.5B IME)
GME Funding

- Medicare Trust Fund
  - $9 billion in 2007
  - Direct GME Payments: $3 billion
    - Resident salaries and benefits
    - Some faculty compensation
    - Program overhead
    - Discounted for percentage of Medicare patients treated in the institution
GME Funding

Indirect Medical Education ($6 billion)

- An additional payment to teaching hospitals to account for the variation in costs in teaching hospitals vs non-teaching hospitals - increased use of tests and ancillary services, greater severity of illness, increased inefficiencies due to teaching, concentration of higher technology, and differences in the types of physicians and patients.

- Calculated on the resident-to-bed ratio

- Discounted for Medicare volume
GME Funding

- Payments per hospital are “capped” at 1996 levels of residents.
- Payments are additions to the amount Medicare pays a hospital and are claimed on the facility’s Medicare Cost Report.
- Multiple rules are applied to adjust for the type of resident, the number of years in residency, the venue of the training, teaching time and research.
- Intense pressure from MEDPAC to eliminate Medicare funding of GME
GME Funding

- Other sources of funding
  - Medicaid: $3 billion
  - VA System
    - Supports 9000 resident FTE’s and 30,000 residents rotate through VA Hospitals
  - Department of Defense: 3000 residents
  - Children’s Hospital Medical Education Program: $300 million in DME and IME to children’s hospitals.
- Hospital Operating Revenues
GME Funding

- Current funding of GME does not fully cover the costs of training residents.

- Current budget reconciliation threatens to lower Medicare reimbursement, exacerbating the funding challenges for GME and threatening the physician supply.
GME Accreditation: ACGME

- Residency Review Committees (RRC)
  - 27 RRC’s: one for each specialty and one for transitional year program.
    - Common program requirements
    - General Competencies
    - Specific requirements for specialty
    - Institutional Review Committee responsible for institutional requirements of sponsors.

- ACGME field staff conduct site visits
Established in 1933, the American Board of Medical Specialties (ABMS), comprising 24 medical specialty Member Boards, is the pre-eminent entity overseeing the certification of physician specialists in the USA.
Maintenance of Certification

- Training Requirements
- Practice Assessment
- Oral Examination
- Primary Examination
- Credentials Assessment
- Issue Certificates
Neurosurgery: Accreditation

<table>
<thead>
<tr>
<th>Role</th>
<th>Name</th>
<th>Institution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chair</td>
<td>Hunt H. Sage, MD</td>
<td>Northwestern University Pritzker School of Medicine</td>
</tr>
<tr>
<td>Ex-Officer</td>
<td>Patricia Blake, MPH</td>
<td>American College of Surgeons</td>
</tr>
<tr>
<td></td>
<td>Kim Bucholz, MD</td>
<td>Oregon Health and Science University</td>
</tr>
<tr>
<td></td>
<td>Ralph O. Dacey, Jr., MD</td>
<td>Washington University School of Medicine</td>
</tr>
<tr>
<td>Resident Member</td>
<td>Alexander A. Khalil, MD</td>
<td>University of Southern California</td>
</tr>
<tr>
<td>Ex-Officer</td>
<td>Frederik Weyer, MD</td>
<td>American Board of Neurological Surgery</td>
</tr>
<tr>
<td></td>
<td>Nelson M. Osmolski, MD</td>
<td>Emory University School of Medicine</td>
</tr>
<tr>
<td></td>
<td>A. John Pope, MD</td>
<td>Brigham and Women's Hospital</td>
</tr>
<tr>
<td></td>
<td>Walter H. Summey, MD, F.A.C.S</td>
<td>Barrow Neurological Association</td>
</tr>
</tbody>
</table>
Neurosurgery: Certification

The offices of the American Board of Neurological Surgery are located in Woodbridge, Connecticut. Full-time administrative staff are available during regular business hours to answer any questions regarding the organization.
Residency Review Committee for Neurological Surgery

Certification, MOC

Accreditation

Residents and fully-trained Neurosurgeons
GME TRENDS:
External Environment

- Dysfunctional payment incentives
- Cost shifting
- Underfunding core care needs
- Uninsured
- Health policy
- Exploding costs
- Public recognition of safety, efficiency and quality issues
GME TRENDS: Demographics

- No increase in US Medical Schools for ~30 years
- Population increase of 35%
- Aging of the population
- Multicultural growth
- Increasing doctors per patient
- The Physician Gap
  - 17,000 annual allopathic graduates
  - 25,000 PGY 1 positions
- Gap filled by
  - Foreign trained foreign physicians
  - Osteopathic graduates
  - US students studying abroad
GME TRENDS: Student Factors

- Generational issues
- Older
- Majority women
- High debt
- Training too long
**GME TRENDS:**
Medical School Factors

- Economic pressure devalues the educational mission
- Admission process questionably effective
- Too much to “know”
- Anachronistic department structures
- Curriculum slow to evolve
GME TRENDS: Hospital Factors

- Very ill patients
- Rapid pace, reduced LOS
- Complex, highly specialized care
- Hospitalists
- IT dominated - scut work shift
- Economically strained, competitive environment
- Patient safety
- Transparency/Quality/Efficiency
GME TRENDS: Resident Factors

- Work hour restriction and the effects of the “solutions”
- Hyper-regulated by RRC’s
- Shift-work effect
- Loss of ownership of the patient and the service
- Over-supervision
- Disappearance of master clinician and physician scientist from the “wards”
Institutions

- There must be a program letter of agreement (PLA) between the program and each participating site providing a required assignment.
ACGME OVERVIEW: PROGRAM PERSONNEL AND RESOURCES

- Program Director
  - There must be a single PD with authority and accountability for the operation of the program

- The PD must administer and maintain an educational environment conducive to educating the residents in each of the ACGME competency areas.
ACGME OVERVIEW: PROGRAM PERSONNEL AND RESOURCES

Faculty

- Devote sufficient time to the educational program to fulfill supervisory and teaching; strong interest in the education of residents

- Administer and maintain an environment conducive to educating residents in ACGME competency areas

- The faculty must establish and maintain an environment of inquiry and scholarship with an active research component.

- Faculty encourage and support residents in scholarly activities
ACGME OVERVIEW: PROGRAM PERSONNEL AND RESOURCES

- Educational Program

- Program must distribute goals to residents and faculty annually

- Regularly scheduled didactic sessions

- Delineation of resident responsibilities
ACGME OVERVIEW: Supervision of Residents

- In the clinical learning environment, each patient must have an identifiable, appropriately-credentialed and privileged attending physician who is ultimately responsible for that patient’s care.

- **Direct Supervision**: The supervising physician is physically present with the resident and patient.

- **Indirect Supervision**: The supervising physician is physically within the facility and is immediately available -or- the supervising physician is not physically present but is immediately available by phone or electronic.
ACGME CORE COMPETENCIES

- Patient Care
- Medical Knowledge
- Practice-based learning and Improvement
- Interpersonal and Communication Skills
- Professionalism
- Systems Based Practice
Evaluation Methods

1. Clinical Performance Ratings
2. Focused Observation and Evaluation
3. 360 Assessments
4. Evaluation Committee
5. Structured Case Discussions
6. Stimulated Chart Recall
7. Standardized Patient
8. OSCE
9. High Tech Simulators/Simulations
10. Anatomic or Animal Models
11. Role-play or Simulations
12. Formal Oral Exam
13. In-training Exams
14. In-house Written Exams
15. Multimedia Exam
16. Practice/Billing Audit
17. Review of Case or Procedure Log
18. Review of Patient Chart/Record
19. Review of Patient Outcomes
20. Review of Drug Prescribing
21. Resident Project Report (Portfolio)
22. Resident Experience Narrative (Portfolio)
ACGME OVERVIEW: Duty Hour Exceptions

• No exceptions allowed for PGY1 residents

• Requests for exceptions must include:
  o clear and well-documented educational rationale for each educational level
  o detailed description of the monitoring system to ensure adherence
  o plan for relief of resident duties in case of resident fatigue

• Exceptions must be renewed annually

• [http://www.acgme.org/acgmeweb/Portals/0/PFAssets/ProgramResources/160_Neurological_Surgery_DH_Exception_Procedures.pdf](http://www.acgme.org/acgmeweb/Portals/0/PFAssets/ProgramResources/160_Neurological_Surgery_DH_Exception_Procedures.pdf)
U.S. Medical Educational System

4 years College/University

MCAT Exam

6 years Medical School

4 years Medical School

Residency (3 to 7 years)
THE INTERNATIONAL MEDICAL GRADUATE (IMG)

- Anyone from an accredited 6 year program from outside the U.S.
- Includes U.S. citizens with a non-U.S. education
- Must be certified by ECFMG prior to patient contact in the U.S.

IMGs make up 23% of the US physician workforce, and 24% of residents. The heaviest concentrations of IMGs are in NJ (50% of the workforce), NY (48%), FL (42%) and IL (38%).

Specialties with highest proportion of IMGs = Family Practice, Internal Medicine and Pediatrics
ECFMG CERTIFICATION

Assesses the readiness of graduates of medical schools outside U.S. and Canada to enter U.S. residencies and fellowship programs. Required for licensure testing. (USMLE Step 3)

Exams

- USMLE STEP 1: Medical Sciences
- USMLE Step 2:
  - Step 2 CK (Clinical Knowledge)
  - Step 2 CS (Clinical Skills)
- USMLE Step 3

Credentials

- Completion of all requirements for final medical diploma
- Receipt of final transcript
- ECFMG verification of credentials
USMLE STEP 1

- 8-hour, multiple-choice, computer-based test
- Covers basic medical sciences
  - Anatomy
  - Behavioral sciences
  - Biochemistry
  - Microbiology
  - Pathology
  - Pharmacology
  - Physiology
  - Interdisciplinary topics
STEP 2 CK

- 9-hour, multiple-choice, computer-based test
- Covers clinical sciences
- Areas relevant to provision of care under supervision
- Normal conditions and disease of particular organs
- Physician tasks: diagnosis, understanding disease mechanisms, establishing diagnosis, care management principles
STEP 2 CS

- One day, hands-on exam in limited U.S. sites
- Fifteen-minute examinations of twelve “standardized patients”
  - 10 minutes to compose the written record of the encounter (Patient Note)
- Covers: internal medicine, surgery, obstetrics and gynecology, psychiatry, family medicine and Pediatrics.
- 30 and 15 minutes break
- Tests
  - Data-gathering skills including medical history taking and physical examination skills in patient note
  - Communication / interpersonal skills
  - Spoken English language proficiency
TIMING OF EXAMINATIONS

- Must have completed 3 years of medical school before applying to take any part of the USMLE: Step 1, Step 2 CS, or Step 2 CK.
- Tests may be taken in any order.
- All 3 tests must be passed within a seven-year period.
- If all 3 are passed, results do not expire.
Applying to Residency Programs:

- **Step 1:** Complete the ECFMG Application
- **Step 2:** Take the United States Medical Licensing Exams (USMLE):
- **Step 3:** Apply to Residency Programs (ERAS)
- **Step 4:** Match with a Program
- **Step 5:** Obtain a Visa
Visas for Non-Americans

- **The J-visa**
  The J-1 non-immigrant visa permits completion of an accredited residency or fellowship program of up to seven years duration which leads to board certification. Following this, the resident *must* return to his/her native country or country of last residence for a period of at least two years.

- **The H-1B Visa**
  The H-1B visa allows the prospective trainee to avoid the J-1 visa requirement to leave the U.S. for two years by petitioning for permanent resident status in the U.S. while in residency training. An applicant for an H-1B visa must be
  - (1) ECFMG certified (i.e. have passed USMLE 1, 2ck and 2cs);
  - (2) must have ALSO passed USMLE step 3 AND
  - (3) must hold a license to practice in a U.S. state before application
PROGRAMS OVERVIEW

- Least competitive: Internal Medicine, Family Medicine and Pediatrics.

- Most competitive: plastic surgery, dermatology, Neurosurgery

- Internal Medicine, Family Medicine and Pediatrics - 3/4 years
- Psychiatry is 4 years
- Surgery is 5 years
- Neurosurgery is 7 years.
- Medical Subspecialties e.g. Cardiology - 3 yr IM + 3yr fellowship.
CRITERIA FOR ACCEPTANCE IN RESIDENCY PROGRAMS

- Exam scores
- Past academic performance
- Recommendation letters
National Resident Matching Program (NRMP) “The Match”

- In February, after the interviews the applicants have submitted their program preferences, applicants rank their preferences & programs rank their preferred applicants.

- March - results
The “GME Envelope of Expectations”
AKA - Milestones

PGY 1  PGY 2  PGY 3  PGY 4  PGY 5  MOC

Expert
Proficient
Competent
Advanced
Beginner
Novice

Aspirational Goal
Graduating Resident
Intermediate Level Resident
Finishing PGY 1
Entering PGY 1

© 2012 Accreditation Council for Graduate Medical Education (ACGME)
Milestones - Key features

- Minimal standards of experience by detailed case categories
- Objective and reproducible, consensus assessments of key milestones within every competency using:
  - Clinical Competency Committee
  - Development of additional assessment tools
- Developmental progression across training
  - Extends to practice: ‘Lifelong Learning’
Milestones Scoring

- Goals
  - Objective
  - Reproducible
  - Transparent to public and stakeholders
  - Enforceable (only competent residents advance)

- Method
  - Clinical competency committee (CCC)
MINIMUMS

- Set The Bar
- Prevent Experience Gaps
- Empower Residents To Manage Their Technical Curriculum
- Empowers PDs to Achieve Institutional Collaboration
Logging Cases: Levels

• **Assistant Resident Surgeon**
  Positioning; Sterile preparation; Monitoring devices; Microscope preparation; Participates in the initial (“opening”) or final (“closing”) portions of the procedure; Assists resident or staff surgeon(s)

• **Senior Resident Surgeon**
  May include aspects of all of the above; Participates in the surgical procedure between opening and closing

• **Lead Resident Surgeon**
  May include aspects of all of the above; Participates in the critical portion of the procedure;
Current Physician Pipeline in the United States

- ~25,000 new physicians trained in the United States yearly with current pipeline

- In 2011-2012, 19,230 graduates of US medical schools (N = 137), so ~25% are graduates of international medical schools

- US medical school graduates expected to increase to 21,376/year by 2016-17
Future Trends in GME

- A physician shortage is expected.
- Forces shaping the physician shortage:
  - Increased Medicare beneficiaries
  - Increasing life expectancy
  - Graying of the current physician pool
The Aging of America

- By 2030, number of Americans > 55 years will double (from 60 M to 107.6 M)
Forces Shaping the Physician Shortage

- **More patients:** Health care reform will expand Medicare eligibility. 32 million new beneficiaries in 2014

- **More disease burden:** America is aging. By 2030, the number of Americans > 55 years will double (from 60 million today to 107.6 million).

- **Living longer:** Life expectancy is increasing (average 65 year old life expectancy of 17.9 more years)
Graying physicians: America’s physicians are graying too.

In 2008, of 921,900 physicians in America

- N = 343,200 age > 54 years (37.2%)
- N = 166,000 age 55 – 64 (18.0%)
- N = 177,200 age > 65 years

1/3 of current physicians are expected to retire in next decade

By 2025, a shortage of 130,600 physicians is projected.

<table>
<thead>
<tr>
<th>Year</th>
<th>Supply – All Specialties</th>
<th>Demand – All Specialties</th>
<th>Shortage – All Specialties</th>
<th>Shortage – Primary Care</th>
<th>Shortage – Non-Primary Care</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>699,100</td>
<td>706,500</td>
<td>7,400</td>
<td>7,400</td>
<td>0</td>
</tr>
<tr>
<td>2010</td>
<td>709,700</td>
<td>723,400</td>
<td>13,700</td>
<td>9,000</td>
<td>4,700</td>
</tr>
<tr>
<td>2015</td>
<td>735,600</td>
<td>798,500</td>
<td>62,900</td>
<td>29,800</td>
<td>33,100</td>
</tr>
<tr>
<td>2020</td>
<td>759,800</td>
<td>851,300</td>
<td>91,500</td>
<td>45,400</td>
<td>46,100</td>
</tr>
<tr>
<td>2025</td>
<td>785,400</td>
<td>916,000</td>
<td>130,600</td>
<td>65,800</td>
<td>64,800</td>
</tr>
</tbody>
</table>
Supply of Physicians - Future

Figure 6. Physician supply and demand projections, 1980 to 2040. GME, graduate medical education. (From: The Physicians Foundation, with permission.)
Future of GME

- Deficit/debt/delivery system issues will drive GME policy
- Medicare GME spend is $9.5 billion
- MedPAC says GME overpaid by $3.5 billion
- Congress needs “Pay fors” for doctor fix
- GME In budget crosshairs
- Dramatic physician shortage means MORE training slots are needed
- So, either Congress:
  - Cuts GME in any event
  - “Reforms” GME to address delivery system/workforce skills changes
  - Does nothing
Future of GME

- Delivery system/workforce skills changes that drive GME policy:
  - Aging, chronically ill patient population
  - Population management
  - Shift from inpatient – outpatient – home
  - Need for increased number of primary care physicians
  - Workforce analysis to determine number of slots needed – in aggregate and by specialty
  - Determine optimum level and mix of specialties and mid levels
  - Analysis based on high performing/integrated health systems
Future of GME

- Training physicians is a long and arduous process.
- Current Medicare expenditures for training physicians are ~$9.5B, ~$6.5B of which relates to indirect medical education support.
- With current demographic trends and limited capacity to increase the physician pipeline, America faces a physician shortage.
- The need to train more physicians to meet America’s health care needs is at odds with current budgetary pressures to decrease funding for graduate medical education.
THANKYOU!