U.S. Plans to Increase the Medical Workforce

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North Carolina Institute of Medicine
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Data From

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Center for Workforce Studies
Association of American Medical Colleges

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Overview of Presentation

Part I – Update on the Medical Workforce

Part II – Issues in Expanding Enrollment

Part III – Shift to New Models of Care
Number and Source of Physicians Entering Training in 2004

24,012 Entered MD and DO Training in 2004

- **Osteopathic Graduates**
  - 2,756 (11%)
  - Osteopathic Graduates in MD Programs: 1,471 (6%)
  - Osteopathic Graduates in DO Programs: 1,285 (5%)

- **IMGs**
  - 6,013 (25%)
  - US IMGs: 1,300 (5%)
  - Non-US IMGs: 4,713 (20%)

- **Allopathic Graduates**
  - 15,099 (64%)

- **Other**
  - 144 (0.6%)

* Total IMGs = 6,013; Distribution among US and Non-US IMGs is estimated.
+ Includes Canadian Graduates (72)
Source: AAMC GMETrack and AOA Master File
Allopathic Graduation Trends

Source: AAMC Data Book, AAMC Facts
Prepared by AAMC, Center for Workforce Studies, Jan 2006
Osteopathic Graduation Trends

Sources: 2004 Annual Report on Osteopathic Medical Education

*2010-11 Osteopathic graduates projection is extrapolated from AACOM 2003-06 projections of enrollment
PA Pipeline, 1980-2005

Source: AAPA
Number of US-IMG Matches in the NRMP, 1983-2004

Source: AAMC
Cumulative Number of Caribbean Medical Schools by Year of Establishment

Source: List of Caribbean Medical Schools (http://www.valuemd.com/index.php) & ECFMG's IMED
Active Physician Age Distribution
1983 and 2003

Prepared by AAMC Center for Workforce Studies, Jan 2006
The Per Capita Number of Physicians in the US is Lower Than Most Developed Countries
Physicians Per 100,000, 2000

Prepare by AAMC Center for Workforce Studies, Jan 2006.
Demand for Physician Services
Key Factors Influencing Future Demand for Physician Services

- Population growth ↑
- Aging of the population ↑
- Public expectations ↑
- Economic growth of the nation ↑
- National investment in health care interventions ↑
- Advances in medicine leading to improved diagnosis and treatment ↑↓
- Changes in organization, delivery financing ↑↓
- Efforts to weed out unnecessary/marginally beneficial services ↓
- Cost containment efforts ↓
The Nation is Growing by 25 Million per Decade

Source: U.S. Bureau of Census Annual Population Estimates by Age Group, Sex, selected Year for 1990-2000; Interim Projections Consistent with Census 2000
Prepared by AAMC, Center for Workforce Studies
The Eleven Most Costly Medical Conditions Are Far More Prevalent Among the Elderly, US 2000

<table>
<thead>
<tr>
<th>Condition</th>
<th>Treated Prevalence per 100,000</th>
<th>Spending (millions of dollars)</th>
<th>% in total health care spending</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heart disease</td>
<td>6,226</td>
<td>56,700</td>
<td>9%</td>
</tr>
<tr>
<td>Trauma</td>
<td>12,338</td>
<td>41,100</td>
<td>7%</td>
</tr>
<tr>
<td>Cancer</td>
<td>3,348</td>
<td>38,900</td>
<td>6%</td>
</tr>
<tr>
<td>Pulmonary conditions</td>
<td>15,526</td>
<td>36,500</td>
<td>6%</td>
</tr>
<tr>
<td>Mental disorders</td>
<td>8,575</td>
<td>34,400</td>
<td>5%</td>
</tr>
<tr>
<td>Hypertension</td>
<td>11,382</td>
<td>23,400</td>
<td>4%</td>
</tr>
<tr>
<td>Diabetes</td>
<td>4,260</td>
<td>18,300</td>
<td>3%</td>
</tr>
<tr>
<td>Arthritis</td>
<td>6,966</td>
<td>17,700</td>
<td>3%</td>
</tr>
<tr>
<td>Back problems</td>
<td>5,092</td>
<td>17,500</td>
<td>3%</td>
</tr>
<tr>
<td>Cerebrovascular disease</td>
<td>854</td>
<td>15,000</td>
<td>2%</td>
</tr>
<tr>
<td>Pneumonia</td>
<td>1,370</td>
<td>12,600</td>
<td>2%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>312,000</strong></td>
<td></td>
<td><strong>50%</strong></td>
</tr>
</tbody>
</table>

Prepared by AAMC Center for Workforce Studies
Visit Rates are Higher and Growing for Those Over 45
Ambulatory Care Visits to Physician Offices and Clinics, 1980-2003

Prepared by AAMC Center for Workforce Studies
Physician Visits Will Rise Significantly Due to the Aging and Growth of the Population:
26% if visit Rates Stay at the 2000 Level

Sources: NAMCS, 1980, 1990 & 2002
US Census, Projected Population of the United States, by Age and Sex: 2000 to 2050
Prepared by AAMC Center for Workforce Studies
If Visit Rates Continue to Rise as They Did between 1980 and 2000, Visits to Physicians Will Rise Very Sharply by 2020

Sources: NAMCS, 1980, 1990 & 2002
US Census, Projected Population of the United States, by Age and Sex: 2000 to 2050
Prepared by AAMC Center for Workforce Studies
Unmet Need Already Exists--30 million people

Primary Medical Care Health Professional Shortage Areas (HPSAs)

Source: HRSA/AAFP
Recent State Studies with Findings of Shortages

- California, 2004
- Mississippi, 2004
- North Carolina, 2004
- Texas, 2002
- Wisconsin, 2004
- Arizona, 2005
- Georgia, 2005
- Kentucky, 2005
- Massachusetts, 2005
- Michigan, 2005
- Oregon, 2005
Recent Specialty Specific Studies with Findings of Shortages

- Critical Care, 2000
- Pediatric Subspecialties, 2000
- Endocrinology, 2002
- Geriatric Medicine, 2003
- Neurosurgery, 2003
- Psychiatry, 2003
- Allergy and Immunology, 2004
- Cardiology, 2004
- Dermatology, 2004
- Medical Genetics, 2004
- Radiology, 2004
Part II

Medical School Enrollment: Challenges to Expansion

Results of the 2004 and 2005 AAMC Surveys of US Medical School Plans
Strategies to Increase the Supply of Physicians

1. Increase US medical school enrollment and graduations
   - Expand existing schools
   - Add new ones
   - Support a more diverse physician workforce
   - Address barriers to expansion

2. Increase number of IMGs entering training
   - Growing concern over brain-drain

3. Retain active physicians longer

4. Increase productivity and effectiveness
Allopathic Schools 2005 Plans to Increase First-year Enrollment between 2005 and 2011
(116 of 125 schools)

- Definitely or Already Increased 24% (28)
- Probably 16% (19)
- Possibly 16% (18)
- Probably Not 33% (38)
- Definitely Not 10% (12)
- Not Sure 1% (1)
Potential barriers to Enrollment Expansion: % of Respondents with Major or Very Significant Problem, 2005-06

Available scholarships for students: 50%
Costs of expansion: 45%
Limited classroom space: 44%
Limited lab space: 36%
Limited ambulatory preceptors: 32%
Limited clinical training sites: 32%
Limited clinical faculty: 27%
Limited library and study space: 21%
Regulatory/accreditation requirements: 11%
Limited basic-science faculty: 10%
Quality of applicants: 5%
Extent of Concern With Adequacy of Applicant Pool by Size of Enrollment Expansion

(n = 118 out of 125 Allopathic Schools)
30% Growth Requires An Additional 4,000 Allopathic Matriculants by 2015
Methods for achieving the increase:

- Increase class size – Texas A&M
- New sites– Nevada; New Mexico
- New schools - Florida
Other Difficulties

- Money
- Space
- Faculty
Potential Solutions

- **Money**
  - New state support
  - New federal support?

- **Space**
  - Construction
  - Use of newer teaching methods
    - Web-based education
    - Simulators

- **Faculty**
  - Expansion beyond traditional faculty
    - Large community hospital
    - Sometime small ones (Harvard experiment)
But...

Just training more doctors is not enough...

We need different doctors...
Diversity

Source: Cohen, J: 21st Century Challenges for Medical Education; 9th International Medical Workforce Conference; Melbourne, Australia; November 2005
Student Interest in Generalism

Family Practice, General Internal Medicine, or General Pediatrics
AAMC Medical School Graduation Questionnaire

Source: Cohen, J: 21st Century Challenges for Medical Education; 9th International Medical Workforce Conference; Melbourne, Australia; November 2005
Part III
New Paradigms of Care

The individual ——> The community
Acute disease dominates ——> More chronic illness/disability
Episodic care ——> Continuous care
Cure of disease ——> Preservation of health
Reactive ——> Prospective
Physician provider ——> Teams of providers
Paternalism ——> Partnership with patients
Provider centered ——> Patient/family centered
Parochial health threats ——> Global health threats

Source: Cohen, J: 21st Century Challenges for Medical Education; 9th International Medical Workforce Conference; Melbourne, Australia; November 2005
New Models of Care

- Cost indifference → Extreme cost consciousness
- Anecdotal care → Evidenced-based medicine
- In-patient focused → Ambulatory/home centered
- Solo/small groups → Integrated systems
- Quality assumed → Performance is measured
- Trust assured → Trust must be earned

Source: Cohen, J: 21st Century Challenges for Medical Education; 9th International Medical Workforce Conference; Melbourne, Australia; November 2005
Wagner Chronic Care Model

Community
Resources and Policies
Self-Management Support

Health System
Health Care Organization
Delivery System Design
Decision Support
Clinical Information Systems

Improved Outcomes

Informed, Activated Patient
Prepared, Proactive Practice Team

Productive Interactions
### Time for Care

<table>
<thead>
<tr>
<th>Type of visit</th>
<th>Hours per day</th>
<th>Type of visit</th>
<th>Hours per day</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute</td>
<td>4.3</td>
<td>Acute</td>
<td>4.3</td>
</tr>
<tr>
<td>Chronic</td>
<td>2.8</td>
<td>Chronic</td>
<td>10.6</td>
</tr>
<tr>
<td>Preventive</td>
<td>1.2</td>
<td>Preventive</td>
<td>7.4</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>8.3</strong></td>
<td><strong>Total</strong></td>
<td><strong>22.3</strong></td>
</tr>
</tbody>
</table>

*Panel of 2,500 patients with age, sex, and disease rates of the U.S. population*
New Models of Primary Care

Old

EMRs
Disease Registries
FPs
PAs/NPs
RD

FPs

New

School Health Programs
Occupational Health Programs
Case Managers