

# **Why The U.S. Needs More Sub-specialists**

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# Rationale

- Assumed: managed care (capitated staff model HMO's) will dominate market
- Staffing ratio of physicians to patients will equal ration in 1980's for staff model HMO
- Thus: physician surplus, most pronounced among specialists

# Effect on Physician Supply 1980-2000

- 1980-2000
  - U.S. population increased by 24%
  - U.S. medical school graduates increased by 11%
  - 16,172 graduates in 1980;17,953 in 2000
  - number of U.S. medical school graduates per 100,000 people decreased from 7.1 to 6.4 in 2000
  - number of foreign medical school(fms) graduates in U.S. increased from 94,995 in 1980 to 178,048

# Rationale

- Cooper: increases in health care expenditures are an outcome of income increases associated with economic expansion
- Income effect= increases in income, all else equal, increase the demand for goods and services
- Assumes that the U.S. economy will grow at an average annual real (inflation adjusted) rate of two percent

# Effect on Physician Supply 2000-2025

- 2000-2025
  - Increase in demand reaches maximum and then sharply declines as boomers die
  - Long lag from initiatives to expand medical school and residency training and entries into practice
  - Will the lag create a long term surplus??
  - The effect of changes in technology
  - Changes in the role of non-physician professionals
  - Homeland security and foreign medical school graduates

# The Arizona Physician: 2004

75% in private practice

44% over 50 years old

72% board certified

24% women

? Patient care work hours?

? Retirement plans?

? Planning to relocate and why?

# Determinants of Physician Supply

- Income
- Support facilities/other professionals
- Debt repayment
- Workload
- Dual career opportunities
- Community characteristics



# Malpractice and Physician Supply

- Conventional wisdom high malpractice premiums are forcing physicians to retire and/or leave high risk specialties
- The Nevada experience
- The GAO studies of the crisis states
- Malpractice premiums in Arizona

# Problems with Ratios

- Number of physicians not equal to supply of physician services
- Needs of patients for care not equal to number of patients

# Physician Workforce vs. Supply of Physician Health Care

- Number of practicing physicians
- Productivity of physicians
- Mix of primary/specialty physicians
- Locations of physicians
- Patients' access to care

# Number of Patients vs. Needs for Care

- Characteristics that affect incidence of health conditions (age, gender, etc.)
- Characteristics of the environment that affect the incidence and severity of health conditions (e.g., air pollution)
- Characteristics that affect the types of health conditions that occur (case mix)

# Why Should We Expand All Specialties?

- Models to project physician supply and demand(which we'll examine later) are often sensitive to assumptions regarding the characteristics of the future healthcare system
- Well..... This is a little hard to predict these days
- Factors leading to potential underestimates of physician requirements include

# Why Would We Underestimate physician requirements accidentally?

- Underestimates by the U.S. Census Bureau of actual population growth
- Overestimates of the proportion of population insured through plans with aggressive managed care practices
- Underestimates of increased per capita use of physician services over time

# Sub-Specialists Can't Be Skimped on

- While retail health clinics (RHC) and other non-physician clinician staffed venues, may have an impact on primary care physician practices, they will not touch sub-specialists
- In fact, if the public is saving money by going to a RHC they may have more time and money to pursue MORE care by sub-specialists

# The Current State of Affairs (HRSA Physician Supply & Demand: Projections 2020)

- In the year 2005, there were 817,000 active physicians under the age of 75 in the U.S.
- About 1/3 of these are either family physicians, general internists, pediatricians.
- The remaining 2/3 are specialists

# State Reports- (Association of American Medical Specialties Aug 2007 Report)

Since 2002, there have been 15 studies of current or future state physician workforce needs. Nearly all of these studies point out shortages in sub-specialties including: allergy & immunology, cardiology, child psychiatry, dermatology, endocrinology, neurosurgery and psychiatry.

# Specialty Specific Studies

- Recent workforce studies indicate that we face current and future shortages in a wide array of specialties. In addition to potential shortages in primary care specialties, as the population ages, the demand for specialists that provide care for patients over 65 will increase significantly. As indicated by a number of the studies below, the aging of the population is expected to contribute to shortages in many of these specialties.

# Osteopathic Medicine Stats

- AOA has turned over care for the Majority of Specialty Training and Care to the Allopathic Profession
- It is at a time when the Majority of Incentives for Medicine are for Specialty Care
- Over 54% of D.O. Graduates today are getting ACGME training, Many Sub-Specialty Training
- Of Dual Trained Programs, only 20% of IM Grads take D.O. Boards (ACOI)

# Osteopathic Profession Stats

- Only 9 Gastroenterology programs in U.S
- If you exclude Michigan, NJ and Florida, there are only 3 left in entire U.S.
- For Pulmonary-Critical Care, there are 6 Programs in the U.S.
- If you exclude Michigan, NJ, and Ohio, there are NONE left in the U.S.

# Osteopathic Profession Stats

- 17 Diagnostic Cardiology Programs
- If you exclude 4 states (Florida, Michigan, NJ, Ohio) This leaves 5 total programs in Entire US for diagnostic Cardiology treating the leading cause of death in the U.S.
- Of these 17 Diagnostic programs, Only 5 offer interventional cardiology.

# Sub-Specialty Stats:

- **Allergy and Immunology (2000) Shortage within Next Ten Years**
- there will be a shortage of allergist/immunologists within the next ten years. Demand is rising and the supply of new physicians will not be able to keep pace with the current retirement rate of practicing allergists and immunologists and unable to meet the projected increase in demand.

# Sub-Specialty Stats:

- **Anesthesia (2003) There is a current shortage of anesthesiologists.**
- There was not enough data to determine with confidence how demand for anesthesiologists would change in the coming years. If demand increases above 1.5%, the authors project a continued shortage through 2015

## Sub-Specialty Stats:

- **Cardiology (2004)** there will be a 20% decrease in the age-adjusted supply of cardiologists at the same time we will see a substantial increase in the incidence and prevalence of cardiovascular disease due to the aging of population and the epidemic of obesity.
- **Child Psychiatry** despite the decades-long projection of an increasing utilization of child and adolescent psychiatry services and an undersupply of child psychiatrists, the actual growth and supply of child and adolescent psychiatrists has been very slow.

# Sub-Specialist Stats

- **Critical Care Workforce (2006)** demand for intensivists will continue to exceed available supply through the year 2020 if current supply and demand trends continue.
- **Dermatology (2004)** there is an inadequate supply of dermatologists to meet the demand for services. Nearly half of practicing dermatologists believe their community could use more dermatologists. One third are recruiting new associates and new graduates are readily able to find jobs.

## Sub-Specialist Stats

- **Emergency Medicine (2006)** In 2006, the IOM released a series of three reports on the future of emergency medicine concluding that emergency departments and ambulatory services are overburdened, under-funded, and highly fragmented. Patients face long waits in overcrowded emergency rooms and often needed on-call specialists are not available. A significant contributing factor is that more and more patients are turning to emergency departments for care because of lack of insurance, for after-hours care, or due to limited options in rural communities.

# Sub-Specialist Stats

- **Endocrinology (2003)** the supply of newly trained endocrinologists will not be sufficient to offset retirements and future increases in demand. As it stands, current demand exceeds supply by 15% and the aging of the population compounded with physician retirements will exacerbate the situation.

## Sub-Specialist Stats

- **Geriatric Medicine (2004)** a severe and worsening shortage With only 7,000 practicing geriatricians we are currently only meeting 35% of estimated need. The Alliance for Aging Research estimated that another 14,000 geriatricians are needed to adequately care for the existing elderly population. By 2030, they estimate the need to more than double to 36,000. However, 26% of geriatric medicine GME slots are unfilled, and 54% of geriatric psychiatry slots are not filled.

# Sub-Specialist Stats

- **Medical Genetics (2004)** the medical genetics workforce situation is critical. As the scope of practice for geneticists increases beyond rare pediatric disorders and becomes increasingly relevant to common health concerns (including some forms of cancer and a number of neurological and cardiovascular disorders), declining numbers of physicians are going into the field. 58% of clinical genetics GME slots are unfilled.

## Sub-Specialist Stats

- **Neurosurgery (2005)** a severe decline in the number of active neurosurgeons and a static supply of residents. The number of practicing neurosurgeons has declined while at the same time there has been a significant increase in the demand for neurosurgeons.

## Sub-Specialist Stats

- **Oncology (2007) Oncology Moving to a State of Acute Shortages in 2020** the nation will face a shortage of oncologists if current cancer rates and practice patterns continue. Demand is projected to increase by 48% by 2020 due to the growth in the aged population and to the increasing number of cancer survivors. Supply is only projected to increase by 14% by 2020 due to physician retirements and limited expected growth in the number of oncology fellowship training slots.

# Sub-Specialist Stats

- **Pediatric Subspecialties (2003)** A recent review of the pediatric rheumatology workforce found that many children with juvenile arthritis and other serious autoimmune conditions are often forced to seek care from adult specialists because of a lack of adequately trained pediatric providers.

# Sub-Specialist Stats

- **Psychiatry (2003)** The average age of practicing psychiatrists is 55.7 and the percentage under 40 dropped from 24% in 1989 to 8% in 2002. Additionally, analysis of the Professional Activities Survey data reveals reductions in the average number of hours worked per week and in the percent of time psychiatrists spend in direct patient care.

# Sub-Specialist Stats

- **Rheumatology (2007)** ≍ In a 2007 Arthritis and Rheumatism article, the authors predict substantial excess in demand relative to the supply of rheumatologists between 2005 and 2025. The nation is facing an increasing prevalence of musculoskeletal diseases due to the growth and aging of the population at a time when the supply of rheumatologists is not projected to increase.

# Arizona

- The 2005, The Arizona Workforce Study concluded that while the growth in physician workforce has outpaced the increase in population over the past 10 years, a number of specialties have decreased in numbers, including allergists, cardiovascular surgeons, endocrinologists, gastroenterologists, hematologists and infectious disease specialists.

# The Market for Physicians

- Characteristics of competitive labor markets
- The labor market for other professionals
- Are physicians special?
- Why so much intervention in the market for physicians?
- Why aren't shortages/surpluses self-correcting?

# IMGs and their implications

- Over 5,000 IMGs are accepted into U.S. GME programs each year. Foreign IMGs with a J visa can participate in the J-1 Visa Waiver Program, which allows physicians to remain in the U.S. if they agree to provide primary care services in HPSAs for at least 3 years after residency.
- This helps to relieve any shortfalls in primary care but does not positively impact sub-specialist numbers

# Physician Supply Model (PSM)

- The PSM produces national projections of physician supply for 36 specialties.
- The PSM is an inventory model that tracks the supply of physicians by age, sex, country of medical education, type of degree, medical specialty and primary activity (patient care or non-patient care).

# PSM

The PSM projects the future supply of physicians based on:

- The number of physicians in the preceeding year(starting with the year 2000)
- Number of new USMGs and IMGs
- Attrition due to retirement, death & disability

# Supply & Demand (according to the PSM)

- Over the next 15 years, requirements for physician services will grow faster than supply especially for sub-specialist services (Physician Supply & Demand: Projections 2020, HRSA, 10/06)
- These projections helped influence the Association of American Medical Colleges (AAMC) decision to encourage growth in the nation's medical school training capacity by 15% or 3,000 physicians per year.

## Projected Growth Rates (HRSA Physician Supply & Demand: Projections 2020)

- If current supply trends continue the number of primary care physicians in patient care is projected to grow 18% between 2005 and 2020
- The number of non-primary care physicians will grow at a rate of only 10%

# Current Physician Workforce

- During the past 3 decades the proportion of medical school graduates has risen from 10% to nearly 50%
- We haven't seen this phenomenon completely yet because
  - 1 in 3 active male physicians is age 55 or older only 1 in 8 active female physicians in 55 or older
  - The conclusion is that due to retirement patterns and specialty choice differs between males and females this has a profound impact for overall supply of physician services

# Female Physicians

- Female physicians are more likely than their male counterparts to choose non-surgical specialties
- If we focus on only growing primary care specialties then we're going to have even fewer sub-specialists due to the growing female physician workforce

# Alternative Scenarios

- Baseline projections assume that patterns of healthcare use and delivery of care remain unchanged over the projection horizon and that changing demographics are the primary driver of changes in physician requirements
- The HRSA report on Physician Supply & Demand suggested 4 alternative patterns

# Growing Role of Non-Physician Clinicians (NPCs)

- This scenario assumes that the # of NPCs will increase by 60% and provide services once performed by physicians
- By the year 2020, under this scenario, physician requirements would be 90,000 less than baseline projections
- Most services able to be provided by NPCs are primary care services thus having little to no effect on sub-specialist care and the demand for such care

# Economic Growth

- This scenario assumes that economic growth will allow the nation to afford a higher quality healthcare system. This new healthcare system will require more physicians and in particular, more specialists.

# Physician Productivity Increase

- Requirements are projected under this assumption that physician productivity will increase 1% per year. Projected physician requirements remain relatively constant through 2020 with 137,000 fewer physicians than projected under the baseline scenario

# Economic Growth Offset by Physician Productivity Increase

- Combining the previous 2 scenarios, the growth in demand for physician services due to economic growth is offset by the increased productivity of physicians resulting in projected requirements of 956,000 in 2020 (20,000 less than under the baseline scenario)

# Results of These Scenarios

- The physician requirements based on the previous 4 scenarios all call for approximately 200,000 more non-primary care than primary care physicians.

# Why these alternate scenarios?

- Models to project physician supply and demand are often sensitive to assumptions regarding the characteristics of the future healthcare system and whether current trends will persist.
- It is important to remember that the history of the U.S. healthcare system shows a system that is continually evolving.

# Conclusions:

- As the population ages, sub-specialists will continue to play a vital role
- The demand for sub-specialists **WILL NOT** be minimized by retail health clinics and other non-physician clinician scenarios
- Debt of Medical School Graduates-not serviced unless sub-specialist trained
- IMG'S supplementing Primary Care, **NOT** Sub-Specialty Care

# Conclusions:

- The growing number of female physicians are more likely to choose primary care specialties
- Sub specialists' roles are those that we can't go without due to the specific nature of their jobs
- Without them, important research will not take place to improve healthcare for future generations
- As D.O.'S, we Have to control all Specialties to control our Profession

# Sources

- Physician Supply & Demand: Projections to 2020; U.S. Department of Health & Human Services Health Resources & Services Administration Bureau of Health Professions; October 2006
- Recent Studies and Reports on Physician Shortages in the U.S.; Association of American Medical Colleges; Center for Workforce Studies; August 2007

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Thank You!

Questions?