Healthcare

Executive Summary

Anthony P. Carnevale
Nicole Smith
Artem Gulish
Bennett H. Beach

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Georgetown University
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Contents

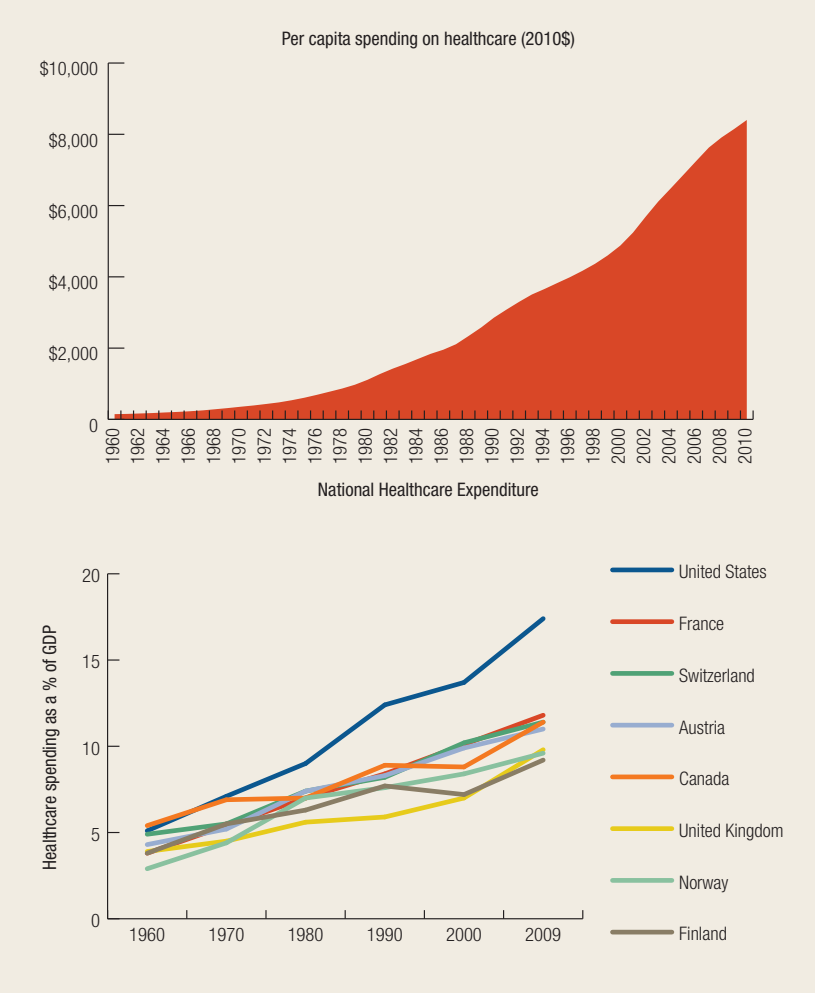
Healthcare is 18 percent of the U.S. economy, twice as high as in other countries.

Americans are paying top dollar for health care these days—more per capita than the average Chinese citizen earns in an entire year. Increasingly, the American economy is being defined by its healthcare sector. And as costs rise, government involvement—in the form of Medicare, Medicaid, CHIP and the recently enacted Patient Protection and Affordable Care Act—is also growing.

Figures 1 and 2: We spend twice as much as Europe, even more so over the last decade

Bureau of Economic Analysis, 2012

Source: (Organisation for Economic Co-operation and Development Health Data 2011 http://stats.oecd.org/Index.aspx?DataSetCode=SHA



Which leads to the next question: why is it so expensive to be sick in this country? In a sense, we are victims of our own success: Americans are simply living longer. In particular, that demographic bulge known as the Baby Boom generation is getting old. Old people use health care more than younger people—and adults aged 75 to 84 use three times as much as everyone else put together.

The advances in medical technology that have created these longer life expectancies are in high demand, require expensive training to use and are costly to produce. By 2020, healthcare will account for 20 percent of all the goods and services produced in the United States. Already, that number stands at 18 percent, compared to just five percent in 1960.

In 2009, the United States spent $7,960 per capita—more than China's income per capita of $6,870[1]—and the following year, that per capita figure went up to $8,400. In comparison, our next-door neighbor, Canada, spent $4,363; residents of the United Kingdom spent $3,487.

There are other reasons Americans spend so much more than the rest of the world. For one thing, healthcare in this country is an idiosyncratic mix of public and private institutions, paid for by a patchwork of employer-based insurance and public insurance programs. Americans visit doctors, emergency rooms, and outpatient care clinics more frequently; and when it comes to medication we tend to buy name-brand instead of the cheaper generic. While the trend of favoring brand-name drugs is fading, they still dominate total spending. And we are, relative to the rest of the world, richer—which means we can afford to pay more. So we do.

Labor productivity in healthcare has declined since 1990 and productivity per worker is among the lowest in the U.S. economy.

Figure 3: Between 1990 and 2011, labor productivity in healthcare fell. After education, personal services, and construction, healthcare showed the least growth over time

Source: Authors' analysis of data from the Bureau of Labor Statistics (BLS), and the Bureau of Economic Analysis (BEA), various years

[1] http://databank.worldbank.org/ddp/home.do?Step=3&id=4

Output in healthcare—defined as the total expenditure on health care services—was close to $1.8 trillion in 2010, and will grow to $3.1 trillion in 2020. This is about one-third the output of manufacturing, the largest sector of the nation's economy. If labor productivity is defined as the ratio of output to the number of workers, then the way to increase productivity is to increase output with the same number of workers, maintain output by using fewer workers more efficiently, or some combination of the two.

Across time, healthcare has experienced one of the lowest levels of productivity growth of all industrial sectors (although gains in the quality of service are evident in OECD comparisons). Between 1990 and 2011, this low productivity (-0.9 percent annually), combined with strong employment growth (3.8 percent annually), meant that the overall cost of employing a healthcare worker grew by an average of 2.9 percent every year.[2]

Because of growing demand for services and low productivity, the demand for healthcare workers over the next decade will grow nearly twice as fast as the national economy.

Because healthcare represents an immense and growing chunk of U.S. economic consumption, its workforce is large and will continue to grow in tandem. To meet the swelling demand for care, the number of healthcare workers will have to expand by almost 30 percent overall by 2020—the most dramatic growth of any sector of the United States over the next ten years.

Between 2010 and 2020, healthcare occupations will increase from 10.1 million to 13.1 million jobs. From 2010 to 2020, healthcare production will increase by over 70 percent, from $1.8 trillion to $3.1 trillion. In the same period, there will be an estimated 5.6 million healthcare job vacancies.

Table 1: Job openings in healthcare occupations will grow faster than in any other group of occupations through 2020

By occupation (in '000 of jobs)	2010 Jobs	2020 jobs	Difference (Net new jobs) a	Replacement jobs b	Job openings 2010-2020 a+b	Growth of jobs
Healthcare professional and Technical	6,480	8,490	2,010	1,580	3,590	31%
Healthcare support	3,660	4,610	950	1,090	2,040	26%
Healthcare jobs	**10,140**	**13,100**	**2,960**	**2,670**	**5,630**	**29%**

Source: Georgetown University Center on Education and the Workforce forecasts of educational demand through 2020

[2] The majority of industries in the economy showed positive annual productivity growth between 1990 and 2011. Information, wholesale and retail trade and manufacturing led the way with the highest annual productivity growth of 8.2, 6.1 and 5.5 percent respectively. Manufacturing and information were able to increase their productivity by increasing output with fewer workers. Information services increased output at a much faster rate than the increase in workers.

Jobs in the industry will grow from 15.6 million to 19.8 million between 2010 and 2020.

Because the healthcare industry is so expansive, jobs in the field are very diverse. In broad terms, though, direct healthcare jobs into four categories: doctors, nurses, allied healthcare and healthcare support.[3] People in healthcare occupations are able to do their jobs only with the help of an even bigger cast of people in a host of related jobs: hospital accountants, information specialists, medical equipment manufacturers, pharmaceutical sales representatives, doctor's office secretaries and the like. If you include all of these behind-the-scenes players, the healthcare industry will grow from 15.6 million jobs in 2010 to 19.8 million jobs in 2020.

Table 2. Healthcare Fields and Occupations

Field	Typical Occupations
Medicine	Physicians, surgeons, psychiatrists, anesthesiologists
Dentistry	Dentists, orthodontists, oral surgeons
Nursing	Registered nurses, LPNs
Allied Health	Dental hygienists, medical technologists, dietitian, physical therapists, behavioral health
Healthcare Support	Nursing aids and assistants, massage therapists, athletic trainers, home health aides

Net effect of the Affordable Care Act (aka Obamacare) on healthcare jobs is insignificant.

We think the overall impact of the healthcare reform legislation on healthcare jobs will be negligible.

Obamacare—officially known as the Patient Protection and Affordable Care Act (PPACA)—will give low-wage workers who are in jobs solely for access to health insurance unconnected to their job.[4] In the healthcare field, those low-wage jobs are mostly healthcare support jobs. Once health insurance for these workers becomes available elsewhere, these jobs could go unfilled.[5]

[3] Within healthcare professions, occupations have traditionally been divided into medicine, dentistry, nursing, allied health, and healthcare support occupations. Economists group physicians, surgeons, dentists, registered nurses, and other occupations that have similar earnings and education requirements together as "healthcare professionals", while maintaining the other distinctions. "Allied health professionals are involved with the delivery of health or related services pertaining to the identification, evaluation and prevention of diseases and disorders; dietary and nutrition services; rehabilitation and health systems management, among others. Allied health professionals, to name a few, include dental hygienists, diagnostic medical sonographers, dietitians, medical technologists, occupational therapists, physical therapists, radiographers, respiratory therapists, and speech language pathologists." – The Association of Schools of Allied Health Professionals

[4] CBO, 2011.

[5] Many provisions of the law went into effect immediately in 2010 or between then and now. The coverage expansion provision of the law goes into effect from 2014. CBO reports that as many as 650,000 people could lose their jobs by 2021. However, people don't lose their jobs, but they may leave these jobs because they no longer need to hold these jobs for healthcare coverage.

As the 34 million uninsured Americans gain health insurance either through the Medicaid system or through private, state or federal exchanges, the demand for healthcare at all levels – from physicians to support staff – will increase, but the extent to which this new demand will result in shortages of services is highly dependent on location. About 20 percent of Americans live in rural areas, but only 9 percent of physicians practice there, according to Dr. Howard Rabinowitz, a professor of family and community medicine at Thomas Jefferson University's Medical College, who has studied the issue for more than 30 years. He said insufficient insurance payments, administrative hassles tied to insurance claims, and rising business and malpractice insurance expenses are among the reasons that doctors give for shunning rural opportunities, a situation that could only be exacerbated with more people demanding services.

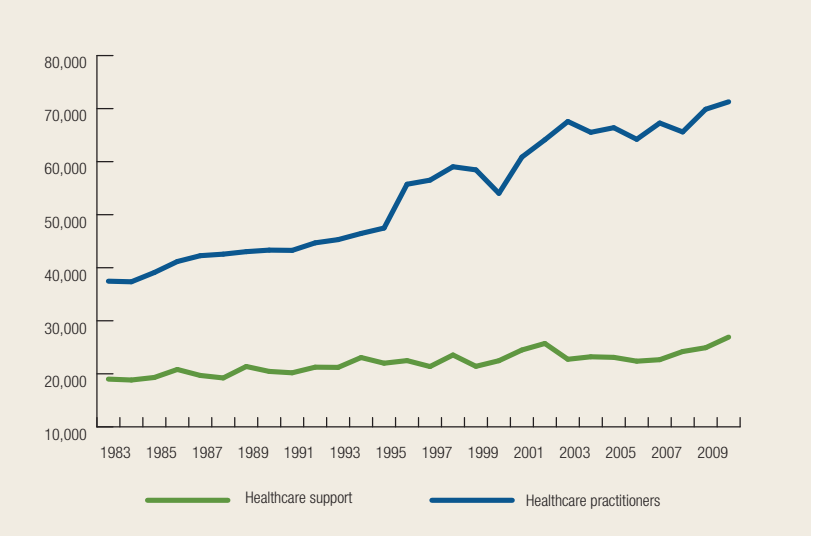
There are two labor markets in healthcare: high-skill, high-wage professional and technical and low-skill, low-wage support jobs.

Healthcare is an economically polarized sector of the economy, with a high-skill, high-wage segment of professionals and practitioners at one end and a low-wage, low-skill segment of support paraprofessionals at the other.

Though all healthcare occupations share similar interests and values, healthcare support occupations have very different levels of knowledge, skills and abilities required to perform in those jobs. As a result, the transition from paraprofessional support to professional jobs is difficult, and the career pathway from one to the other is virtually nonexistent.

Figure 4:
Healthcare professional and technical – especially doctors and nurses - are responsible for substantial wage gains in the cluster during the 1990s

Source: CPS, various years



Healthcare professional and technical workers earn extremely good wages.

While most of these occupations have modest postsecondary education requirements, only 20 percent of healthcare professional and technical occupations earn less than $38,000 per year, and almost 50 percent earn more than $60,000. Most can expect to earn more than the national median.

Demand for nursing and healthcare support occupations will expand rapidly, and shortages are in store.

Healthcare professional and technical occupations will add one million jobs in the next six years. Nursing will grow the fastest among healthcare occupations, by 26 percent, but that won't be enough to meet the demand. Barring some change, the shortfall will exceed 800,000 jobs, meaning the United States will have to continue to seek nurses outside its borders.[6]

After nursing, healthcare support occupations will grow the second fastest, despite offering the lowest wages. In particular, the demand for home health aides will grow at a rapid rate, by more than 700,000 positions. Mental health, substance abuse recovery support, and peer to peer support occupations are also expected to grow.

Healthcare support occupations offer low pay, but are better than the alternative for most healthcare support workers.

More than 70 percent of healthcare support workers make less than $30,000 per year—not much, but still better than most of the available alternatives for workers of their skill and education level.

Table 3. Though Healthcare support wages are low, they are often better than the next best alternative.

Wages by test-score for workers in Healthcare support occupations			
Test Score Quartile	Healthcare	Not in healthcare	Healthcare premium
Bottom Quartile	$ 21,180	$ 18,470	$2,700
Quartile 2	$ 23,710	$ 21,490	$2,200
Quartile 3	$ 25,060	$ 24,890	$170
Quartile 4	$ 33,480	$ 29,950	$3,530

Source: Authors' analysis of NELS data

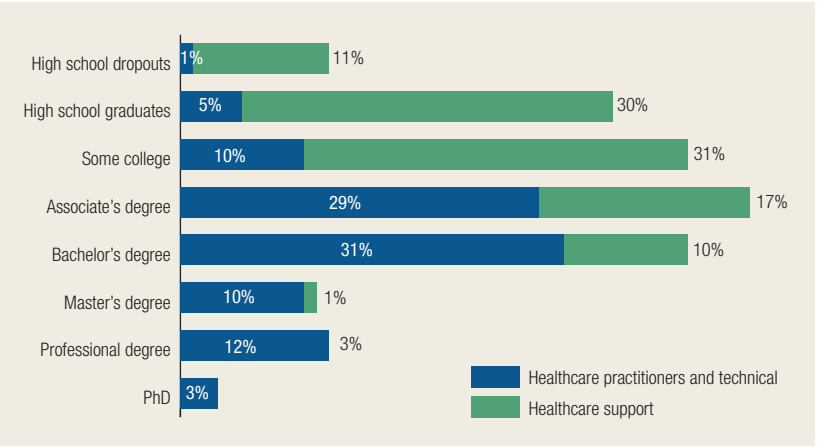
[6] It is likely that these shortages will disproportionately affect rural and underserved areas.

Demand for postsecondary education in healthcare professional and technical occupations is third highest after science, technology, engineering and mathematics (STEM) and education.

Figure 5:
Though 82 percent of all jobs in healthcare will require postsecondary education and training by 2020, individual occupations vary in their level of demand

(Healthcare support 54% postsecondary) (Healthcare professional and technical 94% postsecondary)

Source: Center on Education and the Workforce forecast of Educational Demand through 2020



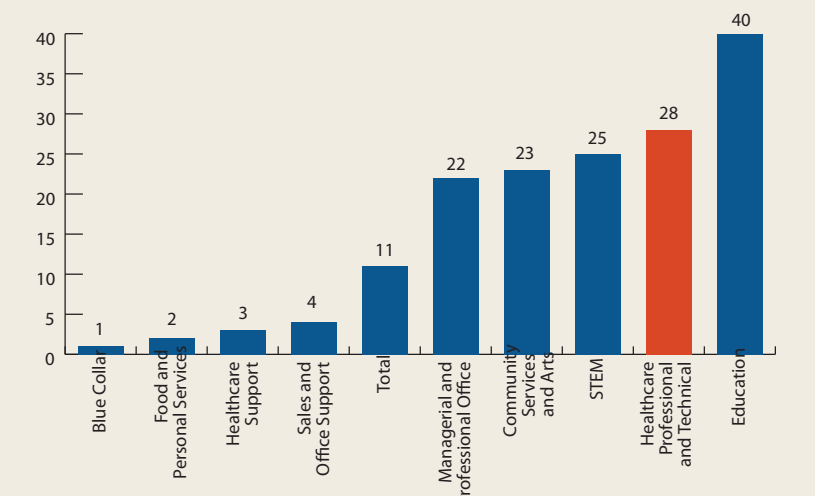
The demand for postsecondary education and training in healthcare, already high, will continue to edge upward. In 2010, it was 81 percent; by 2020, it will rise slightly to 82 percent. For professional and technical occupations, however, that number rises to 94 percent.

A bachelor's degree will be required for 24 percent of all healthcare jobs, up from 21 percent in 2010. This high demand for postsecondary talent in healthcare is second only to STEM and education occupations.

Overall, 28 percent of healthcare jobs need graduate degrees – the second highest proportion of all occupations.

Figure 6:
28 percent of healthcare professional and technical jobs require graduate degrees.

Source: Pooled ACS data 2008-2010



Though 28 percent of healthcare jobs need graduate degrees, it's not all doctors. More than 50 percent of audiologists, radiology technicians, behavioral healthcare specialists and physician's assistants all have master's degrees or better.

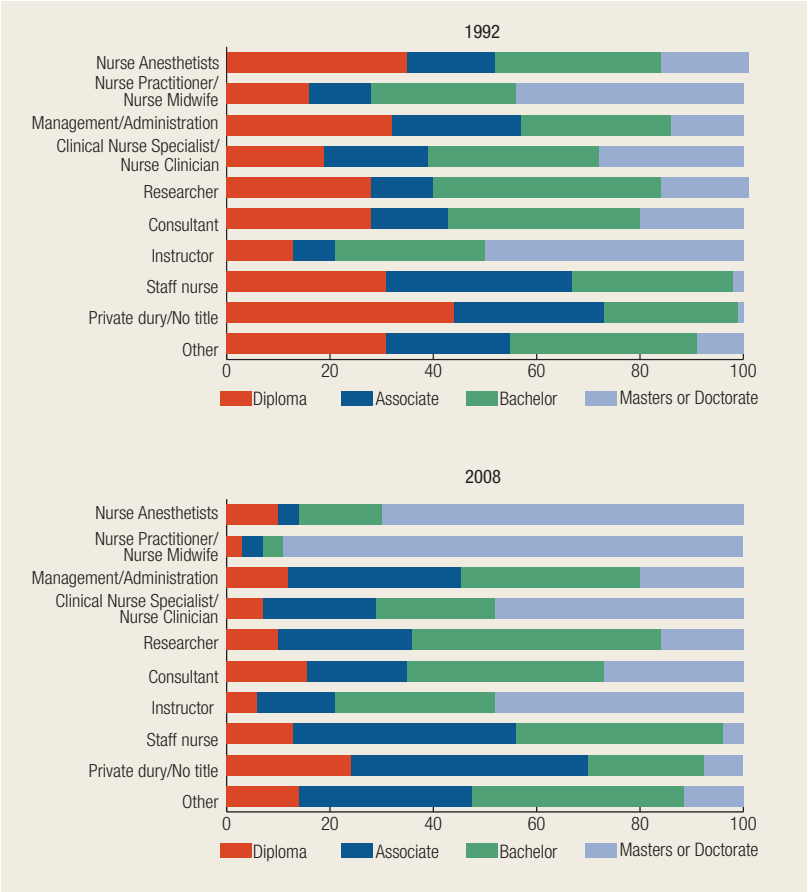


Figure 7:
Over the last two decades, nurses have increasingly required more and more postsecondary education

Source: National Sample Survey of Registered Nurses (NSSRN) 1980-2008, Health Resources and Services Administration (HRSA).

Upskilling in nursing is growing especially fast.

While qualifications and entry-level education requirements for the nursing profession are subject to debate, it's nevertheless true that nursing care is becoming increasingly complex—a trend reflected in the higher education level of working nurses across time. Between 1992 and 2008, the proportion of staff nurses (56 percent of all RNs fall into this category) with a bachelor's degree has increased from 31 percent to 40 percent. RNs in management and administration with a bachelor's degree have increased from 14 percent to 20 percent over the same period. (Management and administration account for 11 percent of the RN workforce).

Though associate's degrees in nursing pass licensure requirements at the same rate as bachelor's degrees, senior nursing positions require higher degrees.

Education levels seem to make little difference in a candidate's ability to pass the entry-level nursing examination: 93 percent of candidates with a nursing diploma passed on their first try, as did 93 percent of bachelor's degree holders and 90 percent of associate's degree holders. However, an associate's degree is not enough for advancement in the field, which usually requires a bachelor's degree or higher. Almost 80 percent of nurse practitioners and 61 percent of nurse anesthetists have a master's degree.

Table 4: Over 70 percent of registered nurses in advance practice have a master's degree or better

Occupation	Less than High School	High School Diploma	Some College/ Associate's Degree	Bachelor Degree	Master Degree	Professional Degree	Doctoral Degree
Nurse Anesthetists	0%	0%	10%	18%	61%	9%	1%
Nurse Practitioners and Nurse Midwives	0%	0%	3%	7%	79%	9%	2%
Registered Nurses	0%	1%	44%	45%	8%	1%	0%
Licensed Practical and Licensed Vocation	1%	20%	74%	4%	1%	0%	0%
Nursing, psychiatric, and home health aides	12%	37%	43%	6%	1%	1%	0%

Source: IPUMS Data
(Steven Ruggles, J. Trent Alexander, Katie Genadek, Ronald Goeken, Matthew B. Schroeder, and Matthew Sobek. Integrated Public Use Microdata Series: Version 5.0 [Machine-readable database]. Minneapolis: University of Minnesota, 2010.)

The shift towards bachelor's degrees in nursing will crowd out some minorities.

As higher education transitions to a system of lifelong learning, it's not clear which is the best way to ensure that nurses entering the workforce have the education they need. Increasingly, a bachelor's degree is going to be a minimum requirement; the only question is whether new nurses need it their first day on the job, or whether they can acquire some basic occupational skills and continue their education while working—a model that might help poor and minority students move into the field. Compared to Whites and Asians, African-American and Hispanic nurses are more likely to have a diploma or associate's degree, as opposed to a bachelor's degree in nursing.

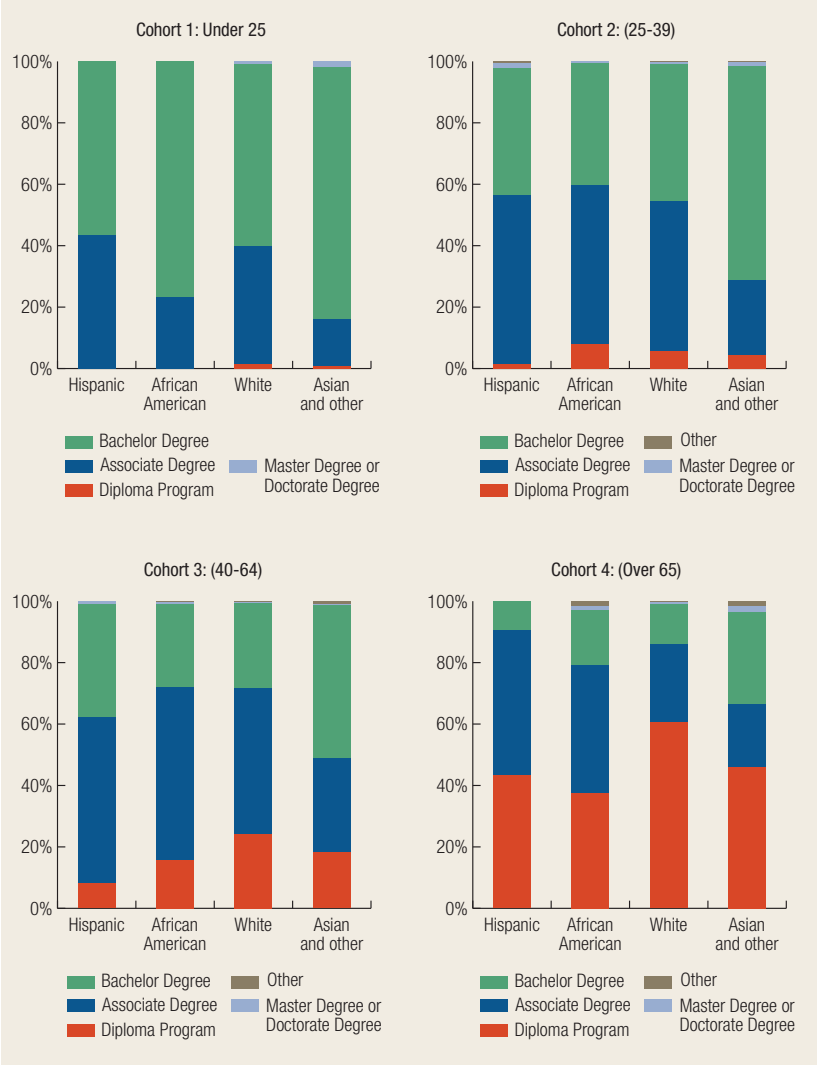


Figure 8:
Younger registered nurses have higher attainment level than more mature nurses on average. Asian nurses have the highest attainment levels of all

Source: National Sample Survey of Registered Nurses (NSSRN) 1980-2008, Health Resources and Services Administration (HRSA).

Healthcare skills are concentrated in science, technology, engineering and mathematics (STEM) fields, but healthcare poaches STEM talent from other high-skill occupations because of high wages and different work values.

Healthcare professional and technical occupations are similar to STEM (science, technology, engineering and mathematics) occupations in their knowledge, skills, and abilities, but differ in work values and work interests. For example, comparable levels of biology, chemistry, mathematics and computer skills are needed to be successful in both healthcare professional and technical occupations and in STEM occupations. The higher wages available in healthcare are also an incentive for many STEM workers to change fields.

Despite STEM skill sets, healthcare workers tend to value "relationship" and "support" in the workplace and have "social" work interests.

The emphasis on personal relationships, caretaking and social interactions, which are the dominant interests and values of healthcare occupations, are very distinct from the investigative, realistic and personal achievement goals dominant in STEM occupations.

Healthcare is predominantly female, yet women still make less than men.

At the top of the occupational ladder, male doctors outnumber female doctors by nearly 3:1. At the bottom, women hold 90 percent of all healthcare support jobs. The share of female physicians has been steadily increasing—44 percent of new medical school graduates are women[7]—but male physicians and surgeons earn nearly 50 percent more than women in the same occupations.[8]

Women outnumber men by a 12:1 margin in nursing, but male nurses still earn more—in part because men tend to become registered nurses, while women also become licensed practical nurses.

Healthcare has largest proportion of foreign-born and foreign-trained workers in the country.

Foreign-born workers make up nearly a quarter (22 percent) of the healthcare workforce, nearly twice the national average. As in other industries, many of these workers come from China, India, and the Philippines. Other healthcare workers come from Nicaragua, Jamaica, and South Africa, typically to fill healthcare support positions.

The foreign-born share of the healthcare workforce grew from five percent in the 1960s to a peak of 30 percent in the 1990s, before dropping to 22 percent today. The large share of foreign-born workers in healthcare is partly due to the Immigration Nursing Relief Act of 1989 and Nursing Relief for Disadvantaged Areas Act of 1999.

7. Data from the Association of American Medical Colleges, 2011.
8. Authors' analysis of pooled ACS data.

Because visa requirements limit foreign-born nurses to those holding a bachelor's degree, they are typically better educated than U.S. nurses. There is no evidence that their presence is depressing wages for American nurses.

The healthcare workforce is growing in ethnic diversity.

Table 5: Though predominantly White, healthcare professional jobs have disproportionately high percentages of African American and Asian workers (when compared to the population).

MEN	White	African American	Hispanic	Asian	Other
Dentists	81%	3%	5%	11%	***
Physicians and surgeons	72	4	6	17	***
Registered nurses	70	10	7	12	1
Licensed practical and licensed vocational nurses	54	24	12	9	***
Nursing, psychiatric, and home health aides	46	32	12	8	1
WOMEN	**White**	**African American**	**Hispanic**	**Asian**	**Other**
Dentists	61%	5%	5%	25%	
Physicians and surgeons	63	7	6	22	1
Registered nurses	77	10	5	8	1
Licensed practical and licensed vocational nurses	66	23	7	3	1
Nursing, psychiatric, and home health aides	47	35	13	4	1

Source: Pooled ACS data 2008-2010.
Cohort analysis reveals an increasingly diverse healthcare workforce in the subset of younger adults.

Historically, the healthcare sector has been segregated by gender and race, with White males holding most of the highest-paying jobs. But those barriers are breaking down: 30 percent of doctors are now women, while 11 percent of nurses are men, up from eight percent only a few years ago. The changing demographics of the healthcare workforce reflect larger demographic trends in the United States, which at some point in this century will cease to be a majority-White country. Increasing diversity among healthcare professionals is important, since cultural competency is key to effectively communicating with patients from a variety of ethnic backgrounds.

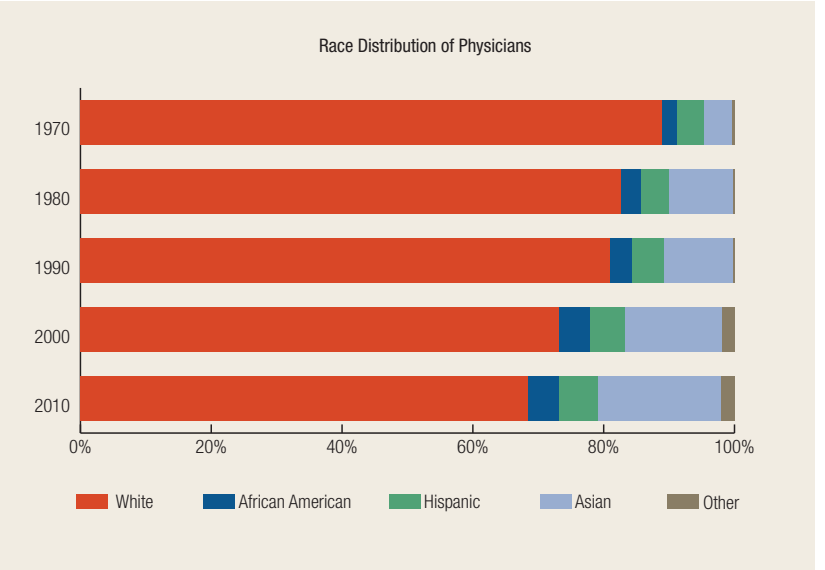
Today, 11 percent of doctors are African-American or Hispanic, up from five percent in 1970; 16 percent of all doctors today are Asian-Americans. Both male and female African-Americans are well represented in lower-level nursing and home health aides, but Hispanic workers are underrepresented.

Though upward mobility has improved for disadvantaged minority medical students, they are still underrepresented.

There is a strong correlation between socioeconomic status and access to medical school. Among White and Asian students, more than 85 percent have at least one parent with a college degree; 60 percent have a parent with a graduate degree.

Though access is improving for minorities, the medical field remains disproportionately White and Asian. Seventy-two percent of physicians are White, four percent are African-American, six percent are Hispanic and 17 percent are Asian.

Figure 9:
The proportion of minority physicians has increased steadily
Source: IPUMS data, various years



Physicians and other doctors are the highest earners in the country, and doctors tend to come from the most affluent families.

If you were to line up all workers in order of earnings, the fraction of high-income doctors would outnumber CEOs, managers and lawyers.[9]

More than 50 percent of medical school students come from families in the top income quintile in the country (combined family income of over $115,000). A

[9] In order to protect the privacy of individuals surveyed, those in the top income levels do not reveal their actual income, just the average income for people with their characteristics. In this case, the top one percent represents workers making more than $191,000 per year.

total of 75 percent of medical school students come from families in the top two quintiles (over $88,000 per year). Fewer than five percent come from the bottom quintile.[10]

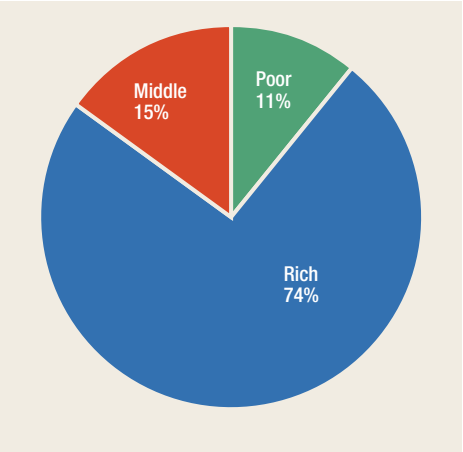


Figure 10: The children of the rich have a bigger share of the pie when it comes to access to medical school

Source: AAMC, 2011

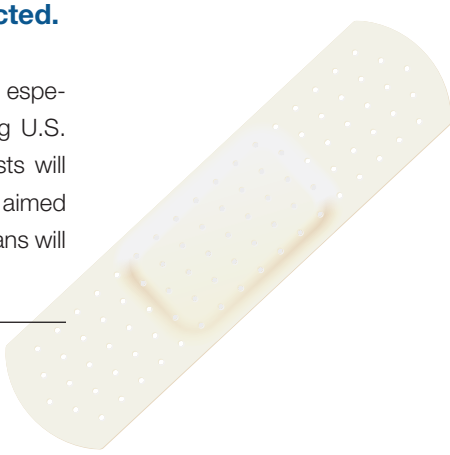
Parental income and education level are highly correlated. More than 85 percent of medical students have at least one parent with a college degree, and more than 50 percent have at least one parent with a graduate degree. Sixty-one percent of Asian students have at least one parent with a graduate degree, compared to 52 percent of White students. But that broad generalization doesn't hold for African American and Hispanic students: in those groups, parents are as likely to have no college degree as they are to have a graduate degree, and educational status seems to matter less.

Obesity continues to be a concern.

The American lifestyle, high in fast-food grease and low on exercise, gives us the highest obesity rates in the world, along with correspondingly high rates of obesity-related diseases. The Center for Disease Control and Prevention estimates that we spend $147 billion per year on obesity-related illnesses. That accounts for roughly 9 percent of all medical expenditures. And it is not going to get any better. In 1962, 13 percent of Americans were classified as obese. That number almost tripled to 36 percent in 2010 and is forecast to rise to 42 percent by 2020. In a separate state analysis, we provide an estimate of how much obesity-related illnesses are costing each state.

Conclusion: Shortages do not exist across the board; rural areas and certain specialties are disproportionately affected.

Making projections about the growth of healthcare spending is difficult, especially considering the uncertainty of the policy horizon and the pending U.S. Supreme Court ruling on the PPACA. Still, it's clear that healthcare costs will continue to take up a larger share of the GDP. The changes on the horizon aimed at reining in those rising costs will have a huge impact on the way Americans will



[10] Jolly, 2008 drew similar conclusions with data up to 2005

experience a visit to the doctor in the future—both in terms of the who they will see during that visit as well as in the underlying assumptions governing the care they will receive.

Healthcare will continue to grow fastest and provide some of the best-paying jobs in the nation—but the people in these jobs will increasingly require higher levels of education to enter the field and continuous certification once they are in.

Productivity growth in the sector is also a challenge, and it is not entirely clear how Accountable Care Organizations (ACOs) can efficiently address this problem across the board. One trend that is likely to come out of ACOs is more reliance on nurses, social workers, and other case managers. Although ACOs are a creation of the Affordable Care Act, it seems likely that the concept would move forward even if the law is repealed. Though we have seen enormous productivity growth in many of our economic sectors, education and healthcare seem to suffer the same low-productivity concerns. It's not hard to see why: both industries rely heavily on human contact, and the costs of services for both have been rising at rates faster than the rate of inflation. It's hard to estimate overall shortages in such an unproductive environment, but it's abundantly clear that rural and underserved areas will experience shortages, while prestigious specializations in medical care will continue to flourish on the East and West coasts.

These challenges are crucial to governments, employers and American families. In both education and healthcare, low-cost access to services is critical—but we clearly cannot afford all the access we need at current productivity rates. In both sectors, we are rationing access in unfair ways that hurt the least-advantaged among us the most. Everyone agrees that reform is needed in both areas, but particular polices are controversial.

These two problems are related in another way: increasing healthcare costs reduce our ability to invest in education (and other things). It's no exaggeration to say that what happens in healthcare will largely determine our ability to invest in education over the next several decades. A $150 to $200 billion savings in healthcare could completely pay for our needs in postsecondary education.

Finally, our current healthcare system also contributes to income inequality. The high-wage healthcare professions are dominated by people raised in majority and/or affluent households. Trends in nursing and elsewhere will only increase that inequality.

Healthcare
is comprised of a full report, a state report and an executive summary.
Each can be accessed at cew.georgetown.edu/healthcare

GEORGETOWN UNIVERSITY

Center
on Education
and the Workforce

3300 Whitehaven Street NW, Suite 5000
Washington, D.C. 20007
cew.georgetown.edu

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