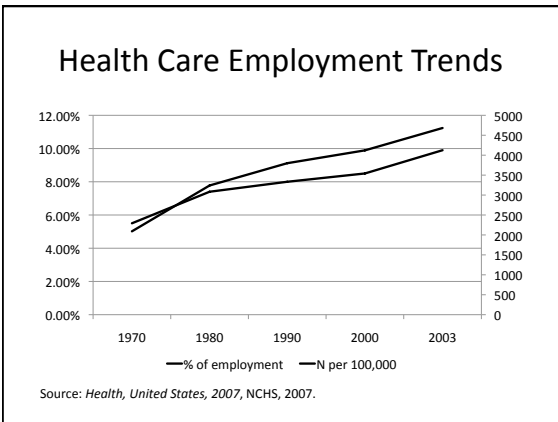


Health-Care Workforce

HPAM 7600



Makeup of Health Workforce in 2000

- Physicians: 8.0%
- Dentists: 1.9%
- Pharmacists: 2.3%
- Nurses: 23.4%
- Technicians, assistants: 54.0%

Source: Health, United States, 2007, NCHS, 2007.

Makeup of Health Workforce, 2000

- Offices/clinics of physicians: 11.4%
- Offices/clinics of dentists: 5.5%
- Offices/clinics of chiropractors: 1.0%
- Offices/clinics of optometrists: 0.8%
- Offices/clinics of other health practitioners: 1.2%
- Outpatient care centers: 6.3%
- Home health care services: 4.5%
- Other health care services: 8.4%
- Hospitals: 42.6%
- Nursing care facilities: 13.0%
- Residential care facilities, without nursing: 5.3%

Source: Health, United States, 2007, NCHS, 2007.

Physicians

- Surplus or shortage?
- Supplier Induced Demand
- Osteopathy
- International medical graduates
- Specialty Distribution
- Geographic Distribution
- Women and Minorities

1980 surplus → 2000 shortage

Reasons:

- Patients want choice so demand more physicians
- More women who work less than men
- Physician preferences to work less
- Population growth
- Aging of population

Projected shortages

- 2005: the Council on Graduate Medical Education recommends an increase of 3,000 medical school graduates by 2015 due to projected shortage of ~85,000 physicians in 2020
- 2006: DHHS projects shortfall of ~55,000 physicians in 2020. Shortages will be greatest in non-primary care specialties.

	Physicians per 1000 population in 2006
Mexico	1.9
Canada	2.1
Japan	2.1
United States	2.4
United Kingdom	2.5
France	3.4
Germany	3.5
Italy	3.7
Switzerland	3.8

Source: OECD

Arguments that the US doesn't need more physicians

- We need physicians to be more efficient, not more physicians
- Should have more physician substitutes or "extenders" in health care delivery, not physicians
- Will increasing physician supply result in better health outcomes? No strong evidence.
- "Pay for performance" movement will likely reduce demand for physician services

Supplier Induced Demand

- Do physicians create demand for their own services?
- SID: when a physician wants to increase his take-home pay, he just prescribes a few extra profitable tests or an extra follow-up visit
- If so, this would raise health care costs, and make physicians very inefficient producers of health

Implications of Surplus/Shortage Debate

- If shortage, US government should subsidize medical education more to encourage more students:
 - 20-25% of medical school is supported through direct subsidies and research
- If surplus, as people thought in the 1980s, subsidies should be reduced
 - In 1970, 44% of medical school was supported by government

New medical graduates

	% of new medical graduates
U.S. allopathic medical school (M.D.)	65%
U.S. osteopathic medical school (D.O.)	11%
U.S. citizens attending foreign medical schools (Caribbean for profit)	5%
International medical graduates	19%

Osteopathy

- In 2005, 6% of active physicians are osteopaths (D.O. instead of M.D.)
- Licensed to practice medicine and perform surgery in U.S.
- Osteopaths are trained to deal with body as a whole, instead of focusing on one part or system
- Attend osteopathic schools where they receive an additional 300-500 hours in the study of manipulation and the musculoskeletal system
- More likely to be primary care physicians, to locate in rural areas

International Medical Graduates

- In 2005, 24% of active physicians in US received medical degree outside of US
- IMGs fill gaps in care by practicing in specialties and locations where US grads do not
- “Pull effect”: IMGs are paid more in US than in their home countries – “Brain drain”

Specialty Distribution

	% of active physicians, 2002
Primary care specialties	37.3%
Medical specialties	7.5%
Surgical specialties	13.6%
All other specialties	41.6%

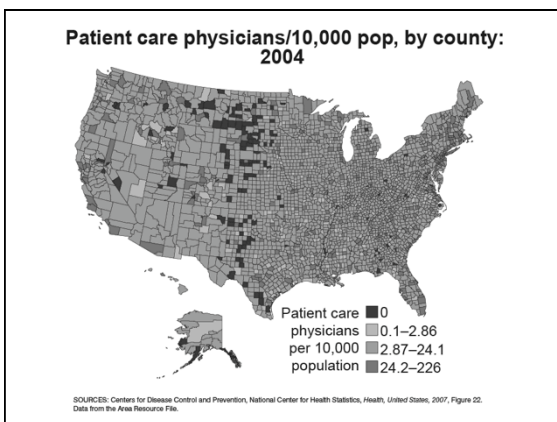
Source: Physician characteristics and Distribution in the U.S., 2004.

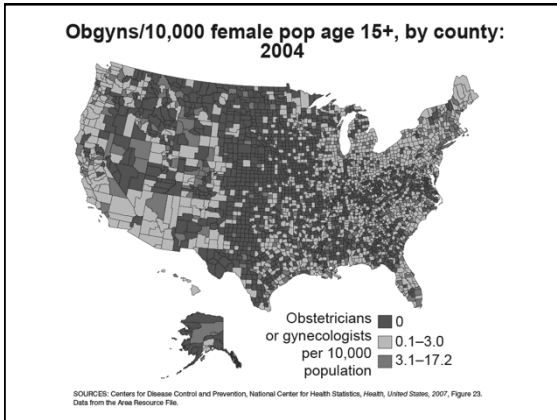
Primary care specialties includes general practice, family practice, general internal medicine, general pediatrics, and obstetrics/gynecology.

	Physician Average Compensation by Specialty
Family Practice	\$147,516
Pediatrics	\$149,754
Internal Medicine	\$160,318
OB-GYN	\$248,294
Cardiology	\$300,500
Neurosurgery	\$438,426
Cardiovascular	\$558,719

Geographic Distribution

- Few physicians in rural areas; in 2004:
 - 17% of US population live in rural areas
 - 9% of physicians were located in rural areas
- 50% of U.S. counties had no Ob-gyns
- Shortage may be just a distribution problem
- Efforts to improve distribution:
 - Loan forgiveness
 - National Health Service Corps
 - Rural health clinics





Women and Minorities

- Of active physicians:
 - 27% are women
 - 8% are Asian
 - 3% are Hispanic
 - 2% are Black
- Of medical students:
 - 49% are women
 - 21% are Asian
 - 7% are Hispanic
 - 7% are Black

Women and minorities

Diversity is important because patients are more comfortable and likely receive better care if gender/race/ethnicity is same

Dentists - stats

- There are 0.6 dentists per 1000 people (compared to 2.4 physicians per 1000)
- Growing number of women – 40% of first-year students in 2000/1 were women
- 36% of students were minorities in 2000/1

Dentists - financing

- <50% of US population has dental insurance
- Dental insurance is usually expensive because high risk of adverse selection – get insurance when have dental problem
- Very little federal funding for dental care
- Most dental care is paid out of pocket -- very sensitive to economic conditions

Dental care issues

- Underprovided care in US because of financing structure
- Dental health is indicator of and affects physical health
- Dental problems are concentrated among minority populations
- Aging population will increase demand for dental care

Public Health Professionals

Public health specialties:

- Epidemiology – e.g. assessing the incidence and prevalence of disease and trauma in populations
- Environmental health sciences – e.g. surveillance and control of environmental hazards and pollutants
- Health behavior and education – e.g. planning, implementing, and evaluating prevention, screening, and education programs
- Biostatistics – e.g. statistically analyzing risk factors
- Health policy and management – e.g. administration of public health agencies

Public health professionals

- 42 accredited schools of public health (only Emory and UGA in GA)
- Almost 20,000 students enrolled in programs in 2004/5
- 18% of students are from underrepresented minority groups (Af-Am, Hispanic, and N. Am)
- 70% of students are women

Public health professionals - trends

- Economic evaluation is growing field: greater call for cost effectiveness evidence in decision-making
- Disaster-management is important new role in public health
- Encompassing greater number of fields (physicians, nurses, pharmacists, dentists, vets, EMTs, economists, psychologists, etc.)

Nurses

- Largest group of licensed health care professionals (2.7 million in 2000)
- Only 5.4% are men, but 11% of nursing students are men
- 12% are minorities, but 19% of students are minorities
- Major employer is hospitals (2/3 of RNs)

Nursing Education

- Education of active registered nurses:
 - B.S. degree – 30%
 - A.A. degree – 40%
 - Hospital nursing diploma – 30%
 - Current students:
 - B.S. degree – 36%
 - A.A. degree – 59%
 - Hospital nursing diploma – 5%
- Increasing education of nurses

Nursing Shortage

- 20% of workforce = 540,000 nurses needed in 2015 (compare to 85,000 physicians)
- Reasons for shortage:
 - Nursing school capacity is too low because few nursing professors
 - Aging of RN workforce
 - Earnings are low and conditions are poor
 - More job opportunities for women

Pharmacists

- In 2003, 196,011 active pharmacists
- 50% of active pharmacists are women, and 67% of first-year students are women
- 32% of graduates are minorities
- Main degree is PharmD
- 2/3 practice in retail pharmacies
- Increasing demand b/c aging pop and increasing usage of drug therapies
- However, technology may increase productivity so current supply of pharmacists is sufficient

Physician Assistants

- PAs are physician “extenders” – can diagnose, manage, and treat common illnesses, can prescribe medicine in many states
- In 2005, there were 55,000 active PAs
- 34% work in communities of <50,000 people
- 60% of PAs are women
- Only 12% of PAs are minorities

Advanced Practice Nurse

- Nurse practitioner – can prescribe medicine in most states
- In 2004, there were 106,000 NPs
- Specialties:
 - Certified Nurse Midwives
 - Certified registered nurse anesthetists
 - Clinical nurse specialists

PA/NP issues

- Regulations about what authorities they have
- Reimbursement policies need to adjust so that not only physicians can receive reimbursement – limits PA/NP practice
- Competition with physicians

Wages by occupation, 2005

- Pharmacists: \$42.62/hr
- Physician Assistants: \$34.17
- Dental hygienists: \$29.15
- Nurses: \$27.35
- EMTs/Paramedics: \$13.68
