FOUNDATIONS OF MEDICINE
HEALTH MANPOWER AROUND THE WORLD

• Or, what have I gotten myself into?
• Health Manpower as a Global Phenomenon
• Medical Education and Residency Training in the U.S.
• Future policy directions in an unplanned system

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WHO IS THE 1%?

• According to the N.Y. Times, 1-15-12, IT’S YOU!
• Physicians are the largest single occupational group within the 1% (more than 20% of the 1% group), totaling 192,268 people
• Geography plays a distinct role– a physician in Macon, GA. Is much more likely to be in the top 1% in her/his community than in NYC
• The above analysis is based on INCOME, not WEALTH

http://www.unacarreritadoctor.com/

http://tulane.edu/news/newwave/121911_bowties.cfm
Roadmap

• Overview of physician migration issues and trends
• Economic perspectives
• Ethics perspectives
• Implications on physician workforce policy

Introduction

• Focus is on physician migration, but only one type of migration – “brain drain”
• “Brain drain”
  Designates the international transfer of resources in the form of human capital
  Mainly applies to the migration of relatively highly educated individuals from developing to developed countries
  Physicians, engineers, scientists, and others
• Helps increase supply of skilled workforce in high income countries, but viewed as a serious constraint on the development of poor countries (and also some European countries!)

Background: health workforce as a global health concern

• An educated, effective workforce is an essential component of global health systems strengthening

• “Global movements of people, pathogens technologies, financing, information, and knowledge underlie the international transfer of health risks and opportunities. We are increasingly interdependent in terms of key health resources, especially skilled health workers” Frenk, et al, 2010

Background: health workforce as a global health concern (2)

• Stark disparities exist in the burden of disease, the availability of medical education, and the availability of physicians and other health workers
How big is the brain drain?

- About one quarter of physicians in US, Canada, and Western Europe are trained overseas
- “Push” and “pull” factors at work to drive physician migration

**Physicians trained abroad working in OECD countries**

![Bar chart showing physicians trained abroad working in OECD countries](chart.png)
Physician migration trends

- Long-term trends over the past 25 years show the number and percentage of IMG have increased significantly in most OECD countries (Table III.4 in Dumont and Zum).

- With increasing burden of chronic shortages of physicians and nurses, importation is likely to increase. “Push” and “pull” factors (drivers) will continue to be forces conducive to physician migration.

Some source countries have explicit strategies to promote emigration

- India and the Philippines have deliberate strategies to promote migration of nurses.

- Examples of countries promoting physician emigration – China, Cuba, India and the Philippines.

- OECD countries also have special immigration practices to facilitate the migration of highly skilled health professionals.

From brain drain to brain gain?

- “It is a good thing for rich countries to integrate a skilled and talented workforce, and the move is also worth while from the perspective of the individual migrant. However the return to human capital is likely to exceed its private return given the many externalities involved.” Docquier and Rapoport (2006).

- Externality argument in early the brain drain economic literature: brain drain entails significant losses for those left behind and contributes to increased inequality.

From brain drain to brain gain?

- Reversal of argument: prospect of migration may increase incentives to study.

- Under certain circumstances in a series of recent theoretical papers, this can be turned into a gain for the source country. Some empirical evidence: Beine et al. (2006) found a positive and significant effect of migration prospects on human capital formation in a cross-section of 127 developing countries (study not focus on physicians).

- What matters is how many remain at home?
Impacts of physician migration

**Destination country**
- Decreased shortages of physicians, particularly in rural areas (+)
- High qualified workforce (+)

**Source country**
- Increased shortages of physicians, more limited availability of health care services (-)
- Remittances, decline in poverty (+)
- If physician returns, significant skills and experience back to country (+) – not common
- “Perverse subsidy” to wealthy country (+ and/or -)

Evidence of impacts on source countries

- Need for physicians in developing countries outstrip numbers of immigrant physicians in OECD countries, implying that international migration is not the biggest cause of physician shortages
- All African-born doctors and nurses working in OECD represent no more than 12% of the total estimated shortage for the region

Evidence of impacts on source countries (2)

- On one hand, some countries have particularly high emigration rates. Some of these have very low density of physicians, indicating a worrisome situation
- On the other hand, for large origin countries such as India or China, physician emigration does not seem to have affected domestic density, at least not at an aggregate levels

Summary thus far

- Brain drain neither the main cause nor would its reduction be the main solution to the world wide health human resources crisis
- Nevertheless, international migration is likely to exacerbate situation in some countries – but more of a symptom of domestic conditions
- Brain drain has some feedback effects, and there is an argument that immigration possibilities increase the incentives for medical training
ETHICS AND PHYSICIAN MIGRATION
Global Considerations

How we view ethical dilemmas

- A broadened sense of awareness of global ramifications of ethical decision making
- Traditionally the breadth of one’s analysis extended only to one’s own borders

Ethical value – utility & justice

- The obligation to balance ethical principles in achieving the greatest good for the greatest number in resolving an ethical dilemma
- The obligation to act in a fair and impartial manner in making decisions in such areas as the allocation of limited resources and/or services; benefits or burdens; risks or costs

The World Health Organization code of conduct

- Adopted on May 21, 2010 by the World Health Assembly of the World Health Organization.
- Only the second such code adopted in the organization’s history.
- Its objective is to establish and promote voluntary principles and practices for the ethical international recruitment of health personnel and to facilitate the strengthening of health systems.
Global workforce crisis

- The WHO asserts that “increasingly inequitable access to health care can result from these movements [of migrating health personnel from developing to developed countries]. The WHO Report 2006 highlighted a global shortage of almost 4.3 million health personnel and identified 57 countries, most of them in Africa and Asia, facing a severe shortage of health personnel. Increased migration adds to these shortages.”

WHO, 2010

A balancing of rights

- The exporting nation
- The receiving nation
- The individual health professional
- The global community in recognition of disease as a global burden/threat

Specific problems of remote/rural areas

- One of the most complex challenges for policymakers is to ensure that people living in rural and remote locations have access to trained health workers. Although approximately half the global population currently lives in rural areas, these areas are served by only 38% of the total nursing workforce and by less than one quarter of the total physician workforce (WHO, 2006)

Access to primary care is a global problem

“If a supposed ‘problem’ has not been significantly ameliorated in any of 20 or more countries, maybe American failures are not due to American institutions. Maybe the problem is really, really hard. As my mentor, Aaron Wildavsky, commented to me, ‘even Stalin and Beria couldn’t get doctors to move to the countryside.’”

Joe White, Professor
Case-Western Reserve
Nature of the code’s authority

- It is a recommended standard of behavior for nations and other actors.
- They are commonly adopted as formal resolutions of intergovernmental organizations, and most are non-binding.
- They create norms, or expectations, for future behavior.
- In short, they are VOLUNTARY in nature

WHO Code, 2010

A case example: Ethiopia’s response

- Current ratio of physicians to population is one to 37,000; the WHO target is one to 10,000 people
- Ethiopia has adopted a “flooding strategy”
- Since 2004, 9 public, 1 army, and 2 private medical schools have opened
- Focused on producing general practitioners
- Limitation on growth is availability of faculty, many of whom are imported from India, Sudan, and Nigeria as a temporary measure
- Bonus compensation paid to physicians willing to practice in rural and underserved Ethiopia
- Source: Abraham Haileamlak, MD, Dean, Jimma University

E+E=P

- Economics plus Ethics equals policy
- The case examples of the UK and the US: A study in contrasts

The UK – Deliberate Policy

- In 2001 the Department of Health, England adopted a code of practice for international recruitment of health professionals.
- The Code required NHS employers not to actively recruit from low income countries, unless there was government-to-government agreement (as in the case of China, India, and the Philippines in 2007 amendments)
Results of the UK code
• Buchan and colleagues found a considerable reduction in inflow of health professionals; from peak years up to 2002 for nurses and 2004 for physicians--multiple reasons for the decline are cited, including decline in UK demand
• In the specific instance of Ghana and Kenya; active recruitment from the UK was significantly reduced-- but it is not clear whether this resulted from the Code or reduced demand --Buchan, et al; Human Resources for Health; April 9, 2009

Challenges to medical professionals
• Gaps and inequities in health within and between countries
• New infectious, environmental, and behavioral threats superimposed on rapid demographic and epidemiological transitions
• Significant increase in chronic conditions
• Patients more proactive in health seeking ways
  Frenk, 2010

Dynamic professional boundaries
• The “Division of Labor” varies country to country
• Continuous struggles across professional boundaries (witness MDs vs. Osteopaths vs. Chiropractors in U.S.)
• Barriers created by formal licensure; credentialing of providers
• Role of informal providers outside health occupational structure

Little standardization across nations
• An MD in China may receive professional practice degrees with 3, 5, 7, or 8 years of post-secondary education
• Nearly 1 million village doctors have only vocational training (apprenticeship) in China; India has about 1 million uncredentialed rural practitioners
• A U.S. RN may be licensed with 2, 3, or 4 years of post-secondary study
Little relationship between medical graduates/supply

• Also found in case of nursing
• WHY?
• Unemployment of graduates
• Non-degree holders performing this work
• International migration (India to US for physicians; nurses from Philippines and Caribbean nations to wealthier countries)
• Cuba’s explicit policy of training medical personnel to share with other countries

Frenk, 2010

Globalization of professional education

• One global pool of health professional talent
• Global labor markets result in professionals on the move crossing national borders and creating global communities of expertise
• World Health Organization has approved a “Code of Conduct” for international migration of professionals (www.who.int/hrh/migration/code/practice/en)

Role of wealthy countries

• With increasing burden of chronic shortages of physicians and nurses, importation is likely to increase
• About one quarter of physicians in US, Canada, and Western Europe are trained overseas
• US citizens receiving training abroad are subsidized by US loans at $315 million per year

The US – fluctuation policy at best, no policy at worst

• The US has largely relied on market mechanisms in workforce policy
• 1994-95 Health services researchers predict acute surplus of physicians as a result of managed care
• 1997--- Balanced budget amendments freeze Medicare financed residency position at current level of US medical school graduates plus 10 per cent
• 1999– Wall Street Journal reports on unemployed graduates of University of Washington Anesthesia residency
• 2002– Physician shortage predicted; AAMC encourages 30% expansion of medical school classes and the establishment of new medical schools
• 2010– PPACA creates Health Workforce Commission
The US bottleneck --- residencies

- Some 18,000 medical students matriculate at US Medical schools, with 4 new schools in 2009 and 150 added slots in 12 existing schools
- BUT: 110,000 resident positions in the US; funded by the Medicare program to the tune of $9.1 billion annually for resident costs, supervision, and higher operating costs of teaching hospitals
- This payment stream was capped by Congress in 1997 at the then current level plus 10%
- Despite lobbying from physician groups to adjust this number upward, it was removed from PPACA

U.S. will continue to experience shortages

- AAMC projects a shortage of 150,000 physicians in next 15 years
- Even with new medical schools and increased class sizes, “it will probably take 10 years to even make a dent in the number of doctors we need out there”– Atul Grover, American Association of Medical Colleges
  
  Wall Street Journal, 4-13-10

PHYSICIANS NEEDED PER 100,000 Population, 2008

- ORGANIZATION
  - PRIMARY
  - SPECIALIST
- Staff/group HMO 65.9 80.5
- IPA 55.9 68.5
- Managed FFS 61.6 109.4
- Open FFS 64.8 115.3

GROUP MODEL HMO COVERED LIVES PER MD

<table>
<thead>
<tr>
<th>TYPE OF PRACTICE</th>
<th># OF ENROLLEES</th>
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<tbody>
<tr>
<td>Family Med/General IM</td>
<td>2250</td>
</tr>
<tr>
<td>PEDS</td>
<td>6000</td>
</tr>
<tr>
<td>OB/GYN</td>
<td>7000</td>
</tr>
<tr>
<td>GENERAL SURGERY</td>
<td>15000</td>
</tr>
<tr>
<td>ANESTHESIOLOGY</td>
<td>17000</td>
</tr>
<tr>
<td>RADIOLOGY</td>
<td>20000</td>
</tr>
<tr>
<td>ORTHOPEDICS</td>
<td>20000</td>
</tr>
<tr>
<td>MENTAL HEALTH</td>
<td>20000</td>
</tr>
<tr>
<td>OPHTHALMOLOGY</td>
<td>25000</td>
</tr>
<tr>
<td>ENT</td>
<td>35000</td>
</tr>
<tr>
<td>DERMATOLOGY</td>
<td>35000</td>
</tr>
<tr>
<td>CV SURGERY</td>
<td>35000</td>
</tr>
<tr>
<td>GI</td>
<td>50000</td>
</tr>
<tr>
<td>NEUROSURGERY</td>
<td>150000</td>
</tr>
</tbody>
</table>

SOURCE– NEJM, Special Report 1993

SUBSTITUTABILITY OF NP’S and PA’S?

- Widely viewed as an alternative source of manpower, especially at primary care provision
- Physician extenders or quasi-autonomous practitioners?
- Encouraged in medical home discussions
- Examples within closed panel systems such as Kaiser-Permanente
- Licensure and scope of practice limitations
- Tension with organized medicine—AMA’s recent objection to “Doctor” titles for degree holders of doctor of nursing science

THE CASE OF THE FELDSCHER IN THE FORMER USSR

- All citizens guaranteed health care as a right in Soviet constitution
- Feldscher, or medical assistant, became a primary source of manpower in rural communes
- Well accepted by citizens, and high satisfaction reported, but….
- Studies by Batistella in 1970s indicated that when physicians became available citizens asked that the feldscher be replaced by a physician

![Physician compensation by country](chart.png)
Financial and healthcare resources by country

<table>
<thead>
<tr>
<th>Country</th>
<th>GDP per capita 2002-2006 estimates in USD</th>
<th>Number of persons per physician, 2004</th>
<th>Nurses per 1,000 persons, 2001-2004</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brazil</td>
<td>8800</td>
<td>485</td>
<td>3.84</td>
</tr>
<tr>
<td>Canada</td>
<td>35600</td>
<td>476</td>
<td>9.95</td>
</tr>
<tr>
<td>China</td>
<td>7700</td>
<td>673</td>
<td>1.05</td>
</tr>
<tr>
<td>France</td>
<td>31000</td>
<td>296</td>
<td>7.24</td>
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<tr>
<td>Ghana</td>
<td>2700</td>
<td>21086</td>
<td>0.74</td>
</tr>
<tr>
<td>India</td>
<td>3800</td>
<td>1853</td>
<td>0.8</td>
</tr>
<tr>
<td>Mexico</td>
<td>10700</td>
<td>734</td>
<td>0.9</td>
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<tr>
<td>Nigeria</td>
<td>1500</td>
<td>3069</td>
<td>1.03</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>31800</td>
<td>492</td>
<td>2.57</td>
</tr>
<tr>
<td>United States</td>
<td>44000</td>
<td>334</td>
<td>9.37</td>
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Conclusion

- US physician workforce policy assumes continued reliance on international medical graduates for the foreseeable future
- The role of the National Workforce Commission, although already appointed as a result of PPACA 2010, is unclear at this time as a result of blocked appropriations to carry out its work
- The Future? The more things change, the more they remain the same
GOING TO MEDICAL SCHOOL IN THE U.S.
100 years of reform

The Turn of the Century Medical School
• Might or might not require any college education to get in
• Ideally, would have a library, laboratory, and a faculty
• But, don’t assume any of the above

Pre-Flexner
• Some US medical schools were located within universities (Penn 1765, Harvard 1782, Columbia 1807, Yale 1813, Tulane 1834);
• But many were little more than poorly supervised apprenticeships

Abraham Flexner’s Momentous Report of 1910
• Commissioned by the Carnegie Foundation
• Flexner, a prominent educator, toured and inspected all existing 148 medical schools in the U.S.
• His scathing report called for the closure of many schools as educationally deficient
• Two years later he embarked on a similar study of European medical schools and their curricula
A Sample: California Medical College, Oakland, CA

“The school occupies a few neglected rooms on the second floor of a 50 foot frame building. Its so-called equipment is dirty and disorderly beyond description. Its outfit in anatomy consists of a small box of bones and the dried up filthy fragments of a single cadaver…. A cold and rusty incubator, a single microscope, and a few unlabeled wet specimens form the so-called equipment for pathology and bacteriology.” (1909)

Flexner’s Assessment

“The School is a Disgrace to the state whose laws permit its existence”

TULANE

• High school diploma required for admittance.
• Budget $101,781.
• “New and excellent laboratories are provided for the work of first and second years (Located on fourth floor of current Tulane building). The professors in charge (17) represent modern ideals and are enthusiastically engaged in reconstructing the entire school on progressive lines.”
• Flexner saw Tulane’s potential as second only to Vanderbilt for quality medical education in the South.

HIS PRESCRIPTION AND RESULTS

• Medical schools under university control with paid full time faculty; education based on scientific principles, and access to teaching hospitals modeled on the ideal of Johns Hopkins School of Medicine (1876)
• Many schools closed, reducing the number of medical schools from 148 to 86
• The South and historically African-American Schools of medicine were especially adversely impacted by Flexner’s suggestions
• The Carnegie Foundation made large grants to universities to encourage adoption of its ways
MIDCENTURY: A STAGNANT PICTURE

• Few new medical schools were developed (notable exceptions: LSU-NO, 1932; UAB, 1946)
• Critics begin to encourage new medical school development as a result of access to care problems
• The American Medical Association did not support school expansion

THE EXPLOSION– 1960 to 1980

• Medical school enrollment more than doubles in this period
• NIH grants to medical schools increase from $11 million 1952 to $1.2 billion 1980.
• The enrollment in medical schools increases from 8101 in 1960 to 13247 in 1980 as number of schools increase from 86 to 126
• Problem based curriculum introduced at Case-Western becomes a national model.

FORTY NEW MEDICAL SCHOOLS 1960-1980

Notable Examples:
• LSU-Shreveport
• Penn State
• Mayo School of Medicine
• Brown
• SUNY-Stony Brook
• UC- Irvine, Davis, and San Diego

1990’s – FLAT GROWTH AGAIN

• Council on Graduate Medical Education (COGME) in 1994 report to Congress predicts dire physician surpluses as a result of managed care leading to unemployable doctors who are educated a great public cost
• (As an example, 1993 tuition at University of Wisconsin-Madison was $13000, with estimate annual costs per medical student of $43000)
2000’s – SHORT AGAIN!

- Scholars reverse earlier predictions, now foresee physician shortage – especially for primary care and general surgery
- Association of American Medical Colleges calls for class size increase of current schools of 30%
- In response, Tulane increases class size from 150 to 186

NEW SCHOOLS ARE ENCOURAGED

- There are now 134 accredited US Medical Schools
- They will soon be joined by UC-Riverside; UCF; Florida International; Florida Atlantic; Texas Tech-El Paso; Hofstra, Quinnipiac, and others
- In addition, 26 accredited schools of Osteopathic Medicine exist with more in planning phases

OTHER SOURCES OF DOCTORS

- International medical graduates:
  - US born but trained abroad
  - Foreign nationals (although limited to 10% of available residency training slots)
- These policies are currently proposed for discussion in Health Reform deliberations by the 15 member panel on health manpower mandated by the PPACA of 2010 (Commission is appointed but unfunded by Congress)

THE ACCESS PROBLEM

- University of Michigan Researchers suggest that the primary care physician workforce would need to grow by thousands to realize chronic care savings and efficiencies-
- Miller, et al, Medical Care, 11-11-10
- How does the law address this major objection?
IMPROVING ACCESS PROVISIONS

• 2010
• Health Centers and the National Health Service Corps:
• Permanently authorizes the federally qualified health centers and NHSC programs and increases funding for FQHCs and for the NHSC for fiscal years 2010-2015
• Funding appropriated 2010
• Source- Kaiser Family Foundation

IMPROVING ACCESS PROVISIONS

• Health Care Workforce Commission
• Established and members appointed September 2010 to coordinate federal workforce activities and make recommendations on workforce goals and policies
• Creates National Center for Workforce Analysis

IMPROVING ACCESS PROVISIONS

• 2011– Teaching Health Centers
• Establishes Teaching Health Centers and Provides payments for primary care residencies in community based ambulatory patient care centers.
• Funds appropriated for 5 years starting 2011

IMPROVING ACCESS PROVISIONS

• Graduate Medical Education
• Increases the number of GME training positions by redistributing currently unused slots and promotes training in outpatient settings
• Effective 7-1-10
QUALITY ISSUES ADDRESSED BY PPACA

- “Primary care is the backbone of preventive health care– PPACA creates a new prevention and public health fund designed to create the necessary infrastructure to prevent disease, detect it early, and manage conditions before they become severe”
- $500 million appropriated 2010

Source– HealthReform.gov

QUALITY SOLUTIONS PROPOSED BY PPACA

- Medical Homes
- Accountable care organizations (ACOs)
- Chronic disease management
- Enhanced communication among providers through information sharing (EHRs)
- Financial sanctions for quality lapses through reduced payments
- Bundling payments to align coordination of care and financial incentives

COST OF CARE ISSUES ADDRESSED BY PPACA

- Insurance reform issues top the list:
- No more exclusion for preexisting conditions
- Retention option for individuals through age 26 on parents’ plan
- Mandatory insurance provisions for health insurance coverage
- Mandatory benefit offering for defined employers
- Expansion of Medicaid safety net