Creating Healthcare Workforce of the Future

Joanne Conroy MD
Chief Healthcare Officer
AAMC
Principles

- We agree that we need the right mix of physicians and essential healthcare providers with the right skills and training, in the right places.

- We have some broad data sets reflecting provider supply that inform the discussion but there are still gaps that we need to fill. Projections of provider demand are structured around the current model of care.

- A spirited national debate focuses on which interventions will close the supply/demand gap in numbers, skills and geography.
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Projected shortages of patient care physicians, 2008 to 2020

Projections prepared by the Lewin Group for the AAMC.
AAMC Projections

Demand – All Specialties

Supply – All Specialties

Shortage = 91,500

Shortage estimates

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<tr>
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<th>Prim Care</th>
<th>Spec</th>
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<td>2010</td>
<td>9,000</td>
<td>4,700</td>
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<td>2015</td>
<td>29,800</td>
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<td>2020</td>
<td>45,400</td>
<td>46,100</td>
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The Right Mix | Right Skills | Right Place

• Current trends in selection of medical school candidates
• Trends in residency training and the work environment
• Geography
Growth in enrollment comes from new and existing schools

30% Target = 21,434

Historical data
Survey data
Projections

125 Schools
134 Schools
141 Schools
1997 BBA Temporarily Slowed GME Growth but ACGME Residents and Fellows up 14% since 2002

Total Residents and Fellows in ACGME Programs 1978-2010

Data for 1987 excludes residents in combined specialty programs.
Source: JAMA Medical Education issues
Growth in PY1 residents in ACGME programs, 2000-2009

- Total (16.3% increase)
- Core (6.9% increase)
- Subspecialties (53.5% increase)

Source: GME Track
76% of schools have or are planning policies/programs promoting primary care

Source: 2010 Survey on Medical School Enrollment
Top 10 Specialties Filled by U.S. Seniors in NRMP in 2011

<table>
<thead>
<tr>
<th>Specialty</th>
<th># U.S. Seniors</th>
<th>% of U.S. Seniors</th>
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<tr>
<td>Internal Medicine</td>
<td>2940</td>
<td>19%</td>
</tr>
<tr>
<td>Pediatrics</td>
<td>1768</td>
<td>11%</td>
</tr>
<tr>
<td>Medicine - Preliminary</td>
<td>1503</td>
<td>10%</td>
</tr>
<tr>
<td>Family Medicine</td>
<td>1301</td>
<td>8%</td>
</tr>
<tr>
<td>Emergency Medicine</td>
<td>1268</td>
<td>8%</td>
</tr>
<tr>
<td>Surgery</td>
<td>897</td>
<td>6%</td>
</tr>
<tr>
<td>Obstetrics - Gynecology</td>
<td>893</td>
<td>6%</td>
</tr>
<tr>
<td>Transitional</td>
<td>811</td>
<td>5%</td>
</tr>
<tr>
<td>Anesthesiology</td>
<td>671</td>
<td>4%</td>
</tr>
<tr>
<td>Psychiatry</td>
<td>640</td>
<td>4%</td>
</tr>
<tr>
<td>Other</td>
<td>2896</td>
<td>19%</td>
</tr>
<tr>
<td>Total U.S. Seniors Matched</td>
<td>15,588</td>
<td>100%</td>
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</table>

Source: Advanced Data Tables: 2011 Main Residency Match
### Unmatched Applicants in the NRMP, 2007-2011

<table>
<thead>
<tr>
<th>Applicants</th>
<th>2011</th>
<th>2007</th>
<th>%</th>
<th>#</th>
</tr>
</thead>
<tbody>
<tr>
<td>US MD Seniors</td>
<td>971</td>
<td>1005</td>
<td>-3.4%</td>
<td>-34</td>
</tr>
<tr>
<td>Previous Graduates of U.S. MDs</td>
<td>764</td>
<td>691</td>
<td>10.6%</td>
<td>73</td>
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<tr>
<td>Osteopaths</td>
<td>617</td>
<td>516</td>
<td>19.6%</td>
<td>101</td>
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<tr>
<td>U.S. Citizen Students/IMGs</td>
<td>1885</td>
<td>1347</td>
<td>39.9%</td>
<td>538</td>
</tr>
<tr>
<td>Non U.S. Citizen Students/IMGs</td>
<td>3938</td>
<td>3812</td>
<td>3.3%</td>
<td>126</td>
</tr>
<tr>
<td><strong>All Applicants</strong></td>
<td>8203</td>
<td>7430</td>
<td>10.4%</td>
<td>773</td>
</tr>
</tbody>
</table>

Source: Advanced Data Tables: 2011 Main Residency Match
Squeeze in GME is Already Happening

Results from NRMP 2002 - 2011

Unfilled PGY-1 Positions

U.S. Seniors Unmatched to PGY-1 Positions

NRMP
National Resident Matching Program

AAMC
NRMP 2011: 971 Un-Matched US MD Seniors and 1,035 Un-Filled PGY 1 slots

<table>
<thead>
<tr>
<th>Specialty</th>
<th>Offered</th>
<th>Filled</th>
<th>Unfilled</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surgery - Preliminary (PGY-1 Only)</td>
<td>1179</td>
<td>735</td>
<td>444</td>
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<tr>
<td>Family Medicine</td>
<td>2708</td>
<td>2555</td>
<td>153</td>
</tr>
<tr>
<td>Medicine- Preliminary (PGY-1 Only)</td>
<td>1900</td>
<td>1771</td>
<td>129</td>
</tr>
<tr>
<td>Internal Medicine (Categorical)</td>
<td>5121</td>
<td>5065</td>
<td>56</td>
</tr>
<tr>
<td>Pediatrics (Categorical)</td>
<td>2482</td>
<td>2437</td>
<td>45</td>
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<tr>
<td>Pathology</td>
<td>518</td>
<td>476</td>
<td>42</td>
</tr>
<tr>
<td>Transitional (PGY1- Only)</td>
<td>952</td>
<td>919</td>
<td>33</td>
</tr>
<tr>
<td>Psychiatry (Categorical)</td>
<td>1097</td>
<td>1068</td>
<td>29</td>
</tr>
<tr>
<td>Anesthesiology</td>
<td>841</td>
<td>820</td>
<td>21</td>
</tr>
<tr>
<td>Medicine- Primary</td>
<td>286</td>
<td>269</td>
<td>17</td>
</tr>
<tr>
<td>Obstetrics- Gynecology</td>
<td>1205</td>
<td>1192</td>
<td>13</td>
</tr>
<tr>
<td>Radiology-Diagnostic</td>
<td>144</td>
<td>136</td>
<td>8</td>
</tr>
<tr>
<td>Emergency Medicine</td>
<td>1607</td>
<td>1602</td>
<td>5</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>23,421</strong></td>
<td><strong>22,386</strong></td>
<td><strong>1035</strong></td>
</tr>
</tbody>
</table>

The total number of unfilled positions (1035) includes the following specialties which are not listed above: Dermatology, Family Med- Preventative Med, Medicine-Dermatology, Medicine – Pediatrics, Medicine- Psychiatry, Neurological Surgery, Neurology, Orthopedic Surgery, Otolaryngology, Pediatrics-Medical Genetics, Pediatrics-P M & R, Pediatrics-Preliminary, Physical Medicine & Rehab, Preventative Medicine, Psychiatry-Neurology, Radiation Oncology, Surgery (Categorical), and Vascular Surgery.

Source: Advanced Data Tables: 2011 Main Residency Match
Ratio of Residents and Fellows (ACGME and OGME) to Medical School Students (MD and DO), AY2007-08

The number of students enrolled in allopathic schools was obtained from the AAMC Data Warehouse: STUDENT file. The figures represent maximum enrollment, including people who are on leave of absence. The number of students enrolled in osteopathic schools was obtained from the American Association of Colleges of Osteopathic Medicine, accessed online at www.aacom.org on September 26, 2007. The number of residents on duty in ACGME programs was obtained from JAMA. 2008;300(10):1228. The number of residents on duty in OGME programs was obtained from JAOA. 2009;109(3):135-145. Prepared by AAMC Center for Workforce Studies May 29, 2009.
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Primary care survey

- Conducted in late 2009, pre-reform passage
- Co-sponsored by AMA, ACP, AAP, AAFP, AACOM, AAMC
- National survey with oversampling in Mass., rural areas
- Response rate lower than anticipated: 38%
- Findings are still instructive, if perhaps not generalizable
Primary care capacity is not at its limit

- I am looking to increase my panel size significantly.
- I am looking to increase my panel size a little.
- My panel size is about right.
- My panel size is larger than I would like but I am accepting new patients.
- My panel is closed to new patients.
For most, non-emergency waiting times are within a few days.
Over 40% of primary care physicians regularly work with an NP and/or a PA
Level of interest in PCMH mixed

- Currently recognized as PCMH by NCQA: 3%
- Intending to seek NCQA recognition in the next year: 9%
- Interested in PCMH, but need more info or time to decide: 41%
- Interested in PCMH, but not planning to seek recognition by NCQA: 23%
- Not interested in PCMH: 23%
A third or fewer using team-based approaches to care

- Identified practice team exists: 33%
- Regular meetings of practice team: 16%
- Practice team shares responsibility for care: 31%
What Primary Care Physicians Would do if Faced with a Surge in Demand

Source: AAMC 2009 Physician Survey on Primary Care; “If your principal practice site were to experience a significant increase in demand for health services, such as from health care reform, how likely is it that you would consider any of the following:”

- **Hire support staff**
  - Very Likely: 10%
  - Somewhat Likely: 52.7%

- **Hire physicians**
  - Very Likely: 20%
  - Somewhat Likely: 46.5%

- **Hire NPs**
  - Very Likely: 15%
  - Somewhat Likely: 43.7%

- **Lengthen time between f/u visits**
  - Very Likely: 10%
  - Somewhat Likely: 41.1%

- **Work longer hours**
  - Very Likely: 20%
  - Somewhat Likely: 38.5%

- **Hire PAs**
  - Very Likely: 10%
  - Somewhat Likely: 33.6%

- **Shorten visit time**
  - Very Likely: 10%
  - Somewhat Likely: 33.4%

- **Not accept new patients**
  - Very Likely: 15%
  - Somewhat Likely: 32.1%

- **Use e-mail visits**
  - Very Likely: 10%
  - Somewhat Likely: 13.2%

- **Use group visits**
  - Very Likely: 10%
  - Somewhat Likely: 13%
What PCPs Think Society Should Do To Meet Surge in Demand

Source: AAMC 2009 Physician Survey on Primary Care: “On a scale of 1 (significant potential) to 5 (no potential), please rate the potential of the following strategies to expand the U.S. health systems capacity to meet a future increase in demand without compromising quality:”
Projected FTE Supply of PAs in Clinical Practice in the US, 2010-2020

Source: AAMC Center for Workforce Studies, Preliminary Projections
Unclear if Team-based Care is More Efficient

• **Group Health**
  
  Average patient panel decreased from 2,300 to 1,800.

• **Bethesda Naval**
  
  Each medical home team serves about 3,000 patients:
  
  2 internal medicine physicians
  1 physician assistant
  1 care manager (RN)
  3 LPNs
  2 AAs
Better Data, Better Projections, Better Decisions

UME/GME exposures and training
- Community based clerkship/residency
- Medical home
- Team based care
- Patient safety
- Socio-economic determinants of health

Practice
- Hours worked
- Payment models
- Practice configurations
- Efficiency
- Quality
- Patient preferences
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Medical Education Reports

- MedPAC (June 2010)
  http://www.medpac.gov/chapters/Jun10_Ch04.pdf


- Carnegie Foundation (2010)

- Macy Foundation (2011)
Key Workforce Questions

• When is enough enough in terms of medical school enrollment?

• Will there be continued growth in GME?

• What impact will team based medicine and other new care models (ACOs, HIZs, medical home) have on productivity/efficiency?

• What is the work hour trajectory over a physicians career? Is the new generation of physicians different?

• What has the greatest impact on quality and efficiency? Education or practice environment?
**Key Workforce Questions**

- Do we know what medical schools and hospitals are the most efficient providers of UME and GME? How would we determine that…what metrics …cost and outcomes?

- How do we incentivize students to enter needed specialties?

- IRB ratio/ inpatient Medicare admissions…are these really as relevant in an ambulatory focused environment for formula funding?

- Is debt and compensation adversely shaping our medical workforce?
What we recruit for in medical school

• Scholarship
• Drive
• Conscientious
• Disciplined
• Communicates effectively
• Often those who have excelled in a sport, been elected to office or have held a leadership position perform well in medical school
Work underway...

- Holistic admissions process
- Revision of the MCATs
- Emphasis on ACGME Core Competencies
- Reeducating faculty and the role of mentoring
- Addressing the hidden curriculum
The “ideal medical student”

- Again and again throughout my surgery rotation, I entered the OR to receive the following reception: The scrub nurse would roll her eyes and sigh heavily, as if to underscore the fact that my presence was a burden. The resident and attending would continue their work and personal gossip without acknowledging my presence, except when a piece of suture string required cutting, a task befitting a medical student. If I didn’t pounce on my duty quickly enough they’d say: “Aren’t you paying attention?” After I cut the string they’d add “That was too short,” “You hold the scissors wrong,” or something equally cordial.
The “ideal”

• By the time I started my surgery rotation several months later, I had already learned too well that medical students are expected to surrender all individual uniqueness to the role of medical student.

• My inner dialogue began to sound like something out of a self-help book from the ‘70s: You’re OK, Amy. You’re a still a human being. You’re still special.
Quality Reporting

University of Illinois in Chicago

• The University of Illinois at Chicago's Institute for Patient Safety Excellence received a $3 M grant funded by the U.S. Department of Health and Human Services, to study how Chicago-area hospitals respond when a patient is harmed.

• The new process is designed to improve doctor/patient communication, promote quick action to deal with a patient when he or she is harmed and learn from any and all past mistakes.
Duke PCMH/ CC of NC

• North Carolina and Duke University have been experimenting with the concept of medical homes for many years. In 1998, North Carolina’s Medicaid program starting supporting physician-led networks to offer medical homes to Medicaid enrollees. The program was highly successful both in improving overall health and in saving money. By paying doctors $2-3 a month per Medicaid enrollee to more closely manage care, the Medicaid system saved $60 million in 2003 and $120 million in 2004.

• Physicians, nurses, nurse practitioners and physician assistants are trained not only in how to prevent and treat disease but also how to engage patients and manage their care between visits and care settings. Medical, nursing and physician assistant students attend team-based learning sessions together.

• In the Family Medicine Residency Program, physicians are trained in team-based healthcare, chronic disease management, community engagement, leadership and quality measurement and improvement.
Organizing for change
Virginia Mason

• Applied “Lean” to the issue of resident rounding efficiency
• Created standards for inpatient encounter
• Two day event
• Five residents, two attendings
• Six simulations
<table>
<thead>
<tr>
<th>Time</th>
<th>Intern A</th>
<th>Intern B</th>
<th>Resident</th>
<th>Attending</th>
</tr>
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<tr>
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Pre-rounding time per patient = 105 min / 7 = 15"  
Staffing time per patient = 135 min / 14 = 9'30"  
Total time per patient = 24'45"

Batch and Queue

© 2009 Virginia Mason Medical Center
Pre-rounding time per patient = 150 min / 7 = 21'15"
Staffing time per patient = 195 / 14 = 13'45"
Total time per patient = 35'

One Patient at a Time
© 2009 Virginia Mason Medical Center
New innovative approaches

• Incentivizing Residents to achieve specific quality and utilization goals: Robert Baron M.D. Associate Dean for GME and CME, UCSF

• Residents were eligible for up to $1200 in incentives for hitting performance goals in 3 areas…institution wide areas and program specific

• Avg resident earned approx $750

• [http://www.medschool.ucsf.edu/gme/residents/incentives.html](http://www.medschool.ucsf.edu/gme/residents/incentives.html)
**Patient Satisfaction:**
For the period of June 2010-July 2011, on the patient satisfaction survey likelihood of recommending question, maintain an annual average mean score of 90.5.

**Patient Safety and Quality:**
For the period of July 2010-June 2011, achieve 85% hand hygiene compliance for at least six of twelve months.

**Lab Utilization:**
By June 2011 residents will decrease by 5% the aggregated utilization of common laboratory tests (defined as tests/inpatient day). Common tests will include, CBC, CBC with differential, electrolytes (Na, K, Cl, CO2, HCO3, Mg, Ca, Phos), BUN, Cr, AST, ALT, total bilirubin, alkaline phosphatase and albumin.
Regardless of the model....more work still be to done to

**Goal**
- Decrease cost growth rate
- Decrease administrative costs
- Decrease variations in care
- Reduce medical errors
- Make better decisions about end-of-life care

**Strategy**
- Provide residents with real time cost of care data
- Include residents in system reengineering teams
- Agree on what can be standardized and what can not in the educational environment
- Create a safe place for reporting
- Teach residents that it is important to know when not to do something as it is to know when to intervene
Healthcare and our training is shifting

From
• Focus on the individual
• Accountable to the practice
• Focus on illness
• Anecdotal evidence
• Hospital/physician centric
• Paying for units of service

To
• Focus on the population
• Accountable to the public
• Focus on the spectrum of health
• Evidence based standards
• Patient centered
• Paying for outcomes
Behaviors are shifting

From
• Individual achievement
• Valuing fund of knowledge
• Autonomy
• Leading
• Procedural skill

To
• Interprofessional collaboration
• Valuing the quality of interaction
• Team based activities
• Leader as follower
• Empathy and communication
Pathway to transformation

1. Provide current state assessment and gap analysis (R4R 1.0)
2. Build capacity for health care delivery transformation (R4R 2.0)
3. Identify care innovations and rapidly disseminate for adoption (HOMERUN)
4. Fast track quality through data sharing and practice improvements
5. Pilot new care delivery models: HIZs/ACOs
6. Test new payment models
7. Redefine community commitments and patient engagement
8. Build capacity for health care delivery transformation (R4R 2.0)

AAMC
The Challenges

• You cannot change your destination overnight, but you can change your direction overnight."

• Jim Rohn

• It is not necessary to change. Survival is not mandatory.

• W. Edwards Deming