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The impact of the affordable care act on the impending doctor shortage: a prospective analysis

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BOSTON UNIVERSITY
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Thesis

**THE IMPACT OF THE AFFORDABLE CARE ACT ON THE IMPENDING
DOCTOR SHORTAGE: A PROSPECTIVE ANALYSIS**

by

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B.A., Yale University, 2013

Submitted in partial fulfillment of the
requirements for the degree of
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MADISON SHARP

ABSTRACT

Health care reform in America has been controversial since its inception in the early twentieth century. The passage of the Affordable Care Act (ACA) by President Obama in March 2010 represents the most recent chapter in a protracted struggle between Democrats and Republicans over fundamental tenets of health care—is health care an essential human right or is it a commodity? Who should bear the financial burden of paying for health care? Should this be a federal or state issue? And how do we insure more individuals but still cut rising costs?

This thesis explores the history of health care reform, from pre-World War I to post-Cold War, and then delves into the basic provisions of the ACA. An overview of the impending physician shortage, including the methodology of the physician supply and demand projections, the different variables included in the analysis, and how physician supply and demand can be expected to change over time given the different variables, is included. After reviewing the ACA and the doctor shortage independently, the next stage of analysis incorporates this information to explore the impact of the ACA on the impending doctor shortage.

The discussion section provides further insight into this subject and concludes with future considerations—including the upcoming presidential election—as well as limitations of this thesis and ideas for additional research.

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LIST OF ABBREVIATIONS

| | |
|-------|--|
| AAMC | Association of American Medical Colleges |
| ACA | Affordable Care Act |
| ACO | Accountable Care Organization |
| APRN | Advanced Practice Registered Nurse |
| CHIP | Children’s Health Insurance Program |
| FQHC | Federally Qualified Health Center |
| GDP | Gross Domestic Product |
| HHS | Department of Health and Human Services |
| MC | Managed Care |
| NHE | National Health Expenditures |
| NP | Nurse Practitioner |
| PA | Physician Assistant |
| PCMH | Patient-Centered Medical Home |
| PPACA | Patient Protection and Affordable Care Act |

INTRODUCTION

Overview of the Affordable Care Act

On March 23, 2010, President Barack Obama passed the Patient Protection and Affordable Care Act (PPACA), a federal statute approved by the U.S. House of Representatives three days earlier despite no Republican support (Harrington, 2010). Along with the Health Care and Education Reconciliation Act amendments, the PPACA constitutes the most wide-reaching federal social initiative since the enactment of Medicare and Medicaid in 1965 under Lyndon B. Johnson's presidency. The goal of the PPACA, commonly called the Affordable Care Act (ACA) or Obamacare, is to expand public and private health insurance coverage, improve the quality of care, and reduce health care costs (Hall & Lord, 2014).

The polarizing nature of the ACA has been reflected in health policy literature since the act's inception. For example, some argue that single-payer national health insurance should replace the ACA given that health care spending has grown rapidly due to governmental and net health insurance costs, and nearly 40 million Americans will be uninsured by the time the ACA is completely implemented in the next five years, as shown below in Figure 1 (Geyman, 2015). Proponents laude the ACA's achievement of enabling nine million previously uninsured people to receive coverage by subsidizing private insurance, expanding Medicaid, and prohibiting insurers from refusing applicants based on pre-existing conditions (May, 2014). Other studies measure public opinion and knowledge of the ACA, examine unresolved issues now facing millions of Americans with improved access to health care services, and assess the challenges faced by

uninsured individuals when selecting health care plans (DiJulio, Firth, & Brodie, n.d.; Politi et al., 2015; Kapp, 2011).

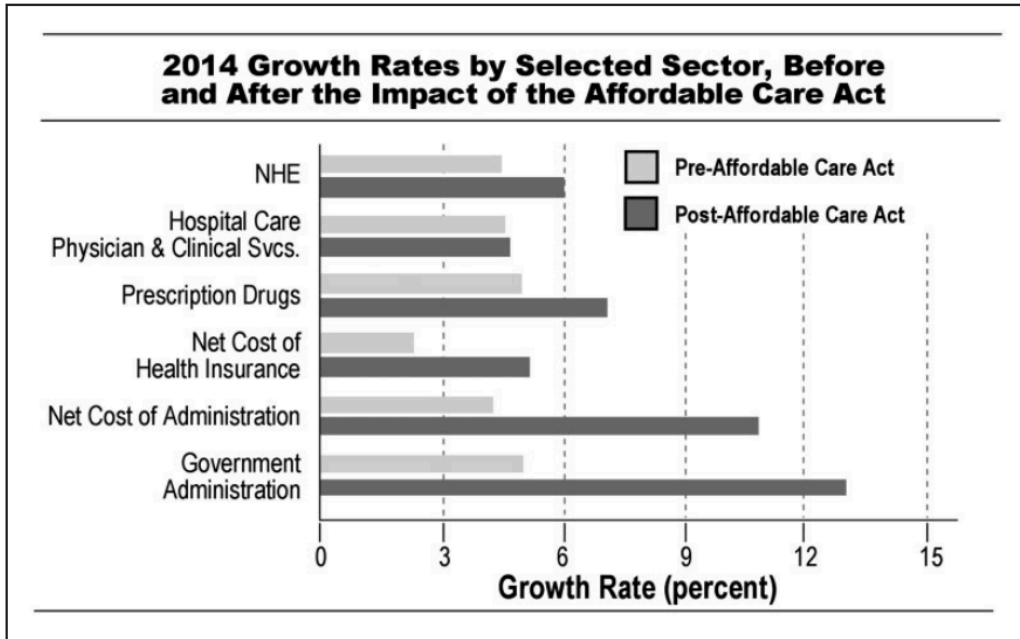


Figure 1. Growth rates from 2014 before and after implementation of the ACA. National health expenditures (NHE), hospital care, prescription drug costs, net cost of insurance, and governmental and administrative costs all increased after passage of the ACA. The x-axis refers to the percent of growth rate and the y-axis refers to various costs associated with health care. The light gray bars measure pre-ACA growth rates; the dark gray bars measure post-ACA growth rates. Notably, administration costs increased significantly after the passage of the ACA. Figure amended from Geyman, 2015.

Background on American Health Care Reform

In order to understand fully the events that precipitated the passage of the ACA, it is necessary to examine America’s long and controversial history of health care reform. In his 2011 book *Remedy and Reaction: The Peculiar American Struggle over Health Care Reform*, sociology professor Paul Starr provides a lucid chronology and historical analysis of American health care reform. Starr recognizes that no other country has

engaged in such a prolonged and controversial debate over who should pay for health care and who deserves coverage. This bitter struggle has its roots in the first half of the twentieth century when the United States failed to establish general policies for health care coverage. By the second half of the twentieth century, America was the only industrialized country that lacked a system to provide affordable health care to every citizen (Starr, 2011).

The United States currently spends approximately 17 percent of its gross domestic product (GDP) on health care, nearly double the average for other capitalist democracies (9 percent), but its patient outcomes are considerably worse. These costs have risen in recent decades: in 1970, America spent 7 percent of its GDP on health care, a figure in line with other democratic countries: Britain spent 4.5 percent, Sweden spent 6.8 percent, and Canada spent roughly 7 percent. By 2007, the United States was spending 42 percent more on health care than its national income would suggest. Americans do not spend more time in the hospital, attend more doctors' appointments, or have significant differences in disease profiles compared to other countries to explain these differences. Instead, high medical costs—drugs, physician visits, hospital admissions, etc.—are the main culprit (Starr, 2011).

The ideological battle that has shaped health care today has its roots in rhetoric that dates back to before World War II. During the mid-twentieth century, the organized medical profession and the insurance industry fought against public health insurance programs. They collectively shaped a script for health care that resonated during conflicts

with Germany and the Soviet Union, both of which were associated with socialized medicine (Brill, 2015).

Starr contends that this rhetoric has created a legacy that conservatives frequently summon when they block government-funded insurance reform. Many other democratic countries implemented some variant of universal coverage around this time: “In the other rich, capitalist democracies, conservative parties generally do not question the basic proposition, resolved long ago in those countries, that the cost of health care should be primarily a public obligation. Only in the United States is public responsibility for health-care costs equated with a loss of freedom” (Starr, 2011).

The health care system has proved difficult to change for many reasons. Special interests, complicated national values, the complexity of health care reform, lack of trust in politicians and politics, and a system that obscures the true costs of health insurance all play a role. As mentioned previously, drug companies, hospitals, and physicians have historically fought against the implementation of organized insurance. In addition, pre-ACA policies protected enough of the public to make them resistant to change, and the persistently uninsured do not have a voice in these matters. Starr argues that protected groups—veterans, the elderly, and families of employees with good benefits—may believe that they have earned their coverage and that other groups have not (Starr, 2011).

Lastly, the health care system is shrouded in confusion. Not every nation with universal coverage has implemented a single governmental system, but those with multiple sources of insurance have devised a standardized set of rules regulating payment and other provisions. Because health care has grown increasingly convoluted, many

individuals and families have difficulty understanding their coverage. In addition, because health insurance costs are typically split between an employer and employee, individuals paying for health insurance often do not know the cost of the total bill, nor are they aware that the employer's contribution is excluded from taxable income. Implementing a single payer system, for instance, would require overcoming all of these factors—fierce political opposition, resistance from protected groups and special interests, and the complexities of the system (Starr, 2011).

Health coverage emerged as a public issue during the Progressive era between 1915 and 1919. Government health insurance programs had spread through Europe, but the United States had failed to enact similar compulsory insurance. Reformers during this time believed that paying for medical care and incentivizing strong public health measures was consistent with the ideals of an enlightened society. However, support for a government insurance program dissipated during World War I as public policy shifted to domestic reform (Brill, 2011).

As unified proposals failed, Congress passed piecemeal legislation to provide coverage to protected groups. For instance, after World War I Congress created health care benefits and hospitals specifically for veterans. In the 1950s, the government implemented tax subsidies for members with employer-sponsored health insurance. Medicaid and Medicare were established in 1965 to provide coverage for low-income individuals and the elderly, respectively. Additional programs have been created to insure those with specific illnesses (Starr, 2011).

The New Deal represented a promising time to adopt a universal health program. President Roosevelt, however, was unable to pass legislation due to opposition from the insurance industry, the American Medical Association, and a coalition of Republicans and conservative Democrats. The United States became tangled in a policy trap post-World War II by implementing employer-based insurance and by creating separate government programs for the elderly and the poor—the health care system became too complicated and protected enough of the public to prevent change (Starr, 2011).

Certain core tenets of what is now the ACA were first espoused by conservative politicians. During 1971, President Nixon implemented a national health strategy that introduced the employer mandate—now an integral component of the ACA—requiring employers to pay for 75 percent of their workers’ premiums. Nixon also established the notion of a “health maintenance organization,” where clinicians are reimbursed through capitation payments rather than the typical fee-for-service model. The Comprehensive Health Insurance Plan was sent to Congress in 1974, but the plan was dropped later that year when Nixon resigned due to the Watergate scandal (Brill, 2015).

Other presidents in office during this era, namely Kennedy, Ford, and Carter, drafted variations of universal coverage but none came to fruition. Throughout the 80s and 90s, health care costs and the proportion of the population lacking insurance both rose dramatically. Universal coverage reentered the political landscape in 1992 when Democratic nominee Bill Clinton started to shape a new health care plan—one that provided universal coverage with competing private plans and a cap on spending. However, the decisively partisan climate of 1994, widespread congressional

disagreement, and a lack of public support ultimately thwarted Clinton's efforts to reform health care legislation (Starr, 2011).

Throughout the late 1990s, Republicans attempted and failed to scale back Medicare and Medicaid. In 1997, Clinton and a Republican Congress passed a new insurance program for children from families who were neither poor enough to qualify for Medicaid nor wealthy enough to afford employer-based insurance. Known as the Children's Health Insurance Plan (CHIP), this program expanded healthcare access to children. Together, CHIP and Medicaid reduced the number of uninsured children from 22.3 percent in 1997 to 14.9 percent in 2005. However, many working-age adults remained in the middle, unable to afford private insurance but ineligible for public assistance (Starr, 2011).

Under the leadership of Republican governor Mitt Romney, Massachusetts became the first state to pass near-universal health coverage in 2006. Although this provided a model for reform, similar bipartisan support for a nationwide system proved elusive a few years later as President Obama worked to pass his own nationwide health care legislation. Ideological polarization ensured that the drug industry lobbying group—the Pharmaceutical Research and Manufacturers of America, known as PhRMA—obtained concessions and that a proposed public health insurance option did not make it into the bill (Brill, 2015).

The final vote was 219 to 212; not a single Republican voted in favor of the legislation. Two days later, Obama signed the ACA into law.

ACA Provisions and Stipulations

The ACA strives to expand access to health insurance, increase affordability, prioritize preventative services, improve insurance quality, and reduce health care expenditures. This section will review the ACA's key provisions and stipulations.

Health Insurance Exchanges

The ACA aims to provide health coverage to 32 million previously uninsured individuals by 2017 by requiring U.S. citizens and legal residents to have insurance and by expanding public and private insurance. One of the ACA's most important provisions is the creation of American Health Benefit Exchanges and Small Business Health Options Program Exchanges. The Health Insurance Exchange Marketplace, which opened October 1st, 2013, allows Americans to purchase coverage from competing health care providers (Obamacare Health Insurance Exchange, 2015). Individuals can use online calculators to determine their eligibility for cost assistance subsidies, including reduced premiums and cost-sharing credits for those whose income falls between 133 and 400 percent of the federal poverty level (Summary of the Affordable Care Act: Kaiser Family Foundation, 2013). Individuals and families must obtain or switch coverage during the open enrollment period, which occurs for three months during the year. Certain individuals may qualify for special enrollment (Open Enrollment Period: Kaiser Family Foundation, 2015). Private insurance has no official enrollment period, but most insurers have adopted similar timelines (Obamacare Health Insurance Exchange, 2015).

Types of Health Insurance Plans

There are four different qualifying plans offered through the ACA—bronze, silver, gold and platinum—as well as a catastrophic plan. Each plan must provide at least ten essential health benefits, including emergency services, hospitalization, ambulatory services, mental health treatment and addiction services, maternity and newborn care, prescription drugs, rehabilitative services, laboratory services, preventive services and chronic disease management, and pediatric services. The average American used to spend approximately 20 percent of his or her income on health insurance. Under the ACA, the cost of the bronze and silver plans are capped at 9.5 percent of income and the gold and platinum plans are capped at 12 percent of income (Obamacare Health Insurance Exchange, 2015).

The more affordable bronze plan covers 60 percent of the benefit costs of the plan, but also has higher deductibles and larger out-of-pocket expenses. Under the silver plan, insurers cover 70 percent of the health expenses, while the plan holder pays the other 30 percent. The gold plan splits expenses 80-20 and features higher premiums with lower deductibles. The platinum plan covers 90 percent of the benefit costs of the plan and has the highest monthly premiums. Platinum plans are best for those who need costly medical treatment. In addition to providing ten essential health benefits, all of the so-called “metal” plans must have a maximum out-of-pocket cost of no more than \$6,350 for an individual and \$12,700 for a family (Obamacare Health Insurance Exchange, 2015).

The catastrophic plan, available to individuals under 30 and those with hardship exemptions, provides coverage at levels determined by the legal limits of the Health Savings Account. Such plans have low premiums but very high out-of-pocket costs and high deductibles (Summary of the Affordable Care Act: Kaiser Family Foundation, 2013).

Individual Mandate

Beginning in 2016, those who do not obtain minimum essential coverage or qualify for an exemption are required to pay a fine. Individuals will be fined the greater of \$695 per year or 2.5 percent of taxable income in 2016. Exemptions are permitted for those with religious objections or financial hardship, and for American Indians, undocumented immigrants, incarcerated individuals, and those who lack health insurance for less than three months. Individuals insured under Medicare, Medicaid, CHIP, the veteran's health program, an employer-sponsored plan, or TRICARE are not required to pay a fine (The Requirement to Buy Coverage Under the Affordable Care Act: The Kaiser Family Foundation, 2015). The individual mandate is critical to the success of the ACA: as more healthy people enroll in coverage, premium increases are less likely to occur.

Employer Requirement

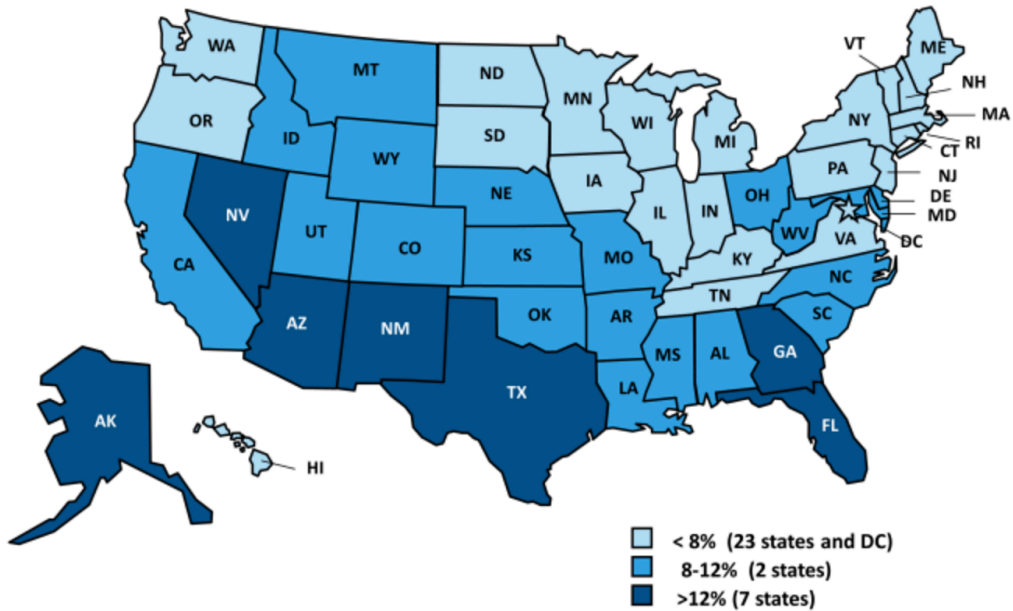
Small business owners can purchase health insurance through online exchanges as well. Employers with more than 200 employees are required to enroll employees into a health insurance plan.

Medicaid and CHIP Expansion

The ACA expanded Medicaid to individuals under the age of 65 whose incomes are no more than 133 percent of the federal poverty line. However, the Supreme Court ruled that the Department of Health and Human Services (HHS) has only limited power to enforce this expansion. As a result, individual states have the option of expanding Medicaid. States received full funding to cover newly eligible Medicaid individuals between 2014 and 2016. Federal financing will decrease to 90 percent in 2020 and thereafter (Open Enrollment Period: Kaiser Family Foundation, 2015).

CHIP was created to provide health insurance to children in low-income families who were not covered under Medicaid. CHIP provided health coverage to approximately eight million children in 2014 (Total Number of Children Ever Enrolled in CHIP Annually: Kaiser Family Foundation, 2016). However, more than seven million children still lack health insurance and nearly half of all uninsured children live just in six states (Figure 2).

Uninsured Rates for Children by State, 2011-2012



SOURCE: KCMU/Urban Institute analysis of the 2013 ASEC Supplement to the CPS.



Figure 2. Uninsured Rates for Children by State, 2011-2012. Forty-nine percent of children without insurance live in Arizona, California, Florida, Georgia, New York, and Texas. Figure amended from the Kaiser Family Foundation, 2014.

Additional Provisions

The ACA allows children to stay on their parents' health care plans until the age of 26. Additional reforms include banning insurance companies from denying customers on the basis of pre-existing conditions, prohibiting lifetime caps on insurance coverage, and preventing insurance companies from rescinding coverage except in cases of fraud. Insurers are also required to report premium dollars spent on clinical services and to provide rebates to customers if they spend less than 80 percent of premiums on medical

care or quality improvement (Summary of the Affordable Care Act: Kaiser Family Foundation, 2013).

Emphasis on Prevention and Wellness

The ACA covers 63 free preventive services, including blood pressure and cholesterol screenings. The Prevention and Public Health Fund was established in 2010 to incentivize states to promote vaccinations, health screenings and other preventive services. Medicaid and Medicare payments for certain preventive services have increased, and Medicaid is responsible for paying for tobacco cessation programs for eligible pregnant women. The ACA also established a grant program to reduce health disparities in rural areas and promote community-based health efforts. Employers are also allowed to offer employees premium discounts or other benefits up to 30 percent the cost of health care coverage if they enroll in wellness programs and reach certain thresholds (Summary of the Affordable Care Act: Kaiser Family Foundation, 2013). Moreover, restaurants with greater than 20 locations are required under the ACA to disclose nutritional information, including calorie counts, for standard menu items (Federal Register, 2014).

Payment Methodologies

In addition to increasing access to health care, the ACA also attempts to cut costs and inefficiencies by reshaping payment structures. The ACA has tested new models of health care delivery and shifted from a fee-for-service model to a reimbursement system

aligned with value-based performance metrics. Critics of Medicare claim that the federal program does not effectively coordinate care across different services and providers and that it privileges the quantity of care over quality. To address these shortcomings, the ACA included a National Pilot Program on Payment Bundling to evaluate the impact of bundled payments for inpatient and outpatient services. During this trial, a cohort of Medicare clinicians received a single payment for an episode of acute care. The trial demonstrated strong potential for cost savings (Sood et al., 2011).

Risk Adjustment

The ACA hinges on the successful implementation of a risk adjustment program, which allows insurers to accept high-risk patients but still charge the same premium rate as a plan enrolling greater low-risk patients. The HHS risk adjustment methodology is designed to capture differences in coverage plan efficiency and quality, not differences in the health status of enrolled members (Kautter et al., 2014).

Overview of the Impending Physician Shortage

One of the most comprehensive studies examining the impending physician shortage, titled “The Complexities of Physician Supply and Demand: Projections from 2013 and 2025,” was prepared for the Association of American Medical Colleges (AAMC) by IHS. The study used microsimulations to project supply and demand in the health workforce. Variables used in the analysis included retirement patterns, number of patient care hours, number of physicians entering the field, whether younger physicians

will have similar work-life balance as older doctors, the impact of various payment methodologies, the implementation of value-based payment models, and the projected specialties of physicians (IHS, 2015).

The two main sources of data include the 2013 AMA Physician Masterfile and the HHS's Health Professional Shortage Areas findings. The study also extrapolated data from the ACA to model scenarios assuming expansion of integrated care models, increases in advanced practice registered nurses (APRNs), ambiguity surrounding immigration legislation, and advancements in medical technology (IHS, 2015).

According to the report, the United States will experience a shortage of 50,000 to 90,000 doctors by 2025, with severe shortages in specialty care and surgery (Dall et al., 2015). A recent study claimed that the increased demand for physicians, which will soon outpace supply, is exacerbated by an aging, growing population and federal funding levels for residency training that have remained unchanged since 1997 (IHS, 2015).

The current physician workforce consists of nearly 770,000 practitioners, a third of whom are expected to retire within the next decade. Specifically, the United States is projected to experience a shortage of between 12,500 and 31,000 primary care physicians by 2025. The greatest demand for doctors is expected to occur in surgical specialties and primary care (IHS, 2015).

Factors Impacting the Impending Physician Shortage:

The increased supply of nurse practitioners (NPs), other APRNs, physician assistants (PAs), and other health care professionals may alleviate the magnitude of the

doctor shortage. In fact, only 29,400 APRNs are required to maintain the current rate of growth in APRN staffing levels; the health care system could accept an additional 114,900 APRNs to mitigate the health care shortage. Although the rapid increase in PAs and APRNs is expected to mollify the physician shortage, overall shortfalls are still expected to persist (Dall et al., 2015). Nineteen states, as well as the District of Columbia, have passed legislation allowing NPs to prescribe medication, diagnose, and treat patients without physician oversight (IHS, 2015).

There are many similarities, but also important differences, among NPs, PAs, and other APRNs. NP is the most common type of APRN, but clinical nurse specialist, nurse midwife, and nurse anesthetist all fall under this category. NPs typically adhere to a patient-centered model, while PAs follow a disease-centered model. NPs are trained as specialists; PAs usually pursue a generalist path. NPs require a Master of Science in Nursing or a Doctor of Nursing Practice and must complete 500 didactic hours and up to 700 clinical hours. On the other hand, PAs need a master's degree and require 1,000 didactic hours and more than 2,000 clinical hours (Nurse Practitioner Schools, 2014).

The Bureau of Labor Statistics estimates that 127,200 NPs were actively practicing in the United States in 2013. Forty-three percent of NPs were in primary care, and of the 13,000 new NPs who completed their medical education in 2013 and were planning to enter patient care, 45 percent are expected to enter primary care (IHS, 2015).

Shifting Patient Demographics

One of the primary factors affecting physician supply and demand is changing patient demographics. America's population was projected to grow by 10 percent between 2013 and 2015, and the population over 65 years of age was expected to grow 46 percent. In comparison, the population under 18 was expected to grow by only 5 percent. Although these numbers will not be verified until the 2020 census, health care reform must immediately address the needs of an aging population, particularly as more "baby boomers" become eligible for Medicare. Geriatric medicine and vascular surgery are expected to expand the most; pediatric specialties and obstetrics and gynecology will experience the slowest growth (IHS, 2015).

Demographic changes, particularly in ethnicity and race, will also shift the health care landscape. In fact, demographic changes will have a much greater impact on health services than expanding coverage under the ACA: "based on changing demographics alone, demand for hospital inpatient care is projected to grow by 23% percent nationally between 2013 and 2025 compared with 12% for emergency department visits, 14% for physician office visits and 15% for outpatient visits." Thus, America's pending demographic shifts, in particular the aging of the general population, will exacerbate an already dangerous shortage of medical personnel (IHS, 2015).

Increased Use of Managed Care and Retail Clinics

Other factors influencing physician supply and demand include the rise of managed care and the increased use of retail clinics. Managed care has thus far had little impact on physician demand, but it is projected to affect the mix of specialties by 2025:

demand for primary care doctors will increase by 9,300 doctors, medical subspecialties will decrease by 6,300 doctors, surgical specialties will increase by 2,800 doctors, and other specialties will decrease by 1,100 (IHS, 2015).

Retail clinics, which provide care within pharmacies and stores, are expanding due to convenience, after-hours accessibility, and low costs. Retail clinics are particularly effective if wait times for doctors continue to increase. Increased use of such clinics would reduce the need for primary physicians in 2025 by 13,600 doctors (see Table 1).

Table 1: Physician Demand Summary by Scenario, 2013-2025*

| | 2013 | 2025 | Growth 2013 to 2025 | % Growth 2013 to 2025 |
|--|----------------|----------------|---------------------|-----------------------|
| Scenario 1: Changing Demographics | | | | |
| Total | 778,200 | 890,300 | 112,100 | 14% |
| Primary Care | 249,000 | 287,100 | 38,100 | 15% |
| Non-primary Care | 529,200 | 603,200 | 74,000 | 14% |
| Medical Subspecialties | 125,600 | 150,300 | 24,700 | 20% |
| Surgery | 155,300 | 175,300 | 20,000 | 13% |
| Other Specialties | 248,300 | 277,600 | 29,300 | 12% |
| Scenario 2: Changing Demographics + ACA Medical Insurance Expansion | | | | |
| Total | 778,200 | 906,700 | 128,500 | 17% |
| Primary Care | 249,000 | 292,300 | 43,300 | 17% |
| Non-primary Care | 529,200 | 614,400 | 85,200 | 16% |
| Medical Subspecialties | 125,600 | 152,500 | 26,900 | 21% |
| Surgery | 155,300 | 180,500 | 25,200 | 16% |
| Other Specialties | 248,300 | 281,400 | 33,100 | 13% |
| Scenario 3: Changing Demographics + ACA + Managed Care | | | | |
| Total | 778,200 | 911,400 | 133,200 | 17% |
| Primary Care | 249,000 | 301,600 | 52,600 | 21% |
| Non-primary Care | 529,200 | 609,800 | 80,600 | 15% |
| Medical Subspecialties | 125,600 | 146,200 | 20,600 | 16% |
| Surgery | 155,300 | 183,300 | 28,000 | 18% |
| Other Specialties | 248,300 | 280,300 | 32,000 | 13% |
| Scenario 4: Changing Demographics + ACA + Increased Use of Retail Clinics | | | | |
| Total | 778,200 | 893,100 | 114,900 | 15% |
| Primary Care | 249,000 | 278,700 | 29,700 | 12% |
| Non-primary Care | 529,200 | 614,400 | 85,200 | 16% |
| Medical Subspecialties | 125,600 | 152,500 | 26,900 | 21% |
| Surgery | 155,300 | 180,500 | 25,200 | 16% |
| Other Specialties | 248,300 | 281,400 | 33,100 | 13% |
| Scenario 5: Changing Demographics + ACA + Increased Use of Advanced Practice Nurses (moderate practice level) | | | | |
| Total | 778,200 | 885,900 | 107,700 | 14% |
| Primary Care | 249,000 | 281,600 | 32,600 | 13% |
| Non-primary Care | 529,200 | 604,300 | 75,100 | 14% |
| Medical Subspecialties | 125,600 | 149,900 | 24,300 | 19% |
| Surgery | 155,300 | 179,800 | 24,500 | 16% |
| Other Specialties | 248,300 | 274,600 | 26,300 | 11% |
| Scenario 6: Changing Demographics + ACA + Increased Use of Advanced Practice Nurses (high practice level) | | | | |
| Total | 778,200 | 865,000 | 86,800 | 11% |
| Primary Care | 249,000 | 270,800 | 21,800 | 9% |
| Non-primary Care | 529,200 | 594,200 | 65,000 | 12% |
| Medical Subspecialties | 125,600 | 147,300 | 21,700 | 17% |
| Surgery | 155,300 | 179,200 | 23,900 | 15% |
| Other Specialties | 248,300 | 267,700 | 19,400 | 8% |

*This table explores different scenarios (e.g. changing demographics, increased use of retail clinics, increased use of APRNs, etc.) and how they impact the supply and demand of physicians through 2025. Table amended from IHS, 2015.

Current and Projected Supply of Physicians

Modeling physician supply and demand scenarios requires the input of many constantly evolving variables. In the IHS report, statisticians made the conservative assumption that supply and demand were in equilibrium in 2013, except for a shortage of 8,200 primary care clinicians and 2,800 psychiatrists. Thus, overall demand exceeded supply by 11,000 clinicians. However, studies have reported unusually long delays to see a provider, as well as a shortage of endocrinologists and neurologists (IHS, 2015). Figure 4 portrays the projected supply, demand, and shortfall specifically for primary care providers until 2025.

In Figure 5, IHS compared different supply scenarios to determine physician supply in 2025 as accurately as possible. For instance, physician supply would grow by 27,900 providers by 2025 if doctors delayed retirement by an average of two years. Another possible scenario—if recently graduated clinicians worked fewer hours than their older counterparts—would result in a reduced supply by 24,800 providers. If both of these scenarios occurred, the supply would rise by 3,100 doctors. Figure 6 depicts the 25th to 75th percentile of the projections, which suggests a shortage of between 46,000 and 90,400 doctors (IHS, 2015).

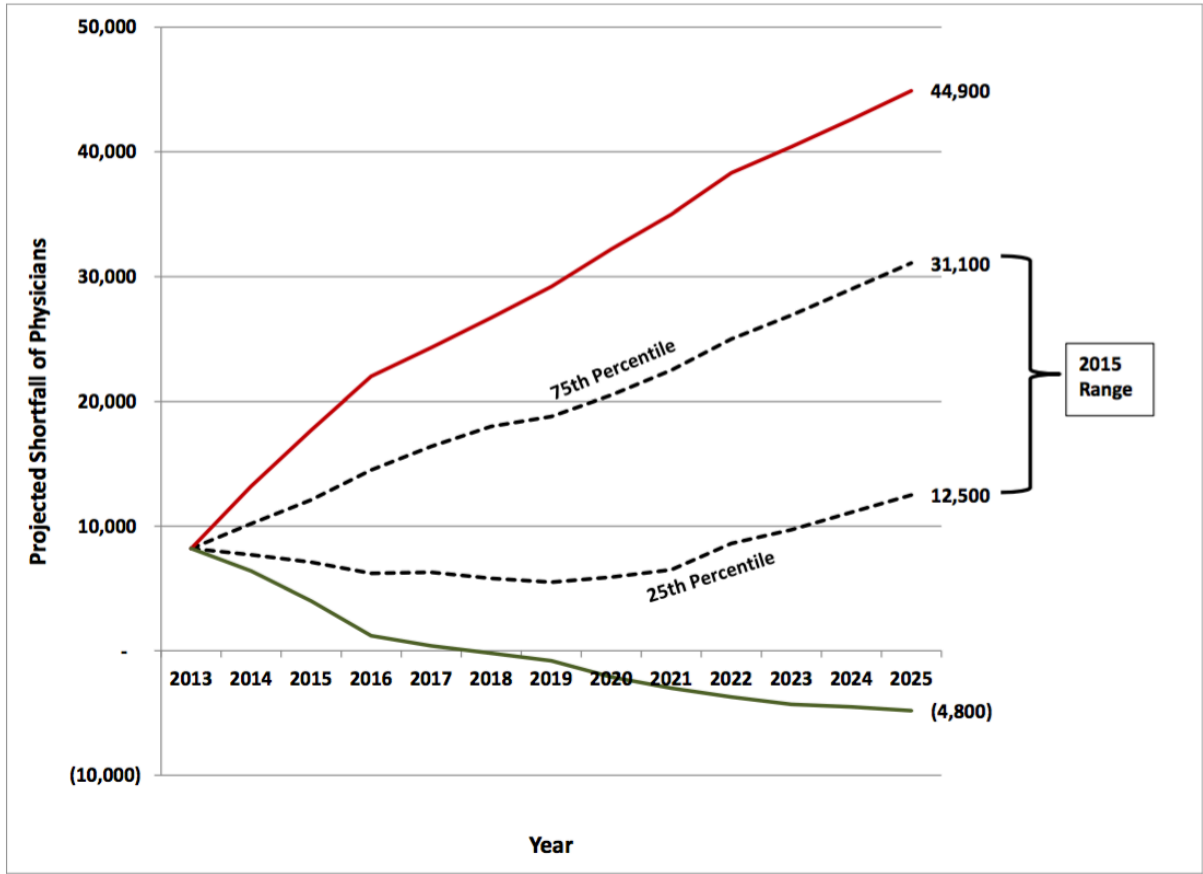


Figure 3: Projected Primary Care Physician Shortfall, 2013-2025. The x-axis shows the year and the y-axis lists the projected shortfall of physicians. The 2015 range is expected to fall between 31,100 and 12,500. At either extreme, there may be a shortfall of 44,900 or 4,800 primary care physicians. Figure amended from IHS, 2015.

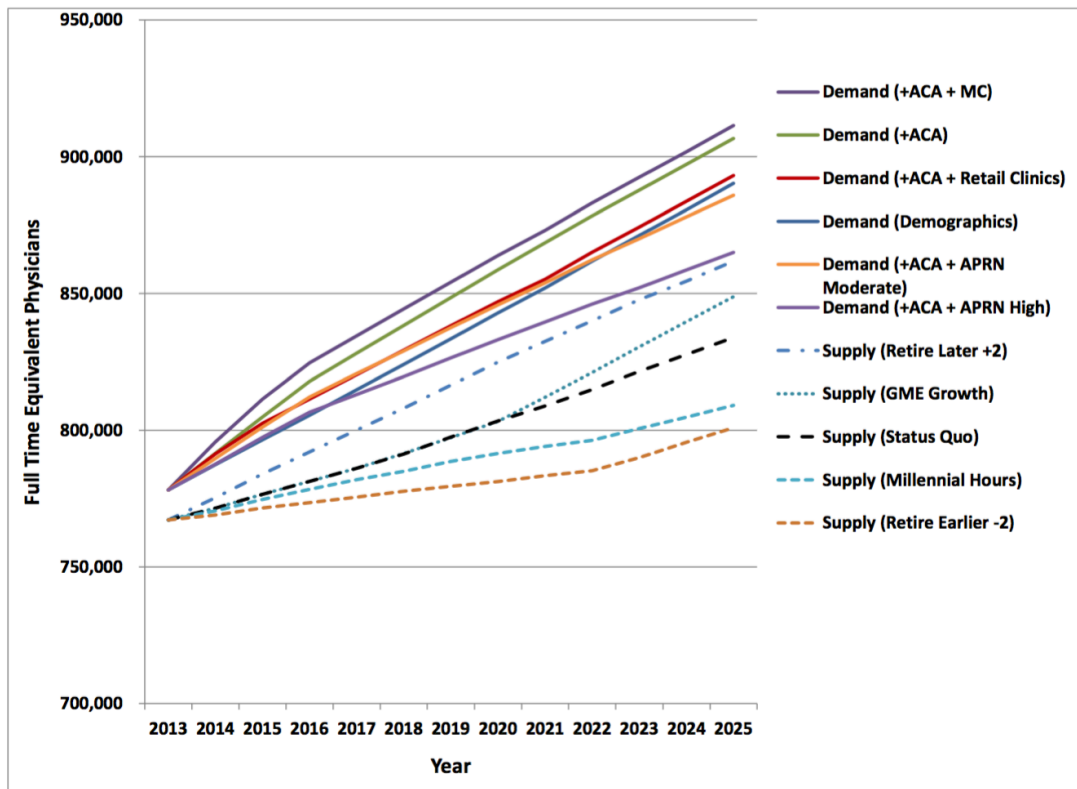


Figure 4: Projected Total Supply and Demand for Physicians 2013-2025. The x-axis shows the year and the y-axis lists the number of physicians. The demand analysis takes into account the impact of the ACA, managed care (MC), retail clinics, shifting demographics, and the changes in APRN supply. The supply analysis considers age of retirement, graduate medical education (GME) growth, and changes in younger physicians' working hours. Figure amended from IHS, 2015.

Trends Not Included in Physician Supply/Demand Projections

The above projections, though thorough, are not all-encompassing. They fail to take into account several variables, some of which may alleviate the impact of the shortage. For instance, the introduction of different payment structures, such as capitation and bundled payments, could prove beneficial in increasing efficiency and reducing costs. The increased supply of PAs, immigration reform, reductions in hospitalizations,

and the growing use of concierge medicine were not included in the IHS analysis. Currently, the limited data regarding these factors restricts their ability to model their potential impact or draw any significant conclusions. Another complication is that approximately 29,000 physicians complete their graduate medical education annually. The Resident Shortage Reduction Act of 2015, which was introduced to the Subcommittee on Health on April 30, 2015, added another 15,000 residency slots over five years. These additional residency positions would increase the supply of doctors and help mitigate the impending shortage. However, these projections were not included in the IHS study (IHS, 2015).

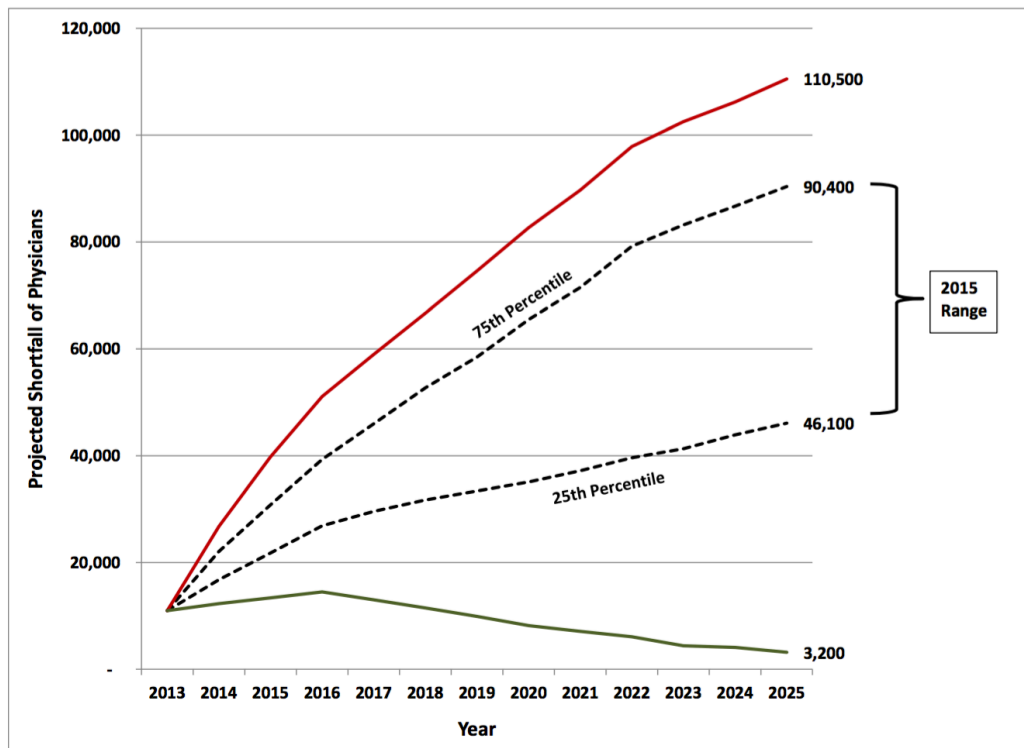


Figure 5: Projected Total Physician Shortfall, 2013-2025. The x-axis shows the year and the y-axis lists the projected shortfall of physicians. The 2015 range is expected to fall between 90,400 and 46,100. At either extreme, there may be a shortfall of 110,500 or 3,200 physicians. Figure amended from IHS, 2015.

OBJECTIVES

There is no general consensus regarding the impact the ACA will have on the impending doctor shortage, which is likely because both the passage of the ACA and awareness of the impending doctor shortage are recent occurrences. Furthermore, polarizing opinions on the ACA have prevented researchers from agreeing on the ACA's future impact. Thus, the aim of this thesis is to shed light on this relatively unresolved topic.

The specific aims of this study are:

- 1) To review relevant literature on the ACA and provide a clear overview of its history and basic provisions
- 2) To characterize the impact of the impending physician shortage
- 3) To determine if the ACA will mitigate, exacerbate, or have no impact on the impending physician shortage

The goal of this thesis is to develop a more comprehensive understanding of America's current health care system and its impact on patients and physicians within the next ten years.

PUBLISHED STUDIES

Impact of the ACA on the Impending Physician Shortage

Although there are studies examining the ACA and studies examining the impending physician shortage, there is limited information available that discusses whether the former will mitigate, worsen, or have no affect on the latter.

The AAMC projects that the ACA will increase physician demand by 17,000 clinicians, and it has taken precautions to address this shortfall by increasing funding for the National Health Service Corps, which allows primary care providers to pay off student loans in exchange for working in underserved communities (Dall et al., 2015). However, the Physician's Foundation, a nonprofit organization that facilitates health care delivery, argues that the full-time physician workforce will decrease by more than 47,000 clinicians. Moreover, approximately 52 percent of clinicians have or are planning to reduce the access of Medicare patients, likely due to lower reimbursement models (The Physician's Foundation, 2015), meaning that the worst-off are likely to suffer a considerable scarcity of medical care.

Looking ahead, the ACA is projected to expand health coverage to 26 million individuals by 2017, which will increase the demand for primary physicians to between 4,310 and 6,940 doctors. In determining these figures, IHS took into account the populations eligible to receive health care under the new legislation. Citizenship status, household income, health status, and rate of health care service use based on preexisting health risks were all considered in the analysis. Experts expected primary care visits to

increase by 2 percent, whereas medical specialties were projected to increase as much as 5.2 percent (otolaryngology), 5 percent (urology and dermatology), and 4.7 percent (gastroenterology). Because primary care providers are particularly important among underserved populations, who may lack access to specialty care, these data suggest that the impending doctor shortage will have a detrimental impact on these communities (IHS, 2015).

The primary tension to explore when forecasting the impact of the ACA on the impending physician shortage is that between, on the one hand, the increased volume of people receiving insurance, and on the other, the ACA provisions that attempt to offset this by increasing access to preventive services to diagnose and treat diseases earlier, incentivizing providers to work in underserved communities, incorporating integrated models of healthcare delivery, etc. The following sections will examine in detail these provisions of the ACA and the impact they are likely to have.

The Impact of Preventive Care

Preventive care emphasizes early diagnosis and treatment to avoid serious health afflictions. Through routine screenings and check-ups when patients are asymptomatic, health care providers can identify health problems and reduce costly and time-consuming treatment by addressing these issues earlier. Treating individuals who have already developed chronic or late-stage illness has had a palpable impact on rising health care costs (IHS, 2015).

Under the ACA, adults are entitled to 15 preventive services, including cholesterol screenings, colorectal cancer screenings, and HIV screenings (Human and Health Services, 2013). Women are entitled to additional provisions, including mammography screenings, cervical cancer screenings, and osteoporosis screenings for women over age 60. Children have access to 26 preventive services, including autism screenings for children younger than two years, hematocrit screenings, and vision screenings (Obamacare Preventive Care, 2015).

Research has shown that cost can be a major barrier to the utilization of preventive services. However, even affluent families underuse these services when forced to pay out-of-pocket. By requiring that insurers cover recommended preventive health services, the ACA ensures that all patients will have increased access to—and be more likely to use—early detection interventions. In order to guarantee that patients take advantage of these health benefits, it is crucial that providers, social workers, and health counselors continue informing individuals about the screenings available to them. Addressing such knowledge gaps will play a paramount role in reducing health disparities, minimizing the amount of medical labor necessary to keep the population healthy, and thus mitigating the effects of the physician shortage (IHS, 2015).

The Impact of ACOs and PCMHs

Accountable care organizations (ACOs) are groups of health care providers that provide coordinated, long-term care to patients. ACOs aim to provide high-quality care that moves away from fragmented, episodic care towards effective, cost-efficient chronic

disease management. When an ACO reduces health care costs and improves the quality of health care, the network earns shared savings. Although ACOs were historically part of Medicare, they have expanded within Medicaid and the private sector: from 2010 to 2014, the number of ACOs has increased from less than 50 to more than 600. Given the ACA's focus on integrated models of care, ACOs will likely play a larger role mitigating the physician shortage and reducing costs in the years to come (Adepoju et al., 2015).

In a similar vein, the patient-centered medical home (PCMH) is a team-based, integrated model of delivering primary care. While health analysts have lauded PCMH as an essential step toward reducing health disparities, research has suggested otherwise. For instance, children of color in a PCMH receive fewer preventive services than their white counterparts, and minority children are less likely to have a PCMH. ACO research has produced similarly mixed data: one study demonstrated that participation in an ACO had no effect on improving health disparities such as preventable hospitalizations (Adepoju et al., 2015). More research is needed to determine the financial and ethical impacts of both ACOs and PCMHs.

Integrated care delivery models, such as ACOs and PCMHs, seek to reduce inefficiencies and improve the quality of care. Approximately 25-31 million Americans have joined an ACO, with numbers rising. While data is limited, some studies show that ACOs effectively cut healthcare spending over a four-year period due to fewer health care services and reduced prices (IHS, 2015). ACOs also incorporate more NPs and PAs compared to traditional health care delivery models, which could play a role in alleviating the effects of the impending doctor shortage.

The Impact of Lack of Residency Funding and Financial Incentives

One of the major issues contributing to the impending doctor shortage is the lack of federal funding for residency positions. To ameliorate this problem, the ACA redistributes unused Graduate Medical Education training positions to fill shortages in primary care and general surgery in states with low physician-to-population ratios (Summary of the Affordable Care Act: Kaiser Family Foundation, 2013). Funding is also appropriated for Teaching Health Centers, community-based ambulatory patient care centers, which will cover expenses for training residents in primary care programs (Teaching Health Center Graduate Medical Education). These new provisions are instrumental in expanding access to geographically isolated and other medically vulnerable communities.

The ACA attempts to mitigate some of the factors described above by promoting loan forgiveness programs for providers who work in rural areas, increasing training programs for nurses, expanding primary care teams (PCMHs and ACOs), establishing community health centers tailored toward underinsured patient populations, and expanding funding for the National Health Service Corps. In addition, the ACA incentivizes primary care physicians to work in areas suffering from physician shortages by distributing 10 percent bonuses (Summary of the Affordable Care Act: Kaiser Family Foundation, 2013). Such policies aim to increase the number of physicians who choose to work in the areas that will likely experience the most dramatic increases in insured individuals.

The ACA has also expanded scholarship opportunities for medical residents with training in primary care and provides similar benefits to nurses as well as primary care NPs in federally qualified health centers. Over the next five years, community health centers are scheduled to receive an increase of \$11 billion in funding, and the National Health Service Corps will receive an additional \$1.5 billion. School-based health centers and nurse-managed clinics are also expanding programs and health care access (Summary of the Affordable Care Act: Kaiser Family Foundation, 2013). Increasing funding for community health centers and the National Health Service Corps and expanding school-based healthcare will improve access to health care for low-income adults and children.

Even with expanded residency positions and funding, however, health disparities will continue to exist in the absence of a more diverse and culturally competent workforce. By respecting diverse cultural health beliefs and practices, providers can better serve the needs of minority individuals or those who would otherwise seek care outside of mainstream medicine. The HHS's Office of Minority Health has revised the standards for Culturally and Linguistically Appropriate Services to assist populations with low health literacy or limited English proficiency achieve greater health coverage. Implementing these standards can improve the patient experience, increase the efficiency with which physicians serve their patients, and address health care disparities (Adepoju et al, 2015).

The Impact of Medicaid Expansion

The expansion of Medicaid has also proven to be a crucial factor affecting the impact of the ACA on increasing health care access to underserved communities. Medicaid has acted as a social health care program for low-income individuals and families since 1965. The ACA expanded Medicaid coverage to include those with incomes at or below 133 percent of the poverty line. In conjunction with tax credits and premium reductions for middle class workers obtaining coverage through the online marketplace, these provisions intend to fill in coverage gaps by extending health care access to those previously ineligible for Medicaid but unable to afford private insurance. However, as of January 2016, 32 states (including the District of Columbia) had expanded Medicaid subsequent to the Supreme Court's June 2012 ruling, and 19 states had not (Garfield and Damico, 2016). The federal government agreed to cover 100 percent of Medicaid costs from 2014 to 2016 and 90 percent of costs from 2020 and beyond, with states expected to cover remaining costs (Families USA, 2016).

In states that refused to expand Medicaid coverage, some families and individuals earn too much money for Medicaid but too little to be considered for the online marketplace premium tax credits. An analysis by the Kaiser Family Foundation found that three million uninsured adults fall into the coverage gap in states with the highest uninsured populations: Texas, Georgia, Florida and North Carolina (Garfield and Damico, 2016).

Some states that have not expanded Medicaid have implemented alternative solutions: for instance, the Wisconsin administration under governor Scott Walker pursued its own strategy by providing adults eligible for Medicaid with a Medicaid

waiver. Though Wisconsin is one of the few states that refused federal funding and still closed the coverage gap, critics contend that the administration would have saved taxpayers \$206 million over two years if they had fully expanded the state's health care program for the poor (Milwaukee Wisconsin Journal Sentinel, 2014).

Some southern states have been less likely to expand Medicaid and also have the highest number of insured adults; as a result, approximately 90 percent of those in the coverage gap reside in Southern states. The South and Midwest have been the most defiant in their refusal to endorse the ACA (see Figure 7). Politicians who refuse to expand Medicaid contend that these states cannot afford the spending required to expand Medicaid without taking away resources from other areas, such as public education. Others claim that accepting federal money is inconsistent with their political ideology. However, critics argue that not expanding Medicaid places an undue burden on low-income communities. According to Georgia General Assembly House Minority Leader Stacey Abrams (D-Atlanta), "Taxpayers fund the uninsured, either through higher premiums and higher taxes or through Medicaid expansion. With expansion, communities also gain new jobs, economic expansion and better health outcomes" (Craig, 2014).

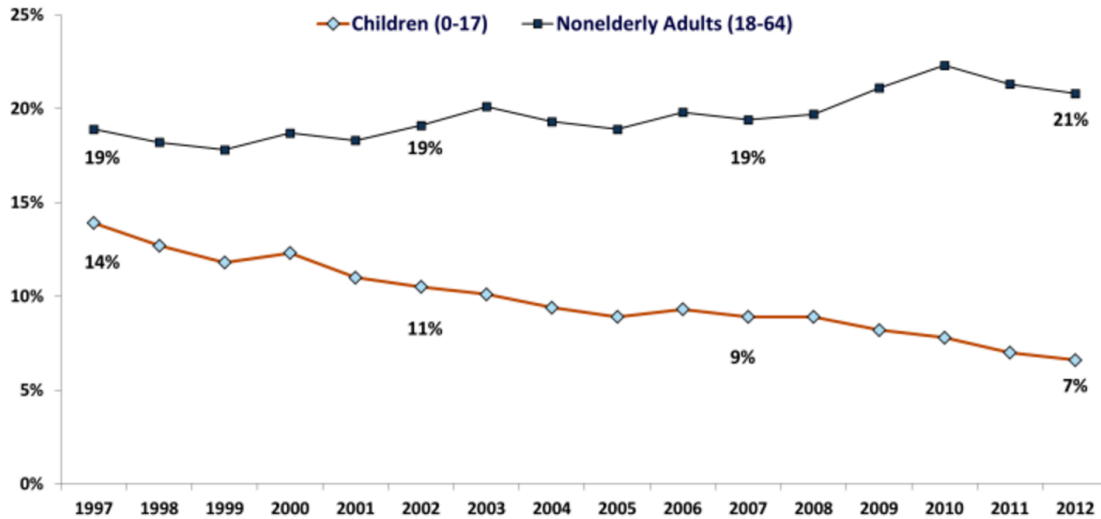
due largely to financial barriers. Without screening, cancers are less likely to be diagnosed and treated early, which would further increase the mortality-to-incidence ratio as well as health care costs (Choi et al., 2015).

Some researchers have investigated the impact of the ACA on health disparities. One study found that the ACA has not achieved equitable access to health care among underserved populations. When the ACA was first implemented, more than eight million people bought coverage through online exchanges and an additional seven million people enrolled in Medicaid. However, four million individuals were left without health insurance in states that did not expand Medicaid. Three million people across Texas and Florida lack coverage, and 20 percent of low-income adults in Louisiana and Mississippi live in poverty. Of those in nationally in the coverage gap, 45 percent are non-Hispanic white, 28 percent are African American, and 23 percent are Hispanic (Garfield and Damico, 2016). Differential access to health care will almost certainly worsen if states continue to refuse to expand Medicaid or adopt customized solutions (Adepoju et al., 2015).

With the combined coverage from Medicaid and CHIP, low-income children experienced greater coverage rates during the 2007-2009 recession even when adult Medicaid coverage decreased [Figure 8] (Adepoju et al., 2015). This demonstrates the importance of Medicaid and CHIP in increasing health care access for children, as well as the need to improve coverage for low-income adults.

Figure 1

Uninsured Rates Among Nonelderly Adults and Children, 1997-2012



NOTE: Children includes all individuals under age 18.
SOURCE: KCMU analysis of the National Health Interview Survey data.



Figure 7. Uninsured Rates Among Nonelderly Adults and Children. States simplified enrollment procedures and expanded eligibility levels to allow more children to attain coverage. Insured rates for children increased from 2008-2012 when insured rates for low-income adults decreased. Figure adapted from the Kaiser Family Foundation, 2014.

DISCUSSION AND CONCLUSION

The aim of this thesis was to outline the chronological history and basic provisions of the ACA, examine the factors contributing to the impending doctor shortage, and determine if the ACA will mitigate, exacerbate, or have no impact on the projected physician shortfall.

ACA Background and Provisions

America has been engaged in a protracted battle over health care reform since the early twentieth century. Politicians and the public have disagreed over the fundamental premises of health coverage—whether health care is a human right or a commodity, if everyone or only protected populations should receive coverage, and who should bear the financial responsibility—and the debate has grown only more polarized in recent decades. The ACA proved to be landmark legislation during President Obama’s tenure and attempts to improve the quality of care, increase access to health services, expand insurance, and reduce rising costs.

The ACA introduced online health insurance exchanges, which allow individuals and families to purchase coverage from competing providers. Those who do not enroll in coverage in one of the ACA’s four “metal” plans or its catastrophic plan, employer-sponsored coverage, Medicaid, CHIP, TRICARE, or Medicare must pay a fine. In addition to the individual mandate, the employer mandate requires employers to enroll employees into a health insurance plan.

The expansion of Medicaid is a key provision aimed at increasing coverage for low-income individuals and families who previously did not qualify. However, barely half of all states have expanded Medicaid. Those states that have refused to expand Medicaid, most of which are concentrated in the South and Midwest, have greater rates of uninsured low-income adults. Another important provision to increase health care access is the implementation of covered preventive care services. The combination of these provisions aims to enroll more people on health insurance and reduce health care costs by diagnosing and treating diseases before they become chronic, expensive ailments.

Impending Physician Shortage

The AAMC projects that by 2025, the United States will experience a shortage of approximately 50,000 to 90,000 doctors. These numbers are calculated using a number of factors, including federal funding levels for residency remain unchanged since the passage of the 1997 Balanced Budget Act, the retirement of a third of the current physician workforce within the next decade, and an aging, growing population that will require significant health services.

Determining the exact figures associated with the doctor shortfall is difficult because the projection modeling involves many variables and because this legislation is unprecedented in its scope and scale. Relevant variables include an increased supply of APRNs, PAs, and other health care professionals that may alleviate the impact of the doctor shortage. America's shifting demographics with regard to both age and ethnicity will also play a role in changing the landscape of patient care. Expanded managed care

and retail clinics may alter the composition of physician specialty and reduce the need for physicians, respectively.

Impact of the ACA on the Impending Physician Shortage

The ACA has ushered in a new era of American health care—one full of promise but also of risk and uncertainty. No facet seems more important and more complex than the question of whether the bill’s expansive coverage aims can be met by a medical workforce that is dwindling relative to the general population. As mentioned earlier, the answer to this question depends on many variables that are not limited to the provisions of the ACA, including demographic trends, work hours, and payment systems. This section will review, in order, the factors likely to contribute to a physician shortage—chiefly the dramatic increase in the number of individuals who will receive medical care—and those likely to ameliorate such a shortage. Synthesizing information that has been discussed previously will help pinpoint the key inquiry of this thesis.

By 2017 the ACA intends to have brought insurance to 32 million individuals who previously lacked it, by means such as the individual mandate and the expansion of Medicaid and CHIP (the latter of which has insured eight million children alone) (Summary of the Affordable Care Act: Kaiser Family Foundation, 2013). A 2014 New York Times report found that in its first four years, the ACA had decreased the number of uninsured people by 25 percent, made insurance more affordable for many individuals and families and improved health outcomes for young people (Sanger-Katz, 2014). Current estimates suggest that, largely due to some states’ refusal to pass the bill, reality

will fall somewhat short of the ACA's 2017 goal, but the reforms will still manage to reach 26 million individuals. Based on current trends, this will increase the demand for primary physicians by between 4,310 and 6,940 doctors. This represents a leap forward for the welfare of the United States, but also a significant cost in terms of medical resources. Compounding the growth in coverage established by the ACA, demographic trends create similar problems: the population over 65 years of age—who will consume the majority of medical care—is expected to grow 46 percent in comparison to a 5 percent projected growth rate for the population under 18. This is expected to create a 23 percent increase in demand for inpatient care by 2025 (IHS 24). All of this suggests that America will face a significant challenge in meeting the increased demand for medical services: the difficulty lies not just in securing finances, but also a sufficient supply of medical skill.

The United States began this journey in medical debt: in 2013, demand exceeded supply by 8,200 primary care clinicians and 2,800 psychiatrists—11,000 clinicians in total. And even reaching those who did receive care seems to have stretched the workforce thin: studies have reported unusually long delays to see a provider. As nearly a third of today's 770,000 practitioners are expected to retire within the next decade, the current trajectory does not look promising. The AAMC, in a study requested by the IHS, concluded that the trends mentioned above will by 2025 create a shortage of 50,000 and 90,000 doctors: between 12,500 and 31,000 primary care physicians and large shortfalls in many surgical specialties. Of this, the ACA bears responsibility for a 17,000-clinician increase in demand (Dall et al., 2015). The Physician's Foundation issued an even

gloomier outlook, forecasting that the full-time physician workforce will decrease by more than 47,000 clinicians. It also notes that the shortage of medical care may outpace what the number of physicians alone might suggest, as 52 percent of clinicians have reduced or are planning to reduce the access of Medicare patients.

However, there are other ways in which the number of physicians alone does not tell the full story, and some of these are grounds for optimism. A host of adjustments in the medical industry—some of which are among the provisions of the ACA—aim to counteract the yawning gap between physician supply and patient demand. Rising levels of NPs, PAs, other APRNs, and various non-physician health care professionals will be able to absorb a significant proportion of the work once handled by doctors. Nearly half of the American states have now altered legislation so that NPs can prescribe medication, diagnose, and treat patients without physician oversight. The AAMC has also increased funding for the National Health Service Corps, a program through which primary care providers pay off student loans in exchange for working in underserved communities (Dall et al., 2015). Also, the government has been taking steps to train more physicians. The Resident Shortage Reduction Act of 2015 added another 15,000 residency slots over five years. Finally, retail clinics have become increasingly popular, an efficient alternative to regular care that could reduce wait times and hospital overflow.

In addition to expanding the number of people who can provide medical services, the ACA also includes provisions to ensure that such services are applied in a smarter, more cost-effective way (both in dollars and medical labor). A cornerstone of this is relying on preventive care in order to avoid costly, time-consuming, and debilitating

treatment later on. To this end, it offers 63 free preventive services and established the Prevention and Public Health Fund to incentivize states vaccinations, health screenings, and similar services. Medicaid and Medicare have also bulked up their preventive offerings, such as tobacco cessation programs for eligible pregnant women. In addition, the ACA established a grant program to reduce health disparities in rural areas and promote community-based health efforts. Employers can also offer employees premium discounts or other benefits if they participate in wellness programs and reach certain thresholds (Summary of the Affordable Care Act: Kaiser Family Foundation, 2013). And restaurants with more than 20 locations are required to release nutritional information, including calorie counts, for standard menu items (Federal Register, 2014).

The ACA's efforts to reshape payment structures aim to dovetail with these efficiency measures. This includes new models of health care delivery shifted from a fee-for-service model to a reimbursement system aligned with value-based performance metrics—methods that have demonstrated strong potential for cost savings (Sood et al., 2011).

Many of the innovations discussed above, such as the Resident Shortage Reduction Act, the introduction of new payment structures, increased supply of PAs, reductions in hospitalizations, and the growing use of concierge medicine were not included in the IHS analysis. Other factors, like some of the ACA preventive services, were nominally included but are very hard to assess in terms of impact, and may well have a far greater effect than the conservative estimates of the AAMC suggest. It is also worth noting that even trends with a reliable track record still exhibit significant

volatility, as even small adjustments of initial assumptions can radically alter outcome. For instance, physician supply would grow by 27,900 providers by 2025 if doctors delayed retirement by an average of two years; working longer hours can have a similarly dramatic effect (IHS, 2015).

Bearing in mind this volatility, it is impossible to make projections with certainty, especially since the act will not come into full effect until 2018, so many of its measures remain untested. However, the diversity of tools the ACA has developed suggests that in sum, it will reduce the physician shortage. This does not mean it will shrink to zero; only that the gap between supply and demand will be smaller than it would otherwise have been. As reported above, the ACA's provisions are designed to focus on the quality of care, not quantity of care, which should allow recently insured patients to pursue check-ups and preventive care to which they otherwise would not have access. That, on top of the increased efficiency of service and the introduction of more empowered non-physician medical professionals to handle some of the burden, should go a long way towards avoiding the pessimistic forecasts of the AAMC and helping the United States join the rest of the developed world in offering near-universal health care to its citizens.

Future Outlook: 2016 Presidential Election

Although the ACA was passed in 2010, there remains much uncertainty surrounding the legislation given the upcoming presidential election. As Democratic and Republican candidates vie for their respective parties' nominations, health care has been a prominent talking point on both sides. It is worth noting that Democrats and

Republicans approach health care from different ethical frameworks: Democrats support broad-based health care risk pooling to spread the costs of the sick across more people, whereas Republicans advocate segmented risk pooling based on arguments that individuals should be personally accountable for their health care costs (Blumberg et al., 2016)

With regard to risk pooling, placing health care costs largely on non-healthy people has tangible financial benefits for those who are generally healthy but it also places a substantial burden on those who need health care the most. In addition, such a policy ignores the mercurial and non-discriminatory nature of disease—no one, regardless of income or status, is completely immune to certain diseases or accidental injuries. Candidates’ positions on risk pooling are relevant to millions of Americans: according to health policy analysts Linda Blumberg and John Holahan, “Depending upon the extent of the risk segmentation created, these policies can effectively deny care to those who need it. Those who are well off financially can finance a considerable amount of necessary care out-of-pocket; a low-or middle-income experiencing a health crisis cannot. Thus, policies that separate risks will not only harm the sick, they will decrease access to care most heavily for the non-wealthy with health problems. Therefore, the amount of risk pooling versus segmentation is a fundamental choice.” (Blumberg et al., 2016).

The three remaining Republican candidates—Ted Cruz, Donald Trump, and John Kasich—are staunchly devoted to repealing the ACA (Blumberg et al., 2016). Cruz has repeatedly made appeals to a 2016 referendum to dismantle the ACA, while also pledging

to expand health savings accounts and allow individuals to purchase health care across state lines. Donald Trump released a seven-point health care plan in March 2016 that operates under free market principles. Trump also supports tax deductions for individuals paying premiums and individuals shopping for insurance across state lines (Sanger-Katz, 2014). Kasich supports managed competition, opposes paid maternity leave, and previously expanded Medicaid as governor of Ohio (Ballotpedia). Despite their differences, these candidates oppose universal coverage.

On the other hand, Hillary Clinton and Bernie Sanders—the two remaining Democratic candidates—differ in their positions on health care. Clinton supports and wants to expand the ACA. She has also proposed capping out-of-pocket spending on prescription drugs. Sanders advocates for a Medicare-for-all single-payer system. He also wants to reduce the cost of drugs and repeal the 40 percent excise tax, or “Cadillac Tax,” on high-cost employer-sponsored health plans. (Ballotpedia).

The outcome of the presidential election will have a significant impact on the ACA, as well as federal funding for residency slots. Given the importance and variability of the upcoming election, there are still many unknowns with regard to the impact of the ACA on the doctor shortage.

Limitations

A major limitation of this literature-based thesis is the lack of health policy, economic, and medical literature evaluating the impact of the ACA on the impending doctor shortage. This is largely due to the ACA’s recent implementation; certain authors

of published studies may also have a political bent. Because of this, comparing and quantifying the impact of certain ACA provisions—how the lack of Medicaid expansion in Southern and Midwestern states reduced coverage for low-income adults versus the role of preventive services in reducing the need for specialists, for instance—is based on the synthesis of various studies. There are many ways of interpreting ACA data, and one could support a different argument depending on the methodology and studies used.

Future Research and Applications

The ACA has played an important role in health care legislation, but more steps must be taken to ensure that all Americans enjoy access to affordable health insurance. First, all states should expand Medicaid and close the coverage gap preventing three million low-income adults from obtaining coverage (Garfield and Damico, 2016). In addition, Medicaid reimbursement rates should match Medicare reimbursement rates to ensure doctors do not refuse new patients (Adepoju et al., 2015).

In order to improve health care access and the nation's health, more resources should be dedicated to addressing the social determinants of health. Health starts in the home, at the workplace, and in our communities. Social and economic opportunities play an important role in our physical and mental well-being. Access to healthy food and clean water, the nature of our relationships, and the quality of our school systems are factors that cannot be viewed in isolation from the diseases and ailments they help cause. Using Health Impact Assessments to determine the community's health needs and introduce

concrete strategies would improve many aspects of individual's lives, including health (Cole et al., 2007).

As we collect more data about the impact of the ACA on the doctor shortage and on health care in general, we will become better equipped to implement policy changes to improve the nation's health, reduce costs, and increase health care access. Evaluating the impact of the ACA on the impending doctor shortage warrants greater research into both topics. For instance, modeling doctor supply and demand at five-year intervals based on updated numbers from physician registries and the AMA would provide more accurate and comprehensive information. Further research of this important piece of legislation—including its impact on health outcomes and health care spending—is clearly needed.

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CURRICULUM VITAE

MADISON SHARP

Address: 767 Tremont St., Boston, MA 02118 • Phone: (619) 972-3841
• Email: msharp@bu.edu • Year of Birth: 1991

EDUCATION

Boston University School of Medicine, Boston, MA
Master of Science in Medical Sciences, expected May 2016

Yale University, New Haven, CT
B.A. in Environmental Studies, May 2013

RESEARCH AND PROFESSIONAL EXPERIENCE

Harvard Medical School & Boston University School of Public Health, León,
Nicaragua

Research Assistant, Sept. 2013–Aug. 2014

- Obtained blood, urine, and saliva samples, consent, and medical history from subjects to conduct a genetic study investigating the etiology of the growing Mesoamerican Nephropathy (MeN) epidemic.

Council on Latin American and Iberian Studies, Yale University,
Research Assistant, Sept. 2012–May 2013

- Researched occupational and public health contributors to the Nicaraguan MeN epidemic.

Vector Ecology Lab, Yale School of Public Health

Research Assistant, Sept. 2011–Sept. 2012

- Employed biochemical techniques such as PCR, gel electrophoresis, and DNA extractions to determine the prevalence of anaplasmosis among ticks collected in the Northeastern United States.

Infectious Diseases Institute, Kampala, Uganda

Intern, June 2011–Aug. 2011

- Conducted a retrospective cohort study to determine if all HIV-positive patients initiating antiretroviral therapy should undergo mandatory screening for cryptococcal meningitis.

Sustainability Education Peers (STEP), Yale University

Co-Coordinator, Sept. 2009–May 2012

- Collaborated with facilities employees, dining hall managers, and college Masters to implement sustainable projects within Silliman College; e.g. CFL bulb exchanges, Meatless Mondays, technoscrap recycling.
-

COMMUNITY SERVICE

Reach Out Nicaragua, Goyena, Nicaragua

Leader, March 2013

- Organized and led 14 Yale students to Nicaragua for community outreach projects in a rural village.

Reach Out China, Fujian Province, China

Participant, March 2011

- Taught English to children in the rural Fujian province with the help of local high school students.

Recovered Medical Supplies for the Developing World, Yale University

Director of Outreach, Sept. 2010–May 2013

- Sorted unused medical supplies at Yale-New Haven Hospital to send to low-income countries; coordinated collection with local hospitals, hospices, and non-profits; brought supplies to Uganda.

College Council for Care, Yale University

Deputy Director, Sept. 2010–May 2012

- Raised awareness of global poverty through educational outreach in New Haven public schools.
-

LEADERSHIP EXPERIENCE

Yale Varsity Field Hockey

Yale University, Aug. 2009–May 2013

2012-2013 Captain

- Met with coaches and athletic directors bi-weekly, facilitated communication between coaches and players during conflicts, organized practices during the off-season, maintained a strong team work ethic

Kiphuth Leadership Academy

Yale University, Sept. 2010–May 2013

Veteran leader

- Participated in monthly discussions with speakers and student-athletes to improve leadership skills
-

AWARDS AND FELLOWSHIPS**Parker Huang Undergraduate Travel Fellowship**

León, Nicaragua, 2013–2014

- Yale-affiliated yearlong grant that supports one year of outreach or research in non-English speaking countries.

Nicolas Adamo Scholar-Athlete Prize

Yale University, 2013

- “Awarded to a senior, who, through a combination of academic and athletic excellence, demonstrates skill, spirit, integrity, dignity, and dedication.”

Yale Summer Environmental Fellowship and Sherwood Silliman Fellowship

Yale School of Public Health, 2012

- Funded research in Dr. Maria Diuk-Wasser’s Vector Ecology Lab at the Yale School of Public Health.

Helzer Travel Grant, Environmental Studies Grant, and Mellon Forum Grant

Yale University, 2013

- Funded primary research for my senior thesis titled “Exploring the Nicaraguan Chronic Kidney Disease Epidemic.”

National Field Hockey Coaches Association (NFHCA) Division I National Academic Squad

2009–2013

- Selected as a four-time recipient
-

SKILLS

- Full professional proficiency in Spanish
- Proficient in SPSS Statistics