International Medical Workforce Conference

Health Care Equity, Access, Poverty, and Workforce Diversity

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A. T. Coombs, MD
Chair, Workforce Diversity
AMA Commission to End Health Care Disparities
Vice President
Massachusetts Medical Society

"*Yet the problem is simple. We have a rich land: earth and water, minerals and vegetables of every sort; breath-taking scenery in mountain, ocean, river and vale. We have combed the races of earth for strength, intelligence and daring. All that is needed is that each of us do all we can first to supply…food and shelter, health and learning. But more than that: that we do for others what they need done and cannot do for themselves and yet must be done, lest we suffer. W.E.B Du bois 1953*

Overview

The U.S. economic status as reflected by the gross domestic product (GDP) suggests that our country should be a benchmark for developing strategies to address poverty, health care access, and equity. In 2006, according to the World Bank and the International Monetary Fund, the United States not only ranked number one in GDP, but its GDP was nearly one-third of the gross world product and greater than the sum of the next top four countries' GDPs (Japan, Germany, People's Republic of China and the United Kingdom).[2,3] However, when we examine key quality measures of a robust health care system, there is what I refer to as a *health care-resource gap*. This gap is reflected in a myriad of health statistics. For example, in the United States, the infant mortality rate is 6.8 deaths per 1,000 live births (2001), compared to Iceland's rate of 2.7 deaths per 1,000 live births. Life expectancy for women in the United States is 80.1 years (2003), compared to 85 years in Japan. In the United States, men's life expectancy is 74.8 years, compared to 79.7 years in Iceland. Lastly, maternal mortality in United States (2001) is 9.9 deaths per 100,000 births, compared to Switzerland's 1.4 deaths per 100,000 births.[1] While overall US maternal mortality increased to 12.1 deaths per 100,000 births, in 2003, maternal mortality for Blacks (30.1 deaths per 100,000) was more than three times greater than that for whites (8.7 deaths per 100,000). [1] In 2004, the U.S. life expectancy after birth and infant mortality rates ranked 42nd and 46th, respectively, out of 192 nations. Furthermore, when looking at infant mortality and life expectancy rates for Blacks and Hispanics, the data is even more discouraging given the nation's economic resources.

The U.S. health care system is in need of reform. In the past decade, publications in peer-reviewed journals across the United States speaking out against and calling for reform of a broken U.S. health care system have grown exponentially. A survey by Robert Blendon and colleagues (*move to references*) revealed that more than 75% of Americans viewed health care cost or problems with insurance and access to care as the most important problem in the

nation's health care system that government should address. [30] This paper will discuss the myriad socio-economic factors that contribute to health care access and health care equity, with a concentration on role of physician workforce dynamics in reducing racial and ethnic health care disparities.

Braveman and Gruskin define equity as "the absence of systematic disparities in health (or in the major social determinants of health) between groups with different levels of underlying social advantage/disadvantage —that is wealth, power, or prestige." They further emphasize that health care equity is "an ethical principle… [a] consonant with and closely related to human rights principles." While health care inequities have been observed for patients with disabilities, the mentally disordered, women, the elderly, and homosexuals, the literature revealing unequal treatment based on race is extremely compelling.[5,6,7]

Wealth in the United States is manifested in the uneven distribution of resources including health care access and equity. But it should be stressed that while lower socioeconomic status is a key factor that generally correlates directly with suboptimal health care access and equity, middle- and upper-class Blacks and Hispanics also suffer from glaring health care inequities despite socioeconomic status, educational level or insurance coverage. [36]

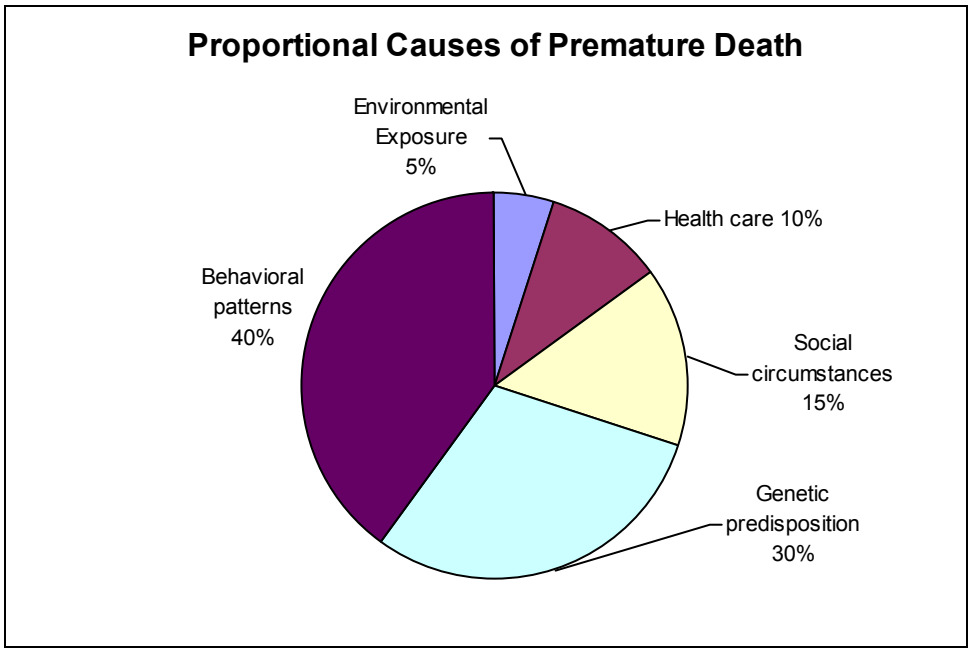
Racial and ethnic health care equity has been the focus of a cross section of American health care advocacy stakeholders in the form of multiple health care disparities (HCD) initiatives. In 2003, the American Medical Association Commission to End Health Care Disparities convened, and has focused on physician/health care provider awareness, education and training, racial data collection, and workforce diversity as key focal points in crafting strategies to decrease health care inequities. The business sector has also responded by evaluating and proposing key quality benchmarks for their employee Insurance programs. Both the National Medical Association and the National Hispanic Association have been instrumental in efforts to reduce health care disparities. Currently, a Federal Health Care Equity Bill is being filed by Senator Edward Kennedy. This will be the second attempt to comprehensively tackle health care inequities in the United States.

As the United States population surpassed 300 million in October 2006, Hispanics, African-Americans, and Asians consisted of 44.2, 40.3, and 14.9 million, respectively.[4] Racial diversity in the United States is constantly evolving to the extent that by 2010, Non-White Hispanics, African-Americans, and Asians are projected to make up 15.5%, 13.1%, and 4.65%

of the population, respectively. Further projections by the U.S. Census Bureau predict a nearly 50% composition of minority populations by 2050. The most rapidly increasing populations are the Non-White Hispanic and Asian groups. The changing demographics have changed the playing field for health care because of the socioeconomic, educational, and cultural barriers that exist in the United States for minorities. Leaping these hurdles introduces important factors in addressing health care inequities. Blacks and Hispanics are more likely to be uninsured, impoverished, and live in regions with environmental barriers and poor access to resources. Hence, we cannot ignore the impact of the emerging demographic landscape and how it directly influences health care access and equity.

Health disparities, to be distinguished from health *care* disparities, are the result of multiple etiologic factors that include not only health care services and systems, but also environmental and social contexts, or patient issues. As outlined by Schroeder, determinants of health and their percent contribution to premature death are as follows: behavioral patterns 40%, genetic predisposition 30%, social circumstances 15%, environmental exposure 5%, and health care 10% (Fig 1) [34]. In summary, social circumstances, environmental exposure, and behavioral patterns account for 60% of premature deaths. The majority of premature deaths are due to reversible, preventable, and health care literacy–related causes.[26]

Figure 1



Schroeder, S. We Can Do Better -- Improving the Health of the American People. N Engl J Med 2007 Sep 20;357(12):1221-8

Health disparities, while multidimensional, are reflected in average median income, uninsured status, educational level, urban dwelling, behavioral risk factors, and health care literacy. The National Institute of Health defines the term health disparity as "the differences in the incidence, prevalence, mortality and burden of disease and other adverse health conditions that exist among specific population groups in the United States."[9]

Health care disparities are further impacted by the rising cost of health care, which has increased by 100% since 2000, compared to a sum rate of inflation of 24% for the same period. The National Coalition on Health Care reported that in 2007, total health care spending represented 16% of the GDP, total national health expenditures were expected to rise 6.9%, and total spending reached $2.3 trillion or $7,600 per person (average).[11] There is a wide variation in health care expenditures. Despite efforts to achieve uniform health care coverage in the United States, some segments of our society are significantly wronged by severely inadequate funding allocation.

The changing U.S. population demographics have unmasked the resource differences that exist between races: Whites, Blacks, Hispanics, Native American, Asian and subsets, and age, geography, and cultural challenges. As one examines the impact of poverty on health care

access and equity as it relates to racial and ethnic groups, many complexities are unveiled. It is no surprise that national, state and local regions that are heavily populated experience greater deficits not only physician access but also hospital/healthcare facility access. Of note in South Los Angeles, California, the Martin Luther King Harbor Hospital closed its doors to residents normally receiving care there in the summer of 2007, forcing paramedics to have to transport patients 10-30 miles for emergencies. Unfortunately, in this area, 15 acute care hospitals have closed since 2000. With evidence based guidelines, the rate limiting factor of established time to care benchmarks, geographic resource restrictions eliminates these patients from beneficial interventions present in other communities. Difficulties in retention and recruitment of health care providers plague healthcare facilities and clinics in this area accompanied by the nation's lowest reimbursement rate and higher concentration non private insurance, more than 18% Medicaid and greater than 20% uninsured.

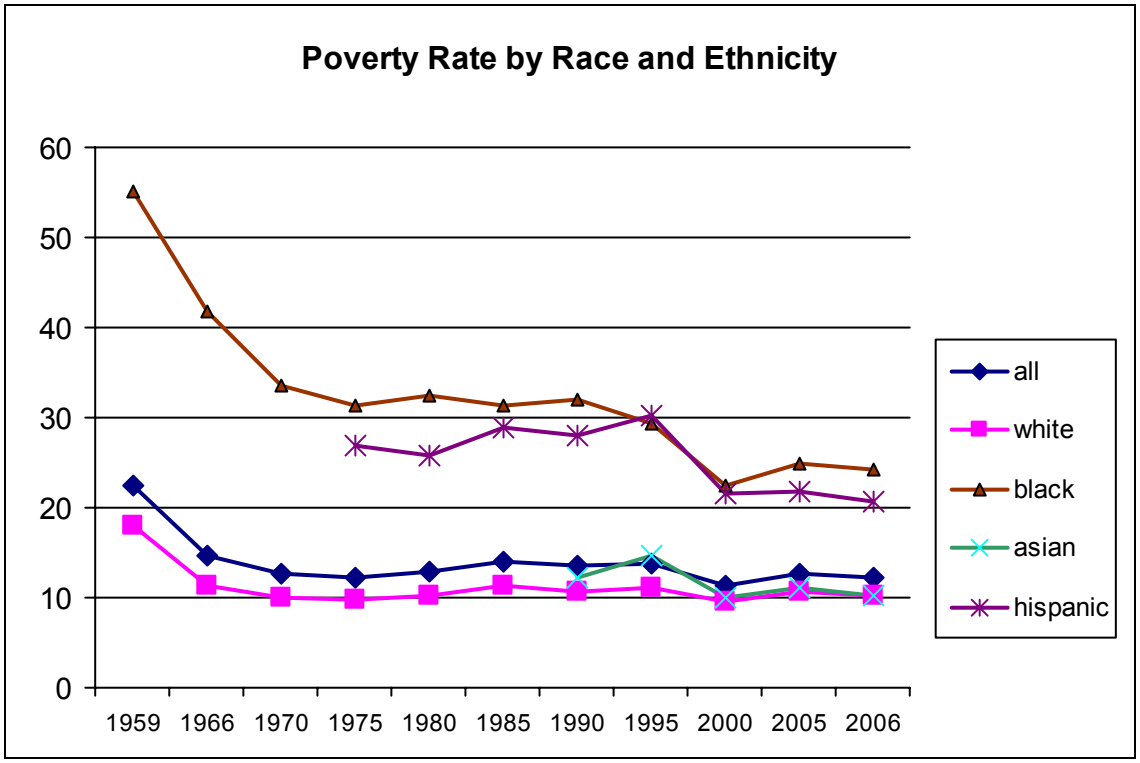
"Race and Place Matters" summarizes the findings of researcher Elliott Fischer and colleagues. Regarding race, they have indicated that from 2003 to 2005, Blacks in Louisiana, South Carolina and Mississippi were more than four times as likely as Whites to have a leg amputated. In addition, in terms of geography, the Diabetic screening rate was found to be higher among Blacks in Massachusetts as compared to Blacks in Colorado (88% versus 66%).(27) In 2006, physician to population ratio in Massachusetts was nearly 400/100,000 as compared to ratio of 172/100,000 in Mississippi. During the same period Massachusetts has twice as many primary care physicians as Mississippi**.** Poverty and physician /patient population's distributions seem to mirror each other geographically.

Poverty and Access

While the overall US poverty rate in 2006 was 12.3% (36.5 million persons in poverty) a small decrease from 12.5% in 2005, the 2006 poverty rates for Non-Hispanic Whites, Blacks, Hispanics, and Asians were 8.25, 24.3%, 20.6% and 10.3%, respectively. Interestingly, in 2006 Non-Hispanic Whites made up 66.1% of the general population and also represented 43.9% of people in poverty. While there is an overrepresentation of minorities in poverty (see Figure 2), there has been moderate improvement over time, as demonstrated by the poverty rate for Blacks decreasing from 55% in 1959 to 24% in 2006.

Poverty in the United States varies from state to state with an increase in the southern regions. Interestingly enough, the uninsured rate tends to overlap in the same geographic regions known as "the Crescent." The physician-to-population ratio is mirrored in similar geographic distribution. (Figure 4) In summary, the trends in these regions reflect gaps in health care access, equity, and disease severity and prevalence.

Figure 2



US Census Bureau. Income Poverty, and Health Insurance Coverage in the United States: 2006. http://www.census.gov/prod/2007pubs/p60-233.pdf

Table 1: Weighted Average Poverty Thresholds in 2006 by Size of Family[33]

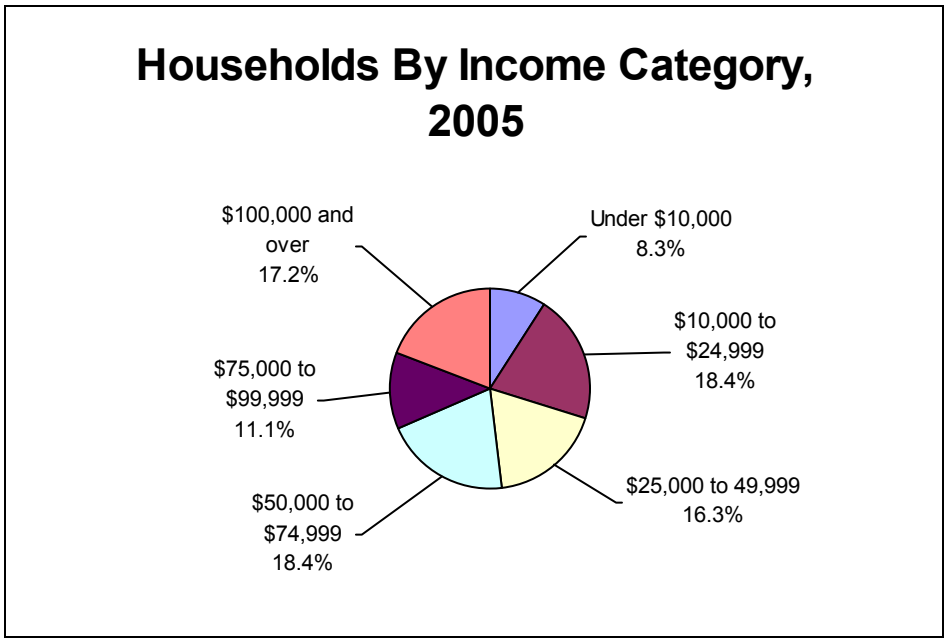
(Dollars)

One person	10,294
Two people	13,167
Three people	16,079
Four people	20,614
Five people	24,382
Six people	27,560
Seven people	31,205
Eight people	34,774
Nine people or more	41,499

US Census Bureau Income Poverty, and Health Insurance Coverage in the United States: 2006. http://www.census.gov/prod/2007pubs/p60-233.pdf

Median income is a predictor of health insurance status. (See Figure 7) In 2006, 89.2% of Non-Hispanic Whites were insured privately, by Medicaid, by Medicare, or through military insurance, and only 10.8% were uninsured. In comparison, the 2006 uninsured rates for Blacks, Hispanics, and Asians (including Pacific Islanders) were 20.5%, 34.1%, and 15.1%, respectively.

Figure 7



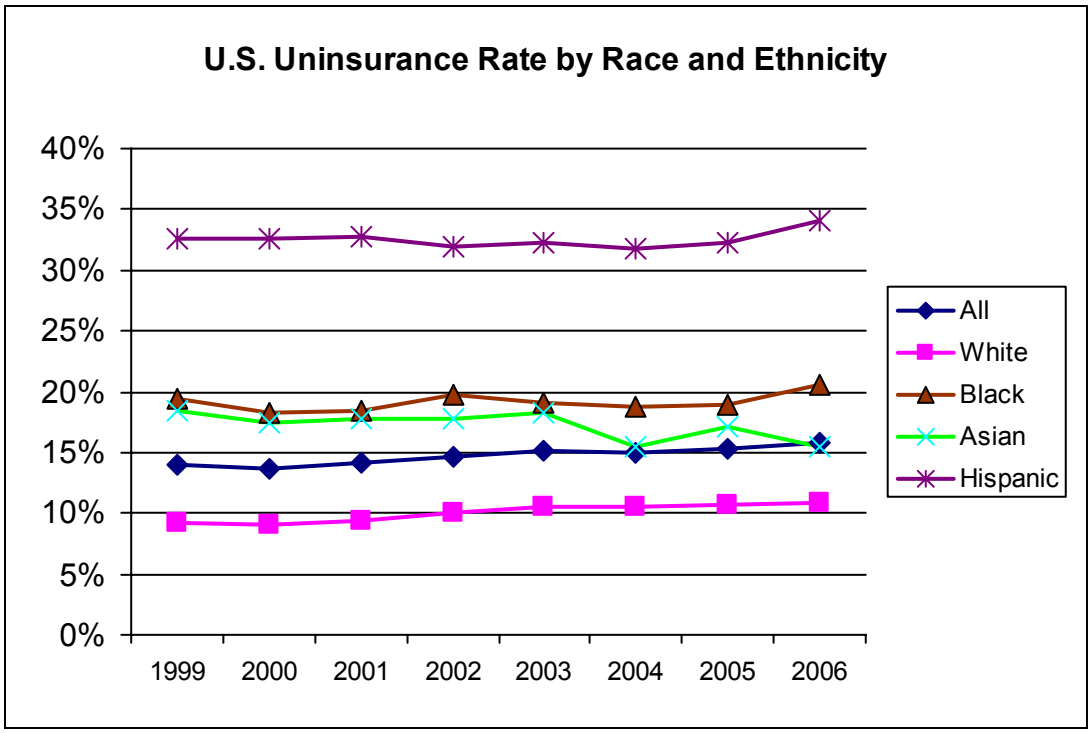
US Census Bureau. Income Poverty and Health Insurance Coverage-Percent Uninsured in the United States: 2006. http://www.census.gov/prod/2007pubs/p60-233

Of a total of 47 million uninsured in the United States, a disproportionate share, 25.8 million, represent minorities.[2] Approximately 50% of uninsured Blacks are at 100% of the federal poverty level (FPL), but some Blacks without insurance coverage are at 400% of the FPL. This correlates with a higher percentage of fair/poor health status. Of note, 70% of Non-Hispanic Whites and 60% of Hispanics are at greater than 200% of the FPL. From this data, it easy to understand how minorities may be more impacted by current resource allocations (i.e., payments for prescriptions, co pays, and payment of health care premiums). It becomes obvious that at 400% of the FPL, there are other mitigating factors resulting in uninsured status.

Poverty and Health Insurance

Of the 47 million uninsured, Non-Hispanic Whites, Blacks, Hispanics, Asians, and American Indians represent 21.2 million, 7.7 million (20% of Blacks), 15.3 million (32% of Hispanics), 2.05 million (16.1% of Asians) and .750 million (31% of Native Americans), respectively.[14] In terms of geographic distribution, the uninsured are concentrated in the southern and western regions and inside the metropolitan statistical areas. Because urban inner city areas have the highest minority populations in the United States, many have studied the effect of social and environmental influences on health care quality.[1]

Figure 3



US Census Bureau. Income Poverty, and Health Insurance Coverage in the United States: 2006. http://www.census.gov/prod/2007pubs/p60-233.pdf

Table 2

Health Care Expenditure in 2002	
Medicare	$6,784
Medicaid	$4,328
Indian Health Services	$2,130
Veterans Administration	$4,653
Other	$5,670
FEBH Benchmark	$2,980
Federal Prison Medical	$3,242

The average annual premium in 2007 (which increased 6.1%) for a family of four was $12,100, and the average premium for single coverage was $4,400.[12] Insurance premium costs have been sited as a deterrent for the uninsured, and yet health care and its cost are the majority of Americans' major economic concern.[13] The unparalleled increase in expense has permeated every aspect of health care, most notably in the Medicare and Medicaid system.. Geographic variations of the uninsured are revealed in Figure 9**.**

From 2004 to 2005, uninsured rates ranged from a low of 11% in Minnesota to a high of 30% in Texas. Also noted, Commonwealth Fund 2006 reported that the percentage of uninsured children varies fourfold, from 5% in Vermont to 20% in Texas. A lack of insurance limits access, which leads to poor health, delays in diagnosis, and worse health outcomes. Passionate federal legislators recently addressed the national issue of uninsured children through H.R. 3963. It remains that 69.6% of uninsured children are 200% above the FPL. In Massachusetts in 2002, 145,000 (27%) of the uninsured had incomes that were 400% of the FPL. Under the Massachusetts Universal Health Coverage Bill ("Act Providing Access to Affordable, Quality, Accountable Health Care," Chapter 58 of the Acts of 2006), this subset is required to purchase health insurance in some form; and the mandate is tied to their 2007 tax returns.

The Center for Medicare and Medicaid Services (CMS) could ideally be the answer to addressing health care inequities and improving access. The Medicare program, which provides in-hospital and ambulatory care for persons over age 65, expenditures have increased by 5.9% in 2006 and CMS clinical services increased by 6%. In 2006, Medicare, Medicaid, and military insured 40.3, 38.3, and 10.5 million, respectively. [33] While there may be criticism

of the CMS, there have been valiant efforts to address health care equities. On the other hand, physicians and health care providers have complained of growing problems due to the creation of restrictive rules, which many physicians view as barriers to practicing medicine. These rules include pay-for-performance (P4P) programs, higher payment denial rates, reduced payments, recently the adoption of a growing list of non-compensated critical adverse events coined "never events.

The CMS developed P4P with the intent to compensate physicians based on several patient quality indicators or benchmarks, some of which are not under the control of physicians. Many physicians site inherent problems with the P4P program, particularly when caring for the economically disadvantaged.

The payment denial rate for Medicaid in Massachusetts is 25%. Physicians' medical office overhead is often driven up by increased clerical and administrative support needed to submit, and resubmit payment claims. Rules and regulations meant to prevent billing fraud have lead to increase in frustrations of many health care providers in caring for underserved patients.

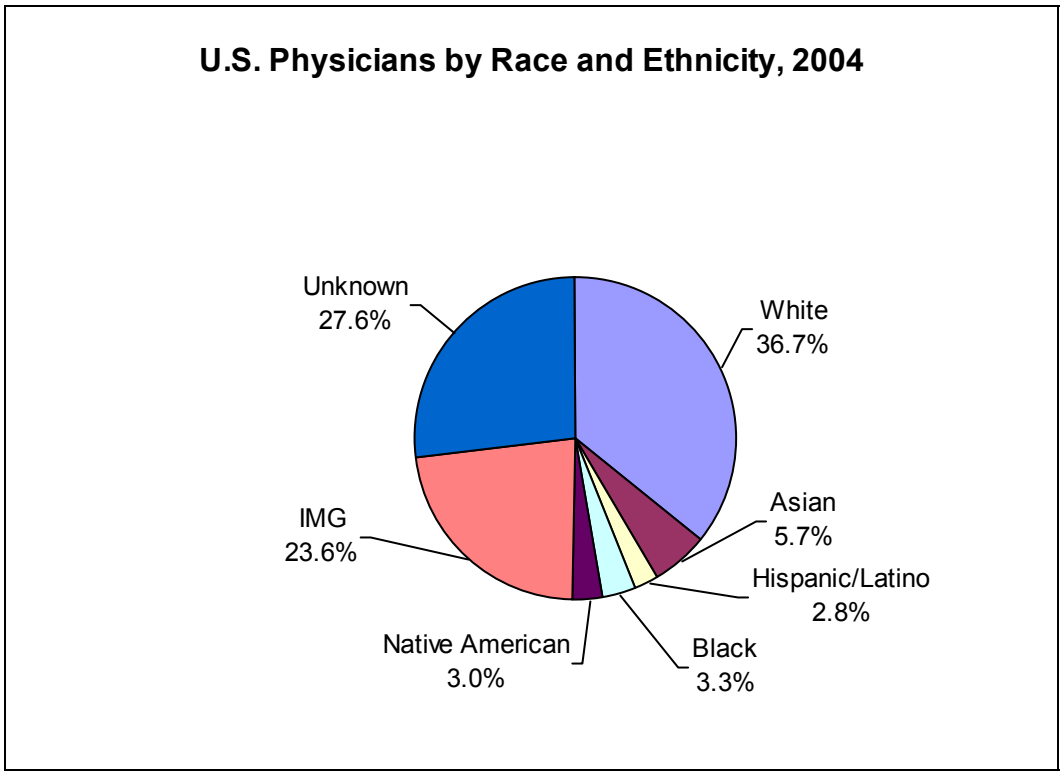
One physician spoke of a dilemma he encountered. If he discounts the patient's co-pay, he is subject to fraudulent claims, if he does not discount the corresponding Medicare submitted charge by the same percentage. Or, if he waives the co-pay altogether, he is unable to bill Medicare. Unfortunately, there are a growing number of physicians who refuse Medicare, Medicaid, and private insurance and run cash-only boutique practices. This highlights how a patient can be insured but "locked out" of the health care system.

There may also be physician-perceived disincentives to treat sicker patients. Patients with multiple chronic conditions may utilize more resources for evaluation, including the additional time physicians need to assess and treat them. There are no built-in elements or adjustments for the quality management of this subset of "sicker" patients. In some areas of the United States, a physician's panel will open and close based on patients' co-morbid conditions within that practice to control the number of sicker patients within a practice. Stated again, patients may be face with the problem of having Medicare, Medicaid, or private insurance but are unable to find a physician willing to accept new patients.

Inequities in Medicare are prevalent, and they occur along racial lines, as manifested in African-Americans and Hispanics. This is highlighted by data that demonstrates that 70 to 77% of the time, these groups receives inadequate routine preventive cancer screening exams. Insurance ensures financial support to ascertain health care access, but inequities persist regardless of insurance status. [36]

A patient's ability to access the health care system is contingent on not only the number of physicians, but also on the distribution and specialties of physicians. In 2004, according to the AAMC, Whites, African-Americana, Asians, Hispanics and Native American represented 344,821 of 750,000 (36.7%), 30,258 (3.3. %), 53,799 (5.7%), 26,094 (2.8%), and 2,457 (0.3%). For 27.6% (258,950) of the physicians, racial identity is unknown. (See Fig 4) As general population data and the percentage of practicing minority physician indicates, there is a lack of racial parity. In summary, African-Americans, Hispanics, Native Americans, and some subsets of Asian populations are greatly underrepresented.

Figure 4: Workforce and the Underserved/Racial and Ethnic Minorities



Association of American Medical Colleges, Diversity in the Physician Workforce: Facts and Figures 2006. https://services.aamc.org/Publications/index.cfm

With nearly 800,000 doctors and 300 million people living in the United States, it's important to understand the physician-to-patient ratio and how it interfaces with poverty, access, and health care inequities. Although the average practicing physician/population ratio is less than 1/300, it varies from 1/200 to 1/10,000 in parts of the United States and impoverished urban areas reveal the lowest ratios. The growth of the physician workforce, (especially primary care physicians), is not keeping up with the growth in the US population. And retirements are increasing; in 2004, of 792,651 active practicing physicians in the United States, 250,000 were older than 55 years of age.

The complexity of physician workforce deficiency in terms of specialty introduces other dilemmas. Only 25% of graduates from medical school choose primary care. [37] Primary care had enjoyed a steady increase in internal medicine and pediatrics residents from both DO and non-U.S. born international medical school graduates, but this is changing. Historically, IMGs have pursued careers in primary care specialties, but recently there are increases in IMG training in subspecialties. It is estimated that a deficit of 35,000-44,000 adult primary care will exist by 2025 with the current workforce dynamics (35) Currently in Massachusetts, specialty care physicians represented 63% of the practicing physicians, while primary care specialties represented only 37% of the physician workforce.

There are several prohibitive factors that decrease medical students' quest to pursue a primary care specialty. First and foremost significant is the associated cost of medical education and the lower compensation associated with the primary care specialties relative to sub specialists. The average debt upon completion of U.S. medical school is $140,000. In addition, recently medical students expressed the sentiment that they are discouraged from entering primary care medicine by their disgruntled clinical professors.

Newly trained surgeons have also not kept pace with population growth. This may be secondary to increased duration of residency training programs and work hour restriction mandates. . The Accreditation Council for Graduate Medical Education (ACGME) expects 1,000 new surgeons to graduate annually. Of these graduates, however, it is estimated that 70% will sub specialize; leaving only about 300 general surgeons to enter practice annually.

Unfortunately, 32% of the current surgical workforce is more than 55 years of age, with a cohort of general surgeons nearing retirement, further worsening workforce demands.

Table 4: Physicians Racial Demographics 2004 AAMC (published 2006)

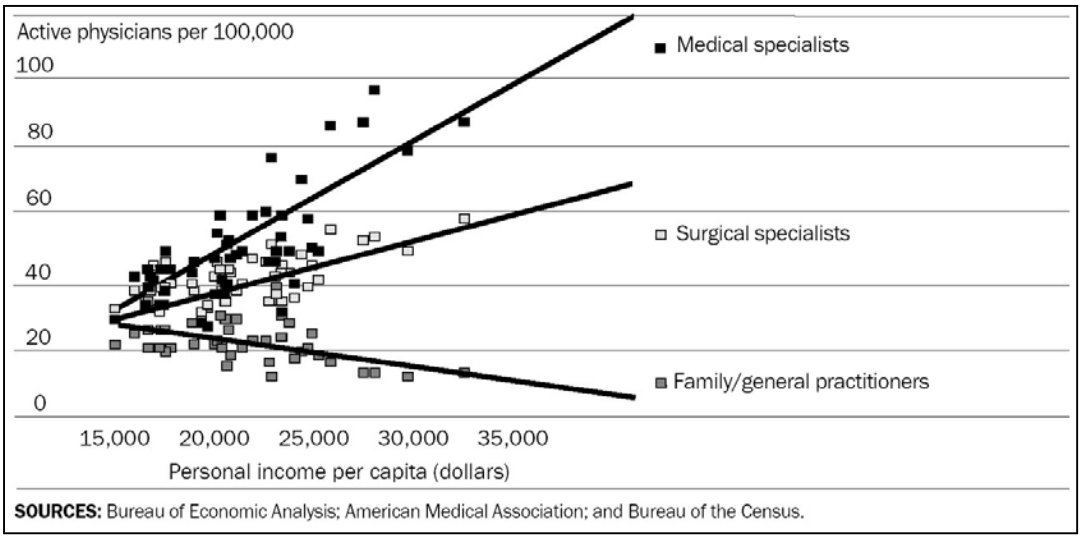
Race	Number	percentage
White	344,821	36.7%
Black	30,598	3.3%
Hispanic/Latino	26,094	2.8%
Asian	53,799	5.7%
American Indian/NA	2,457	0.3%
IMG	221,633	23.6%
Unknown	258,950	27.6%

Association of American Medical Colleges. Diversity in the Physician Workforce: Facts & Figures 2006. https://services.aamc.org/Publications/index.

Lastly, geographic mal-distribution of physicians contributes to the evolving stress of the issue of health care access. Medical specialist physicians tend to gravitate in areas of higher income per capita whereas family practice doctors do not. Regional deficits exist. For instance, only 10% of physicians practice in rural areas, despite the fact that 22% of the entire U.S. population lives there. Urban underserved areas, where an increasing number of minorities and persons live below the poverty line, have only 50 to 100 physicians/100,000 persons. Komaromy and Bach revealed that Black physicians were more likely to practice in inner city/urban and impoverished areas, treat a majority of Black patients and a higher percentage of Medicare patients, render free care, and have limited resources, including access to subspecialty consultants.[38] Workforce diversity matters when it comes to physician availability in treating not only racial minorities, but also poor inner city patients. While Black and

Hispanic physicians are more likely to practice in urban underserved areas, much of the demand for more primary care physicians is being met by IMGs.

Figure 5



Cooper R.A. et al. Economic And Demographic Trends Signal An Impending Physician Shortage. Health Aff (Millwood). 2002 Jan-Feb;21(1):155-7.

As one examines the impact of poverty on health care access and equity as it relates to racial and ethnic groups, many complexities are unveiled. The availability of physicians, specifically primary care office-based physicians (PCOBP) in impoverished areas, is significantly lower than in non-poverty areas. In addition, the rate of increase of PCOBP fluctuates in a range that workforce experts consider to be inadequate. Of note, Kindig and Libbey demonstrated that in 1997 there were 51 primary care physicians per 100,000 people in impoverished areas and 59 primary care physicians per 100,000 people in non-poverty areas. These figures both fall below the expert determined adequate level benchmark of 60 to 75 primary care physicians per 100,000 people.[7] In 2004, the United States boasted ratios of 60 primary care doctors per 100,000 people, and Massachusetts had 125 primary care physicians per 100,000 people.

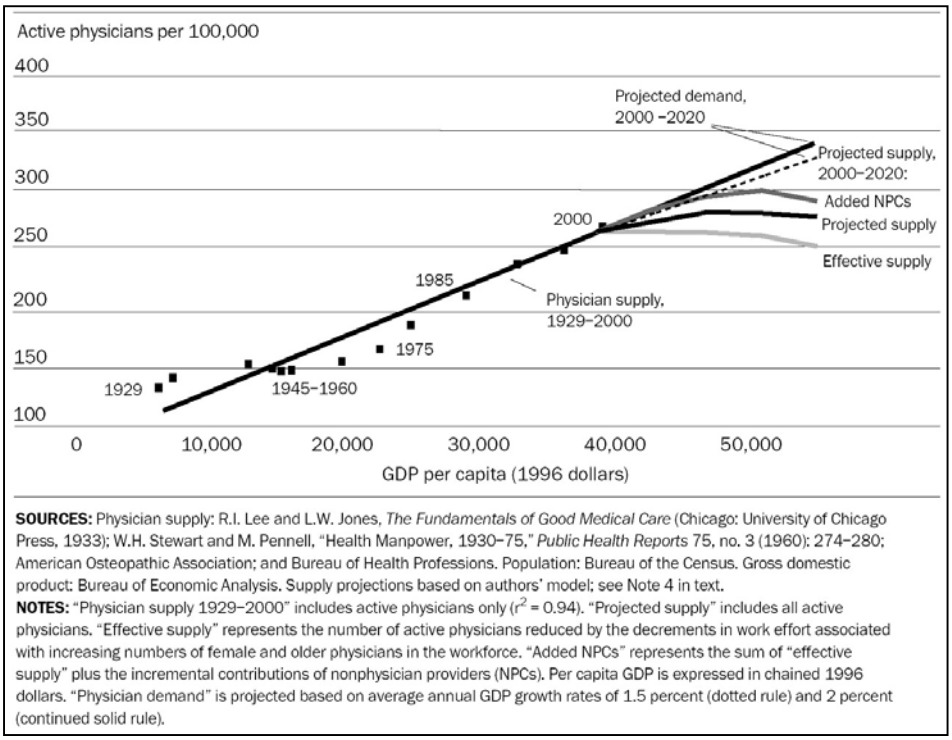
Within the United States, the total number of active physicians per population of 100,000 varies from 175 in Mississippi to 400+ in Massachusetts. Race variation has widened margins, revealing that the number of physicians per population of 100,000 for Whites, Blacks,

Hispanics, Asians, and Native Americans is 171, 81, 51, 396, and 56, per 100,000 populations, respectively.

With rising health care workforce demands some have proposed increasing physician's extenders. Certainly, in the US, health care providers in the form of nurse practitioners, physician assistants, CRNAs, CNMWs, and now doctorate of nurse practice have grown dramatically. Theoretically, if these health care providers would work in under-served areas this would improve patient access. However, preliminary trends indicate this subset of health practitioners gravitate to physician rich areas. (34) "Disruptive Innovations" has been proposed as a means to improve patient access to health care. As described by Clayton M Christensen "We will make health accessible for the uninsured only by enabling or making more capable lower cost providers and lower-cost venues of care" He furthers exclaimed that "Quality can only be expressed relative to what the patient's other options were at the time an innovation became available"

Currently the American physician' workforce is dependent on International Medical Graduates (IMG). Over 25% of practicing physicians in the US are IMGs. In July 2006, IMGS made up 27.1 % of all residents and fellows, indicating a rising IMG trend in the US. (Fig 12) However, IMGs like US graduates tend to practice in doctor rich states, which have physician to population ratios greater than the median of 236/100,000. IMGs in a doctor poor state such as Mississippi represent less than 14% (13.8%) of active physicians. In contrast, IMGs have been shown to practice in areas of high non-white populations, rural counties and regions with a high infant mortality(16) (See Table 3). Global concerns have developed regarding the "Brain drain" and the United States increasing dependence on IMGs to meet manpower needs especially in underserved areas. This highlights the negative impact on severely impoverished countries that have invested in physician workforce development but reap no benefit.

Figure 6



SOURCES: Physician supply: R.I. Lee and L.W. Jones, *The Fundamentals of Good Medical Care* (Chicago: University of Chicago Press, 1933); W.H. Stewart and M. Pennell, "Health Manpower, 1930–75," *Public Health Reports* 75, no. 3 (1960): 274–280; American Osteopathic Association; and Bureau of Health Professions. Population: Bureau of the Census. Gross domestic product: Bureau of Economic Analysis. Supply projections based on authors' model; see Note 4 in text.
NOTES: "Physician supply 1929–2000" includes active physicians only (r^2 = 0.94). "Projected supply" includes all active physicians. "Effective supply" represents the number of active physicians reduced by the decrements in work effort associated with increasing numbers of female and older physicians in the workforce. "Added NPCs" represents the sum of "effective supply" plus the incremental contributions of nonphysician providers (NPCs). Per capita GDP is expressed in chained 1996 dollars. "Physician demand" is projected based on average annual GDP growth rates of 1.5 percent (dotted rule) and 2 percent (continued solid rule).

Cooper R.A. et al. Economic And Demographic Trends Signal An Impending Physician Shortage. Health Aff (Millwood) 2002 Jan-Feb;21(1):155-7.

The Agency for Healthcare Research and Quality (AHRQ) has projected an increased physician demand by Hispanic and Non-White populations: "Demand for health care services by minorities is increasing as minorities grow as a percentage of the population. Between 2000 and 2020, the percentage of total patient care hours physicians spend with minority patients will rise from approximately 31 to 40 percent." It is essential for the United States to create incentives and an infrastructure to remedy the health care inequities that exist. Such remedies mustaddress both White and Non-White populations, while concentrating on the most disenfranchised segments of society, especially racial and ethnic minorities. The focus must include comprehensive health care: access, insurance, and quality preventive health care and health care maintenance.

The AHRQ 2007 National Healthcare Quality Report and 2007 National Healthcare Disparities Report revealed only marginal improvement between 2005 and 2007, as demonstrated by American Indian women being 2.1 times as unlikely to receive first trimester

prenatal care in 2005 as well as 2007. Despite multiple efforts by the AHRQ to decrease health care disparities, a staggering inequity of improvement between 2005 and 2007 can be seen in the tenfold increase in development of new AIDS cases in Blacks and four times more hospital admissions for Black pediatric asthma patients when compared to whites.

Table 3

Relation between the Race or Ethnic Group of Physicians and the Characteristics of the Communities Where They Practice

Race or Ethnic Group	Primary Care Physicians/ 100,000	Residents Living Poverty (%)	Black Residents	Hispanic Reside (%)
Black (n=39)	61	48	32	35
Hispanic(n=44)	52	28	5	14
Non-Hispanic wh (n=522)	90	19	5	18
Asian (n=113)	68	32	8	31

Komaromy M, et al., The role of black and Hispanic physicians in providing health care for underserved populations. N Engl J Med. 1996 May 16; 334(20):1327-8.

Of interest, studies have demonstrated that "Physicians treating black patients provided more charity care, derived a higher percentage of their practice revenue from Medicaid, more often practiced in low-income neighborhoods, and were less likely to have obtained board certification in their primary specialty (77.4 percent vs. 86.1 percent, P=0.02) than physicians treating white patients."

The Commonwealth Fund recently disclosed findings from a study that evaluated health care quality in groups where physician patient panels consisted of a high minority (more than 70% minority patients), medium minority (30 to 70% minority patients), and low minority (less than 30% minority patients):"Primary physicians taking care of greater than 70% minority patient practices were more likely to be in community or public clinics and institutional practices, less likely to be board certified

a. Practice in lower income area with more uninsured patient

b. Are in resource constrained practices but with similar information technology available

c. Clinical Practices are 1.5 to 3 times more reliant on Medicaid and less reliant non-private insurance, however payments were significantly reduced for both Medicaid and Private insurance

d. Earn 20% less than low and medium minority practices

1. Physicians practicing in high minority practices are more likely to report they are unable to provide high quality care to all their patients

a. Disparities in providing quality of care to Patients Are Reduced with Medicaid–Medicare Physician Payment Parity

b. Report Greater difficulty obtaining Specialty care

c. More Likely to Report Inadequate Office Visits Time with Patients Explained in Part by the Lower Resource Levels of High-Minority Practices

d. **Face** greater challenge coordinating care than low minority practices due partly to resources

f. Inadequate time with patients"

Patient access to health care maintenance and preventive care, as well as acute care, is directly correlated with the availability of primary care physicians. New innovations, as some propose, should provide "focused factories of providers that works together to better treat specific diseases or patient groups, integrated information records and personalized medical technologies." A wonderful idea, but a glaring problem with this ideology is that patient groups may be subconsciously designed according to geographic, socioeconomic, and independent physician factors. Physician factors include not only geographic mal-distribution but also certain disincentives to pursue a career in primary care.With rising medical school education costs, physician viability issues, and barriers to practices, it is possible that we may observe a worsening of this maldistribution.

Table 5: Number and Percentage of Residents Training in Primary Care Specialties by Type of Medical School and Citizenship, 1995-1996 through 2004-2005

	1995-1996	1998-1999	2001-2003	2004-2005
Family Medicine	455	502	497	469
No. of programs				
Total residents	9261	10607	9799	9373
US MD	6870	8232	6363	4848
DO	786	986	1096	1170
Non-US IMG	1072	822	1473	2178
USIMG	473	490	809	1152
Other/missing	60	77	58	25
Internal Medicine	416	410	390	387
No. of programs				
Total residents	21071	21130	20914	21332
US MD	11189	12057	11892	11271
DO	697	762	1011	1097
Non-US IMG	8030	6906	6478	7481
USIMG	931	1224	1385	1411
Other/missing	224	181	148	72
Internal medicine/pediatri	96	107	109	102
No. of programs				
Total residents	1067	1658	1558	1449
US MD	853	1444	1353	1180
DO	43	55	56	64
Non-US IMG	132	106	87	149
USIMG	31	45	57	54
Other/missing	8	8	5	2
Obstetrics/gynecology	272	262	254	252
No. of programs				
Total residents	5007	4810	4701	4703
US MD	4539	4322	3871	3500
DO	145	156	258	310
Non-US IMG	231	221	353	623
USIMG	72	99	204	256
Other/missing	20	12	15	14
Pediatrics	215	209	208	204
No. of programs				
Total residents	4693	7728	7650	7811
US MD	222	5641	5776	5415
DO	2064	272	377	442
Non-US IMG	292	1408	1026	1436
USIMG	83	351	413	485
Other/missing		56	58	33
Total primary care	1454	1490	1458	1414
No. of programs				
Total residents	43760	45933	44622	44668
US MD	28144	31696	29255	26214
DO	1893	2231	2798	3083
Non-US IMG	11529	9463	9417	11867
USIMG	1799	2209	2868	3358
Other/missing	395	334	284	146

Table 6

Rank		Nonfederal physicians per 100,00
	United States average	**281**
1	District of Columbia	752
2	Massachusetts	451
3	New York	401
4	Maryland	389
5	Connecticut	369
6	Vermont	363
7	Rhode Island	361
8	New Jersey	333
9	Pennsylvania	332
10	Hawaii	302
11	Maine	302
12	Michigan	289
13	Ohio	289
14	Illinois	294
15	Minnesota	283
16	Delaware	272
17	Oregon	269
18	Colorado	268
19	Missouri	267
20	New Hampshire	267
21	Washington	266
22	Virginia	264
23	Louisiana	262
24	Tennessee	262
25	Wisconsin	262
26	California	261
27	Florida	258
28	West Virginia	254
29	North Carolina	252
30	North Dakota	244
31	Nebraska	243
32	New Mexico	238
33	Kansas	235
34	Kentucky	233
35	South Carolina	231
36	Arizona	225
37	Montana	224
38	Indiana	222

39	Georgia	219
40	Texas	219
41	Iowa	218
42	Alaska	217
43	South Dakota	217
44	Alabama	216
45	Utah	215
46	Arkansas	205
47	Oklahoma	205
48	Nevada	196
49	Wyoming	191
50	Mississippi	182
51	Idaho	175
	Puerto Rico	254

Figure 9: Percent Distribution of U.S. Uninsured

Under 10%	10% to 14.9%	15% to 19.9%	20% and over

US average: 15.3%

Source: US Census Bureau. Income Poverty and Health Insurance Coverage in the United States, 2006. http://www.census.gov/prod/2007pubs/p60-233.pdf

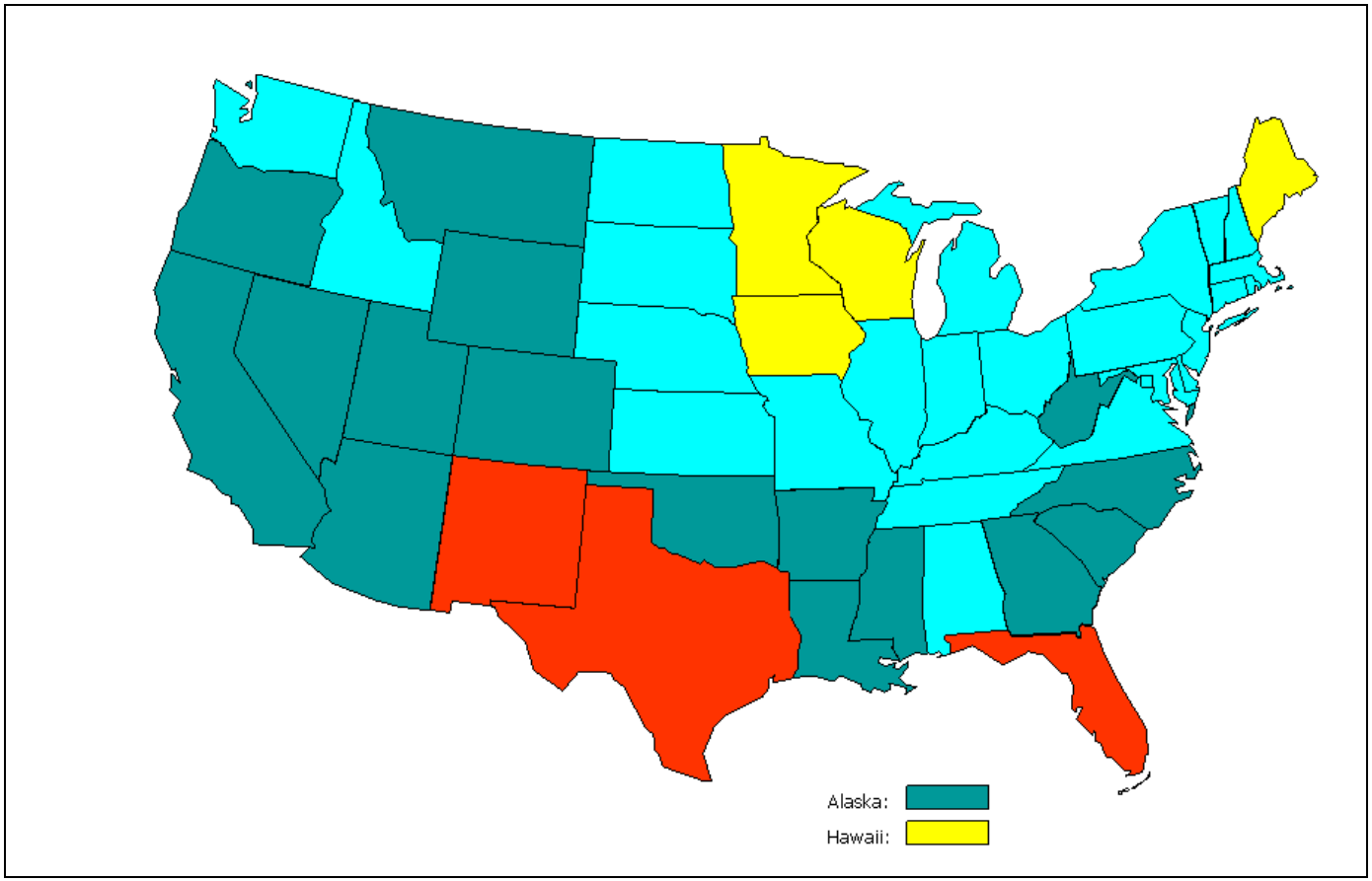


Figure 10: Ratio of Black Physicians to 100,000 Black Populations

Under 50	50 to 74	75 to 99	100 to 199	200 and over

US average: 81
Source: Association of American Medical Colleges. Diversity in the Physician Workforce: Facts & Figures 2006.
https://services.aamc.org/Publications/index.cfm

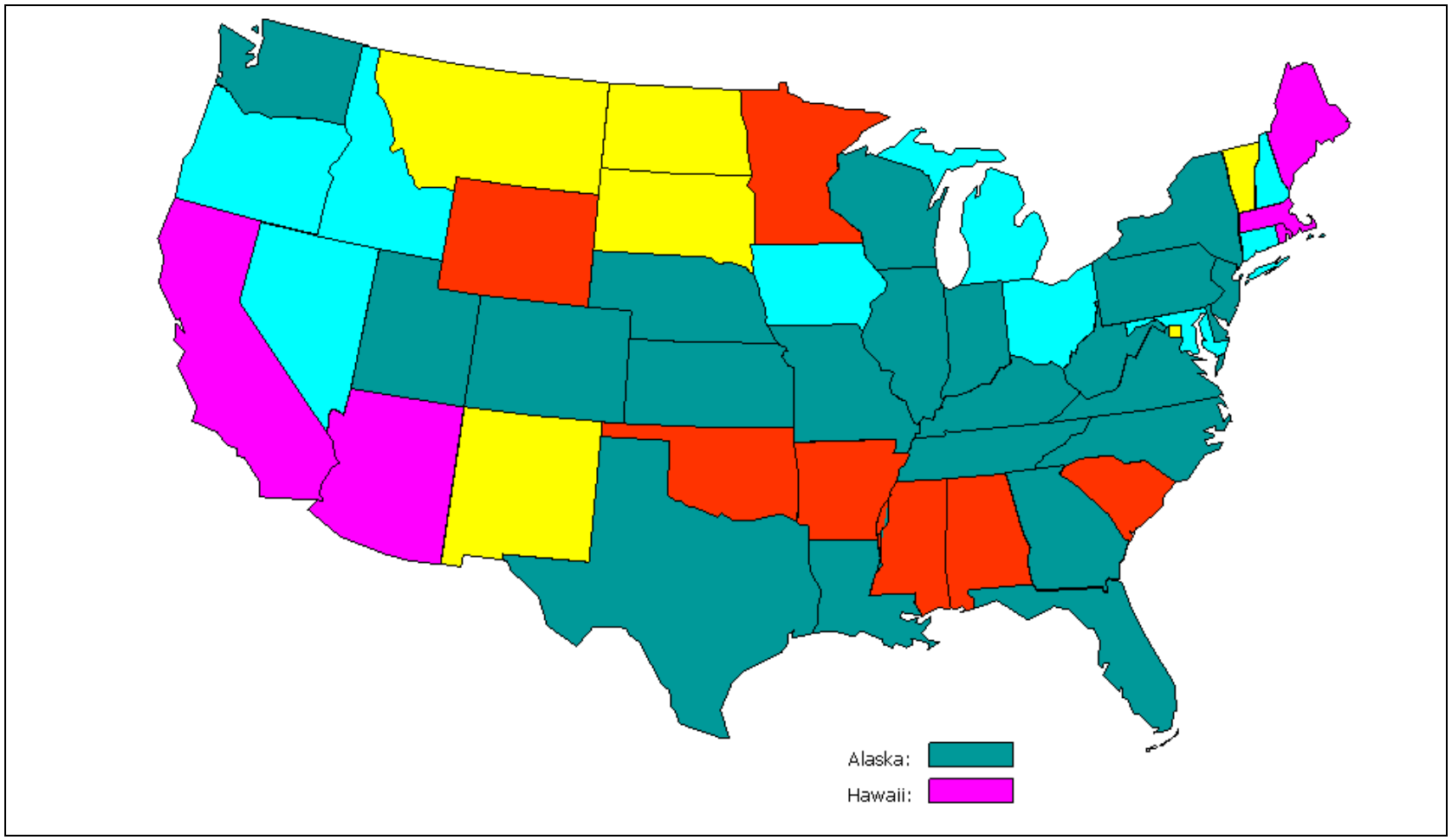


Figure 11: Ratio of Latino Physicians to 100,000 Latino Populations

Under 50	50 to 74	75 to 99	100 to 199	200 and over

US average: 51

Source: Association of American Medical Colleges. Diversity in the Physician Workforce: Facts & Figures 2006. https://services.aamc.org/Publications/index.cfm?fuseaction=Product.displayForm&prd_id=161&prv_id=191&cfid=1&cftoken=F9C1711A-2970-451D-B4C6CA15D70D6DDD

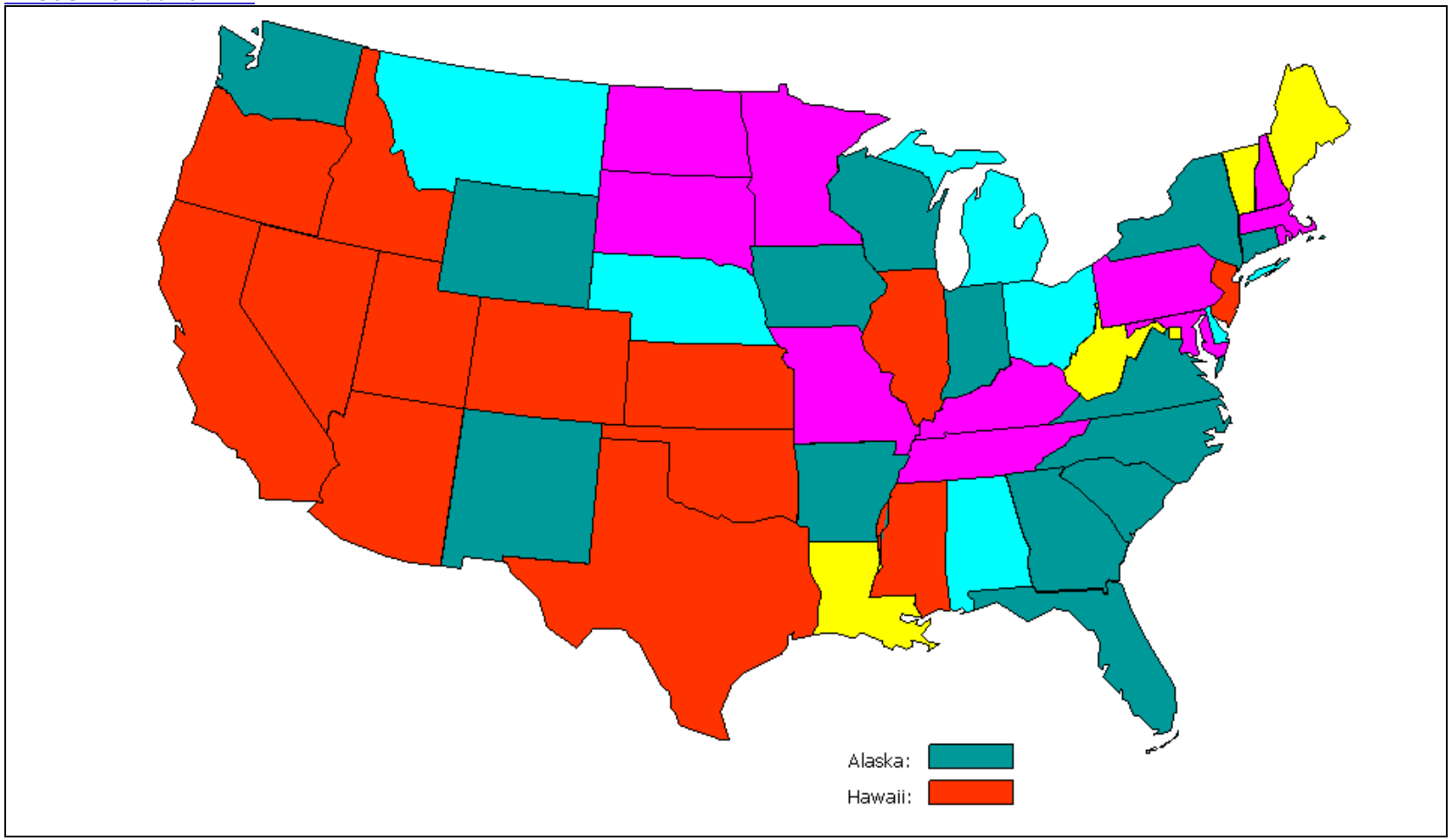


Figure 12: Ratio of IMG Physicians to 100,000 Total Populations, 2006

Under 50	50 to 74	75 to 99	100 to 199	200 and over

US average: 51

Sources: American Medical Association. Physician Characteristics and Distribution, 2008 edition, pg. 50.
U.S. Census Bureau. Current Population Estimates. July 1, 2006. http://www.census.gov/popest/states/files/NST-EST2007-popchg2000-2007.csv

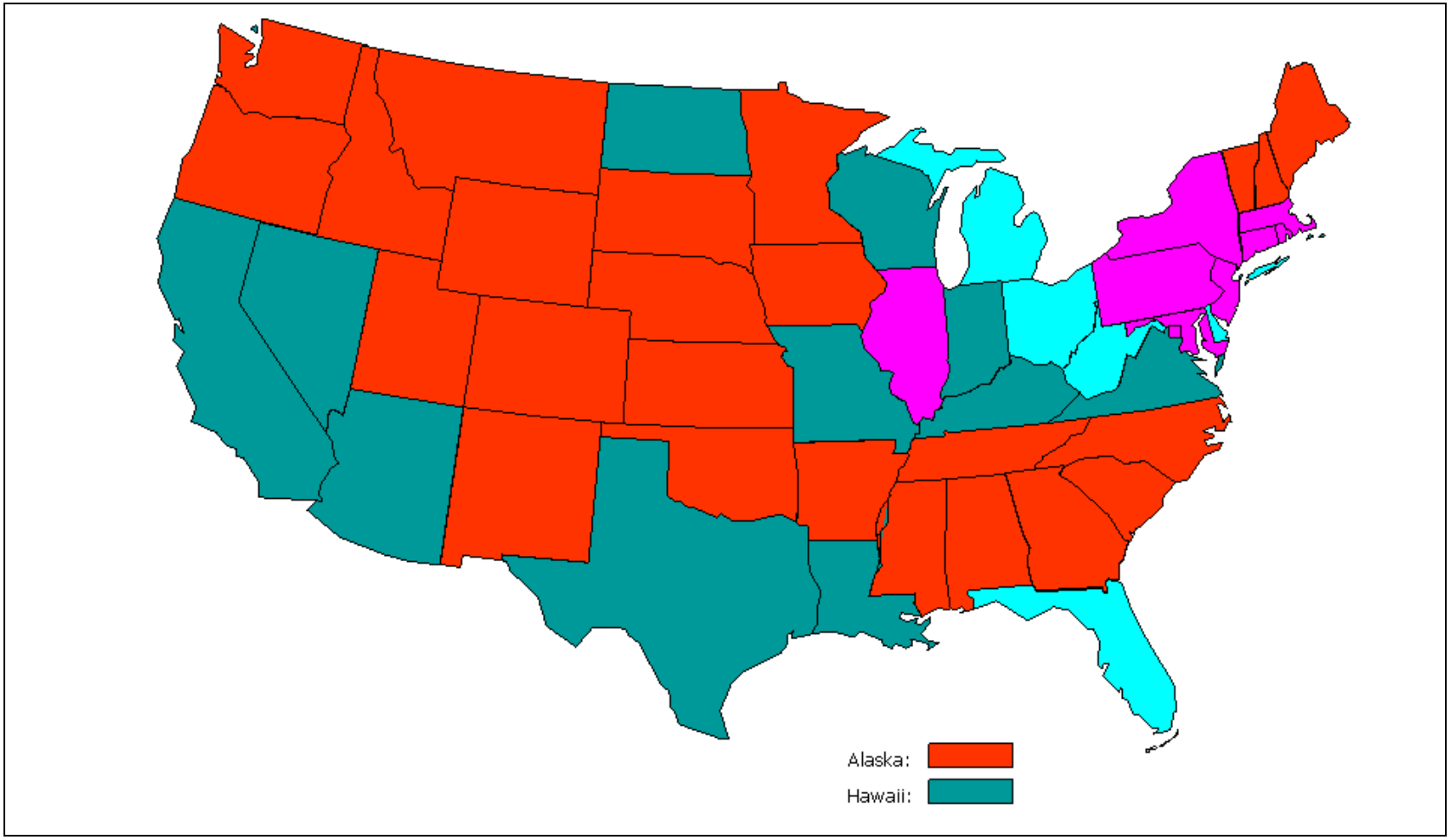
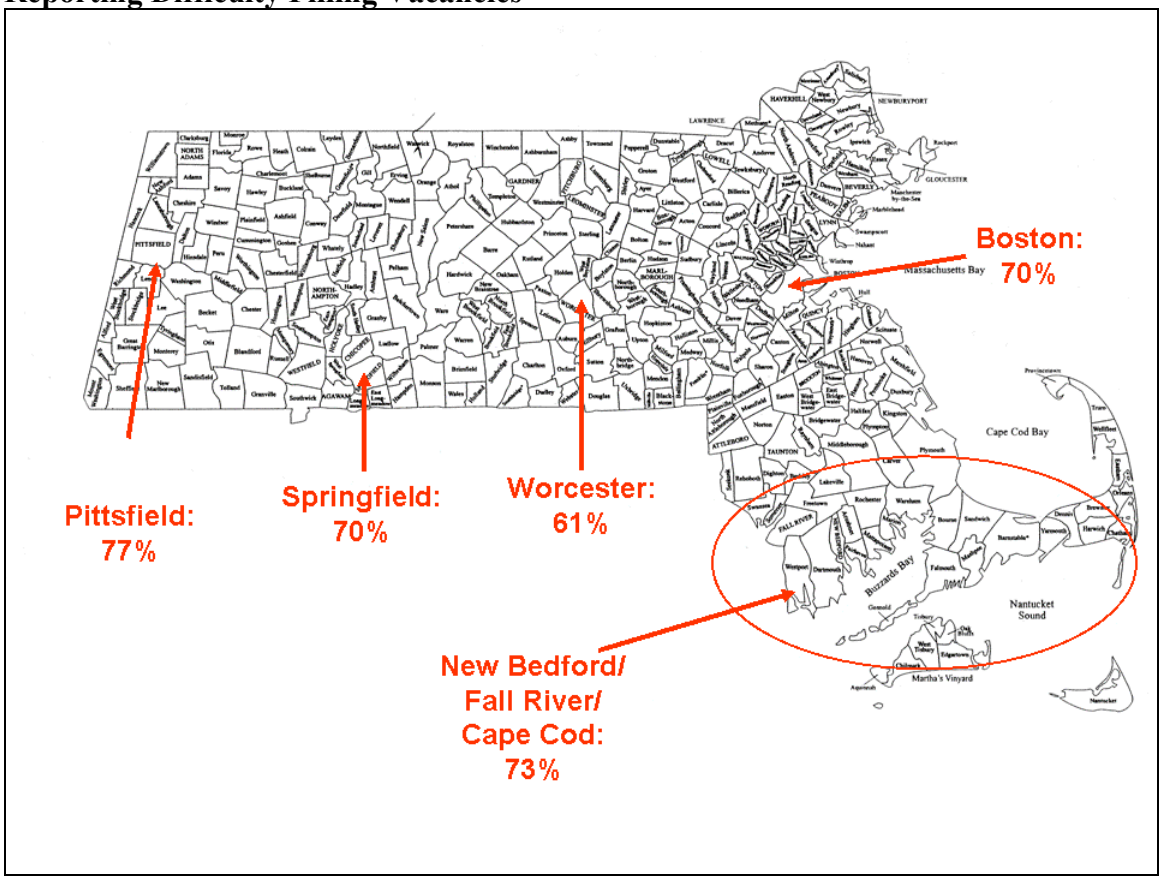


Figure 13: Percentage of Massachusetts Physician Leaders Reporting Difficulty Filling Vacancies



Massachusetts Medical Society. Physician Workforce Study. June 2007.
http://www.massmed.org/workforce

United States Initiatives

Health disparities — to be distinguished from health *care* disparities (HCD) — introduce multiple etiologic factors that include health care services, access, socioeconomics, or education and behavior. While the causes of health care inequities are varied and complex issues that contribute to racial and ethnic health disparities, a single "fly swatter" approach undermines the comprehensive approach necessary to make a sustainable impact on improving health care equity and access. Therefore, only a multidisciplinary, strategic analytic approach can lead to the elimination of health disparities.

The Institute of Medicine's 2002 landmark report, "Unequal Treatment: Confronting Racial and Ethnic Disparities in Healthcare," revealed that racial and ethnic minorities receive poorer quality medical care compared to white patients, even when factors such as insurance coverage, ability to pay, and access to care are equivalent among the groups. (36)

The AMA Commission to End Health Care Disparities was created in 2003 to comprehensively address health care disparities and craft recommendations to eradicate inequities. The commission consists of the following subcommittees:

- Awareness — Increasing awareness of disparities
- Data Collection — Promoting better data gathering
- Workforce Diversity — Promoting workforce diversity
- Education and Training
- Advocacy Committee — Overarching committee

The commission has engaged state medical societies, specialty societies, pharmaceutical companies, nursing organizations, and special interest groups through representation that has grown from 35 to over 60 representatives. The interface and proactive nature of the commission has allowed it to leave an indelible mark on the effort to decrease health care disparities. The commission meets biannually. The AMA Commission to End Health Care Disparities meetings consist of educational sessions, workshops developing best practices, and review and deliberations about proposed policies and legislation. It also focuses on, evolving issues and development of effective strategies to reduce inequities. The commission has supported and aided in the development of a resolution to the AMA House of Delegates to develop model legislation throughout the country to establish state and regional commissions

to end HCD on the state level. It is the commission's hope that by establishing state and regional commissions, leaders and key stakeholders will be able to address and dissect issues that are specific to their given areas. An increase in commissions and task forces will enhance dissemination of information, and awareness of HCD. The commission has developed a DVD displaying patient vignettes reflecting cultural dilemmas. This is part of a workshop sponsored by the commission from coast to coast. Research looking at zip codes and health care outcomes has been evaluated. A nationwide campaign, "Doctors Back to School," is currently ongoing to increase the pipeline of students pursuing medicine, especially underrepresented minorities. Underrepresented minorities are those minorities whose percentages in medicine are less than the corresponding races in the general population. These are a few of the initiatives of the commission.

The Massachusetts State Commission to Eliminate Racial and Ethnic Health Disparities was one such state commission that was created through legislation and governor-appointed co-chairs. The commission convened in 2003 and was separated into four subcommittees:

1. **Access to Health Care** — The access to care subcommittee focused on the barriers outside the patient/provider encounter that prevent consumer access to health care, such as inequities in public and private insurance coverage, licensure of providers, and regulation of facilities.

2. **Health Care Services** —The health care services subcommittee focused on addressing racial, ethnic, and linguistic disparities through the delivery of optimal health care services by a broad array of providers and those who support them. The subcommittee considered the roles of data collection, quality improvement, and cultural and linguistic competency in delivering equitable health care.

3. **Social Context** — The social context subcommittee focused on understanding the social determinants and context in which racial and ethnic health disparities occur. These included examining the barriers leading to inequities and limitations on life chances, as well as the barriers preventing health promotion such as racism and discrimination, healthy housing and neighborhoods,. environmental exposures[12].

4. **Workforce Development and Diversity and Development** —The subcommittee considered ways to increase diversity among health care providers by focusing on areas such as improving existing pipelines into the health professions, addressing physician diversity and nursing shortages, and augmenting minority representation in other allied health professions.

Studies regarding health care disparities among the insured reveal that gaps in health care equity are related to cultural competency in terms of provider awareness, patient health care literacy, provider and systemic bias, and availability of resources. The Commonwealth Fund has emphasized the need for regional planning of health care resources and personnel…"Racial segregation in health care not only distorts and contributes to disparities; it increases the cost and reduces the quality of care for everyone…. Segregation exaggerates disparities".

One of the most socially destructive and stigmatizing effects of segregation in health care, as in other areas of American society, is the exaggeration of differences. For instance, minorities in most metropolitan areas rely more heavily on medical schools, teaching hospitals, and public clinics that tend to routinely screen for sexually transmitted diseases and for drug use and, consequently, tend to report a higher rate of positive findings for these conditions.

De Facto, segregation exists in the post-Medicare establishment in hospitals, office-based primary care, and nursing homes.[27] This is also manifested by the deviation from acceptable standards of care in the routine management of patients with myocardial infarction in non- teaching hospitals that have higher concentrations of Medicaid-dependent patients and increased 30-day mortality results. Even allocation of resources and grants to establish IT support in highly Medicaid-populated practice panels would improve coordination and quality of care.

The evolution of the current Medicare system as it stands today has struggled to combat segregation of health care. On July 9, 1965, President Johnson signed into law the Medicare bill, tied to Title VI, which prohibited racial segregation and discrimination in hospitals.

- Regional health care resource limitations create cultural geographic mismatches that further limit access despite insurance status. It cannot be overemphasized that a patient may possess insurance, but it does not necessarily equate to access. Provider maldistribution increases health care disparities (Figures Chart 10-13). The American physician workforce diversity has lagged behind growth in general population growth. Insurance coverage is not the only rate limiting step for health care equity therefore a tailored physician workforce is required to address this "healthcare resource gap" directly related to health care delivery- and provider maldistribution as well as inadequate manpower needs. This includes cultural competency training, data collection (critically assessing serious events and deviations from the standards of care that result in poor outcomes for racial and ethnic minorities), developing infrastructure to sustain ongoing processes to eradicate health care inequities (especially inclusive of patient health care literacy and behavioral-changing strategies), and linguistic interpretative support systems. All of these interventions and more are necessary to transform medical education and training.

The following questions need to be address on an ongoing basis:

- How do we increase the number of new medical graduates pursuing primary care?
- What is the role of physician extenders reducing health care disparities?
- How to we decrease maldistribution of health care providers?
- How do we increase healthcare services in urban areas?
- Does universal health care and or single payer health care system have any advantage compared to traditional fee-for-service in achieving health care equity?
- How do we provide incentives for physicians to care for the underserved?
- While persons at 100% of the FPL qualify for Medicaid, the physician payment by Medicaid and the bureaucratic barriers have proven to be deterrents to physicians. The majority of the uninsured are actually at 200 to 400% of the FPL.
- Strategies to "enhance sense of individual accountability and obligation (to eat healthy, exercise, avoid high risk behaviors through health care literacy)".

AHRQ

Initiatives to continue to address health care inequities are currently being undertaken to further study and establish best practices. The AHRQ is currently focusing on quality measurements that address patient-centered outcomes, efficiency, and coordination of care. With the AHRQ's development of Quality Improvement Networks, networks can help health care providers measure, report, implement change, test interventions, and disseminate successful interventions. This presupposes that clinicians have the IT infrastructure to connect to networks. As it turns out, approximately 25% of primary care physicians have electronic health records. Primary physicians caring for the underserved may lack the revenue to invest in elaborate IT systems. Financial supplementation and incentive should add valuation to primary care practices to allow practices to develop systems to decrease health care inequities. To date, research in the areas of racial and ethnic health care disparities have mostly been focused on identifying the issues and less on evidence-based guidelines or technological applications or informational systems that track, reveal and trigger an action when there are disparities in care..

How does the AAMC address this? As mentioned, the AAMC has planned to increase the overall graduating medical students by increasing enrollment and reflexively looking to increase the number of students. To influence the individual minority medical student admission and selection criteria or to address inherent admission biases is the greater challenge. Medical school acceptance numbers for minority students has been flat for more than 20 years. The problem resides both in the pipeline as well as the acceptance rate. Pipeline initiatives are underway, but sustainability is limited. Cradle-to-college efforts throughout the system are essential. DBTS is one such effort, along with programs such as the Harvard Medical School's Biomedical Science Careers Program. Programs geared at increasing recruitment and retention and preparatory efforts are all necessary. It is clear that the pipeline of IMG physicians is increasing but also their entry into primary specialties is on the decline. Unfortunately, despite the growing population, it is also clear that since the early 80s the raw number of minority students has remained flat and the percentage has decreased.

For these underrepresented minorities, as previously mentioned, ongoing strategies must continually address the process of increasing representation. In summary, two immediate

remedies include increasing physician distribution to the underserved and improving physician awareness

Designing a workforce means attacking the barriers that exist to practicing in underserved. One obvious effort would be loan forgiveness for physicians in primary care. Special efforts targeted at decreasing the financial burdens of the students pursuing primary care specialties. Practice parameters could be addressed by creating an incentive to treat Medicaid and Medicare patients by adding compensation based on practice panel composition as well as other parameters. Also, providing resources such as information technology support is needed. Improved access, patient literacy enhancing physician awareness through education and training, redistribution of health care providers will reduce health care inequities.

Designing the physician workforce and getting “the right people on the bus" is probably the most important effort that will result in a sustainable impact on reduction in health care inequities. This requires a multi-prong approach and all stakeholders need to work collaboratively together. In terms of racial and ethnic disparities, certainly having minorities in the health care system that are constantly addressing and seeking innovations to improve minority patient outcomes is essential. Agents who are passionate and motivated to constantly address comprehensive aspects of health care inequities of the under-served will “move the mountain” to reduce healthcare disparities. Absolutely, non-minorities should become agents to fight health care inequities, and a diversified workforce provides cultural education in itself alone. Racial and ethnic parity, mirroring the communities institutions are serving, should be a goal.

“Victoria Escerta Aluta Continua.” “Victory is Certain. The Struggle Continues,”

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