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## Health Insurance Coverage and Factors that Affect Access to Healthcare

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Health Insurance Coverage and Factors that Affect Access to Healthcare

By

Bryce Jerin

Submitted in Partial Fulfillment  
of the Requirements for  
Graduation with Honors from the  
South Carolina Honors College

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*Thesis Summary*

This thesis aims to identify key legislation that has shaped the architecture of the American healthcare system and investigate how expansions to public health insurance coverage has impacted access to care in the United States. As annual healthcare expenditures amount to about 18% of the total U.S. GDP, it is undeniably a large and important aspect of our society. This thesis will explain the key steps that developed the current system of health insurance coverage and the real-world effects of its expansion over the past sixty years. The current laws that govern expenditures have also created an economy in which inflating prices reflect discussion points for negotiation rather than the cost of goods and services. This economy is shaped by various stakeholders including hospital executives, pharmaceutical companies, and various intermediaries. These stakeholders act on their own incentives and have become increasingly separated from the patient over the years. Health insurance coverage is fundamental to facilitating access to care and reducing negative health outcomes. The ability of patients to receive health care services and access pharmaceutical benefits is also crucial to maintaining the health of the American people.

I was inspired to write about this topic after hearing Dr. Les Hall, Chief Academic Officer of Prisma Health Midlands and Dean of USC School of Medicine Columbia, speak about the necessity to fundamentally redesign healthcare if it is going to be cost effective in the future. As an aspiring physician, I believe it is important to understand the system of healthcare that I will work in, so that I may be able to improve it for the patients I serve. While this thesis does not fully explain every aspect of the system, I aim to explore specific aspects that impact patient's access to care including: health insurance coverage, access to pharmaceutical benefits, the role of pharmacy benefit managers, and hospital billing practices.

**Table of Contents**

|  |    |
|--|----|
| Abstract.....  | 4  |
| Introduction.....  | 5  |
| Shaping American Health Insurance Policy.....                                      | 6  |
| Incremental Expansions to Medicare in the 20th Century.....                        | 7  |
| Effects of the Medicare Prescription Drug, Improvement, and Modernization Act..... | 9  |
| The Patient Protection and Affordable Care Act.....                                | 10 |
| Prohibiting Cost-Sharing for Preventative Care Services.....                       | 12 |
| The ACA's Expansion of Medicaid.....   | 14 |
| The Impact on the Uninsured in the United States.....                              | 16 |
| The Cost of American Healthcare.....   | 18 |
| Access to Pharmaceuticals through Medicare Part D.....                             | 19 |
| The Role of Pharmacy Benefit Managers.....   | 20 |
| Billing Practices in Healthcare.....   | 24 |
| Conclusion.....  | 30 |
| References.....  | 33 |

*Abstract*

The modern landscape of the U.S. healthcare economy is a culmination of many decades of debate and growth. The system of health insurance coverage in the United States allows millions of Americans to participate in the delivery and access to care, while keeping millions out. Health insurance coverage, the availability of pharmaceuticals, and hospital billing practices are factors that affect the level of access to care. Healthcare has developed into a complex system with various stakeholders who act on their own incentives. Encouraging rational pricing for health care services is an important step toward ensuring access to care for everyone (Dusetzina, Basch, & Keating, 2015).

*Introduction*

The U.S. healthcare economy is a system that impacts millions, as healthcare expenditures encompassed approximately 17.8% of the United States' GDP in 2016 (Papanicolas, Woskie, & Jha, 2018). There are countless agencies including hospitals, pharmaceutical companies, and insurance companies that contribute to this system, and they have all grown in size and cost in the past sixty years. The policies that dictate the coverage of insurance have also expanded to include millions of Americans. Health insurance coverage is essential to facilitating access to health care services, and access is necessary to maintain a healthy society. Key policies that have impacted health insurance coverage and accessibility of health services in the U.S. include the Balanced Budget Act, the Medicare Prescription Drug, Improvement, and Modernization Act, and the Affordable Care Act. However, there is still a long way to go until the United States ensures access to everyone. Inaccessibility has an impact not only on the uninsured, but also on the healthcare system when they inevitably need to use hospital services. While the U.S. spends more on healthcare than any other developed country, the nation ranks eleventh for health-adjusted life expectancy (Papanicolas et al., 2018). The U.S. also spends, on average, \$694 more dollars on pharmaceuticals, as well as 5% more of its total national health expenditure on healthcare administration, in comparison to that of other high-income nations. Healthcare is complex system, and those who control it have allowed its spending to grow out of proportion relative to the value this spending provides to patients. Inefficiencies have found its way into this system, and it is imperative that they are addressed. Managing the growth of healthcare spending is a necessary objective for the United States, and it will require the combined efforts of lawmakers and those who participate in the delivery of health care services.

*Shaping American Health Insurance Policy*

The modern system of healthcare insurance in the United States is a result of decades of legislation and debate. The story of Medicare, the single largest payer for healthcare in the U.S., is a rather complex chronicle that begins in the 20<sup>th</sup> century when the 1935 Social Security bill contained a line authorizing the study of health insurance (Ball, 1995). The American Medical Association (AMA) immediately fought back, asserting that governmental health insurance threatened the autonomy of physicians. President Roosevelt feared the bill's failure and consequently removed the line. This was just the birth of large-scale healthcare reform. The next President, President Truman, formally endorsed universal health insurance in 1945 (Oberlander, 2015). As ambitious as it was, those who championed the enactment of Medicare initially fought for universal coverage and fell back upon insurance for the elderly to succeed politically (Ball, 1995). The Truman administration announced a proposal to insure seven million elderly retirees on Social Security as a first step towards their greater goal. Although senior citizens require more care, they are more likely to be uninsured and have lower incomes. In 1962, 47 percent of elderly families had incomes below the poverty line (Moon, 2006). A more recent 1997 survey from the Health Care Financing Administration reported that 74% of Medicare's expenditures go towards individuals making \$25,000 dollars or less per year (De Lew, 2000). Furthermore, the Annual Social and Economic Supplement of the Current Population Survey found that the median income of retirees aged 65 and older was \$19,604 dollars in 2012 (U.S. Census Bureau, 2013). This made for a compelling argument in the 1960s to provide federal assistance, as private insurers often neglected this higher risk group. Medicare's original advocates wanted federal health insurance to be modeled from the eligibility rules, financing, and administration of Social Security (Oberlander, 2015), which is seen as an earned right to retirees. These measures

mobilized public and congressional support. The original Medicare proposal even omitted benefits for physician services to quell the AMA's opposition; it is significant to note that this omission was retracted from the 1965 act, however. Although failing to pass with one vote too few in 1964 before the election, Lyndon Johnson's landslide victory and Democratic majorities coming into both chambers of Congress led to Medicare's official enactment in 1965.

Hospitalizations financed by payroll taxes (Part A) and outpatient services financed by beneficiary premiums among other revenues (Part B) highlighted a new era of American health insurance for retirees. Medicaid was also quickly adopted to insure low-income Americans, and it was jointly administered by both states and the federal government, unlike Medicare (De Lew, 2000). Medicaid's advocates sought to stall the expansion of Medicare to universal health insurance by taking the poor out of the equation. These policies still shape American medical care and politics today.

### *Incremental Expansions to Medicare in the 20<sup>th</sup> Century*

The next fifty years saw numerous changes to coverage under Medicare. In the 1960s and early 1970s, Medicare had few cost controls or limits on reimbursable costs (Oberlander, 2015). Jobs created by private firms processed claims and reimbursements, functioning as an intermediate buffer between the federal government and medical providers. In 1972, eligibility was expanded to cover two million individuals under 65 with long-term disabilities after 24 months of collecting Social Security disability benefits as well as individuals with end-stage renal disease (Jacobs, 2007). In these early days, permissive payment policies paved the way for rising costs in the U.S. medical system. In 1980, the hospitalization requirement was disbanded and the home health benefits were expanded (De Lew, 2000). That same decade, Congress adopted prospective payment systems (PPS) and set fixed payments in advance to combat rising



costs instead of simply paying the amounts that medical providers charged. The original limited benefits provided by Medicare in 1965 also stimulated “Medigap” growth (Oberlander, 2015). Medigap is a general term referring to supplemental insurance policies that elderly citizens carried to fill the holes left by coverage under Medicare. Medigap policies were brought into federal oversight under Medicare in the 1980s (De Lew, 2000). In 1988, the Medicare Catastrophic Coverage Act (MCCA), which was funded by increasing premiums, brought coverage to outpatient prescription drugs, skilled nursing facilities, and enacted a cap on patient liability for catastrophic event expenses (Oberlander, 2015). This was the single biggest expansion in coverage since the 1965 enactment. However, the MCCA was repealed only sixteen months later after protests from higher-income elderly who were forced to pay higher premiums (De Lew, 2000). Even though these individuals comprise a minority of the elderly population receiving benefits, their influence reflects the power structure of America – where the few who have money and resources have the most control over the much larger proletariat class.

Expansions to health insurance policy in the late 20<sup>th</sup> century strived to create a balanced system between various entities. In 1989, physicians became required to submit bills to Medicare on behalf of all Medicare patients (Oberlander, 2015). The liability that elderly beneficiaries were responsible for, above what Medicare paid, also became very limited. The resource-based relative value scale (RBRVS) was adopted that year, and it has since been used by nearly all health maintenance organizations (HMO) to determine how much money healthcare providers are paid. The 1990s saw the implementation of the Hospital Insurance (HI) tax applied to all wages instead of the amount Social Security taxed (Vladeck, 1999). States were now required to cover Part B premiums for certain low-income beneficiaries as well. The 1997 Balanced Budget Act (BBA) reduced payment increases from physicians, established Medicare+Choice (Part C) to

offer private coverage options, expanded preventative care benefits, and created new approaches to payment and service delivery that restrained the growth of healthcare spending (De Lew, 2000). However, the Balanced Budget Refinement Act in 1999, advocated for by provider lobbyists seeking to weaken cost control measures, reversed certain reductions and led to increases in payments to providers (Vladeck, 1999). Healthcare lobbying has only expanded since, as the Center for Responsive Politics reported that the pharmaceutical and health-care-product industries (as well as organizations representing physicians, hospitals, health services, and HMOs) spent \$5.36 billion dollars since 1998 on lobbying efforts (Brill, 2014). Incremental expansions to Medicare in the 20<sup>th</sup> century, in the eyes of the program's original champions, were meant to eventually lead to universal coverage for all Americans; but many factors have hindered that goal from becoming reality. Bruce Vladeck (1999) puts it frankly: "There is no question, from an economic point of view, that this society could 'afford' to support indefinitely a more generous Medicare program than the one we now have. The question is whether, politically, we want to do so. That question really comes down to the extent of our willingness to require the better-off to subsidize the less well off—a willingness that seems to be shrinking."

#### *Effects of the Medicare Prescription Drug, Improvement, and Modernization Act*

The 21<sup>st</sup> century saw monumental developments to Medicare and Medicaid although universal healthcare coverage has not yet been implemented into law. In 2003, the Medicare Prescription Drug, Improvement, and Modernization Act (MMA) passed to create Part D of Medicare, insuring ambulatory prescription drugs through private plans beginning in 2006 (Megellas, 2006). The MMA also renamed Part C to Medicare Advantage (MA) to increase enrollment. The MMA effectively provided coverage for FDA-approved drugs that were vital to the lives of beneficiaries. However, an unintended impact of the MMA's technical writing is

referred to as the “doughnut hole,” an implication that left beneficiaries responsible for 100% of the cost of drugs between \$2,251 and \$5,100 dollars. Part D’s premium was \$37 dollars monthly with a \$250-dollar deductible, giving physicians the freedom to prescribe common drugs that were now much more accessible to Medicare’s beneficiaries. Although Part D paid 75% of prescription drug costs under \$2,250 dollars and 80% of costs over \$5,100 dollars, beneficiaries also had to be enrolled in Part A or Part B to be eligible for Part D. Medicare Part D became available to thirty-nine million beneficiaries in 2006. Part D is not perfect, however, and its implications are discussed in a later section. Since the MMA was enacted, MA plans were generously reimbursed, which resulted in expanded choice and enrollment (McGuire, Newhouse, & Sinaiko, 2011). This aligned with MA’s original goals which also included transferring the efficiencies of managed care in the private sector to Medicare. However, introducing private insurance plans under Medicare has cost it more money between 2003-2010 than traditional Medicare, thereby failing that second goal. Beneficiaries who enrolled in MA, instead of the other three parts of Medicare, were able to replace their Medigap policies, putting the “advantage” in MA to good use. The MA plans also received direct monthly risk-adjusted payments to cover each beneficiary’s care from Medicare. In this way, the MMA’s payment policies created inconsistencies in payment equity between MA and traditional Medicare, costing Medicare upwards of fourteen billion dollars in 2009. This overpayment, and a part of the doughnut hole, was addressed by the 2010 Patient Protection and Affordable Care Act (PPACA).

#### *The Patient Protection and Affordable Care Act*

Signed into law on March 23<sup>rd</sup>, 2010, the Affordable Care Act (ACA) is the most comprehensive healthcare reform bill in the history of the United States. In an effort to extend healthcare coverage universally, the ACA transformed the insurance market by significantly

expanding public insurance and subsidizing private insurance, raising revenues through taxation, and reorganizing spending under Medicare (Rosenbaum, 2011). The main goals of the ACA were to improve the quality and affordability of insurance coverage, the quality and efficiency of the healthcare system, and to expand the availability of primary and preventative care. A task as grandiose as this requires a shared responsibility between government, individuals, and employers, which was coined as the three-legged stool of the ACA. To be affordable, health insurance needs a larger number of healthy people in the risk pool than the number of sick people. When healthy people leave the risk pool, the cost goes up for sick people, who must pay to survive (Mills, 2018). In order to lower premiums across the board and create a risk pool with affordable premiums, the ACA implemented what is known as the individual mandate – one of the most controversial parts of the bill (McIntyre, & Song, 2019). The individual mandate required almost all Americans to prove they have health insurance, or they faced a fine called the Individual Shared Responsibility Payment when they filed federal taxes each year. This fine was repealed as part of the Tax Cuts and Jobs Act of 2017 and took effect in 2019, although the mandate is still in place. The mandate extended to almost all people with a few exemptions for people in certain groups including individuals whose income is too low to file a tax return and people who object to the mandate on religious grounds. Implementing the mandate spread the risk of insuring sick people throughout the population by forcing large numbers of healthy people to enroll (Rosenbaum, 2011). The ACA also enforces an employer responsibility requirement on large employers and two employer mandate penalties. The two penalties are: for employers who fail to offer minimal essential coverage (MEC) to full-time employees; and a larger penalty for employers who offer MEC but fail to offer minimum value (MV) coverage to full-time employees (McIntyre, & Song, 2019). MV coverage is any healthcare plan that covers

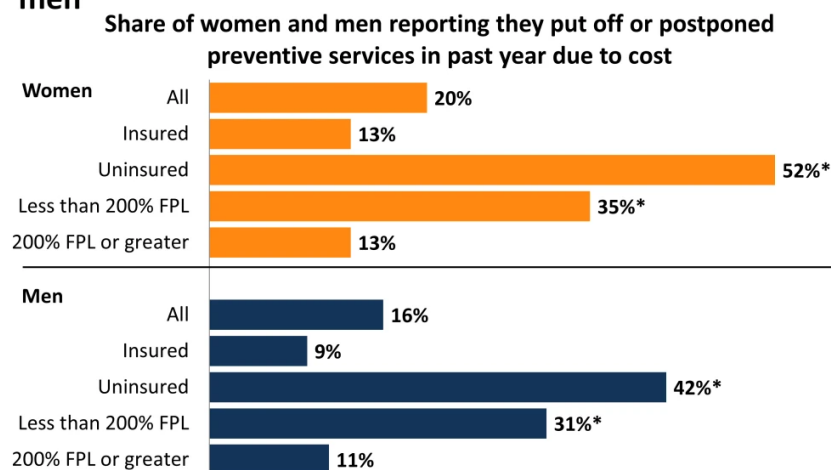
at least 60% of the total allowed cost of benefits in that plan. These mandates make it more likely that individuals will enroll in coverage, whether it is sponsored by their employer or not. There are currently 150 million Americans who have employer-sponsored coverage. Repealing the individual mandate fine will likely cause healthy people, and consequently insurers, to leave the market in certain areas and increase premiums across the board. Furthermore, the ACA eliminated discriminatory coverage or pricing by private health insurance companies against individuals with pre-existing conditions who need coverage the most (Guo, Jacobs, & Kesselheim, 2017). Discrimination based on age, disability, or expected length of life was no longer allowed in the coverage market (Rosenbaum, Teitelbaum, & Hayes, 2011). The ACA also prevented insurers from providing different plans to beneficiaries in similar situations based only on health status (Guo et al., 2017). All plans issued by the U.S. Department of Health and Human Services (HHS) could also no longer discriminate based on race, color, national origin, sex, or disability (PPACA, 2010). The ACA made it required for insurers to cover routine medical care as part of clinical trials for cancer and life-threatening illnesses as well (Rosenbaum, 2011). In these ways, the PPACA expanded coverage to millions of Americans and set a precedence for the American health system for years to come.

#### *Prohibiting Cost-Sharing for Preventative Care Services*

One of the most important parts of the ACA is its prohibition of cost-sharing (co-payments, co-insurance, or deductibles) among patients for preventative care services (PPACA, 2010). These services include: evidence-based items or services that have an effectiveness rating of “A” or “B” as recommended by the US Preventative Services Task Force (USPSTF); immunizations for children, adolescents, and adults; screenings supported by the Health Resources and Services Administration; FDA approved contraceptive services; and other

preventative care services. Evidence-based preventative services can save lives and improve health outcomes by discovering illnesses, more effectively managing disease, and through treatment before those diseases develop into debilitating conditions (Maciosek et al., 2010). The Maciosek et al. (2010) study investigated the effect of childhood immunizations and found that 1,233.1 life-years were saved per 10,000 people per year of intervention. For comparison, the authors reported that the number of life-years saved per 10,000 people per year for breast cancer screening was 45.0 and for colorectal cancer screening was 40.8, highlighting a clear benefit of vaccinating children in comparison to other preventative care services. Breast cancer screening and colorectal cancer screening are still essential services, however. The USPSTF has given an effectiveness rating of “A” for a yearly colorectal cancer screening and an effectiveness rating of “B” for a biennial breast cancer screening, both of which are recommended to start at age 50 (USPSTF, 2016). Figure 1 shows the percentage of men and women who reported cost barriers

### Cost barriers to use of preventive services for women and men



NOTE: Among women and men ages 18-64. Federal Poverty Level (FPL) was \$19,530 for a family of three in 2013. \*Indicates a statistically significant difference from Insured and 200% FPL or greater,  $p < .05$ .  
SOURCE: Kaiser Family Foundation, 2013 Kaiser Women's Health Survey.

Figure 1: Cost barriers by gender for the use of preventative care. Adapted from KFF, 2015.

Simmons, 2015). Although access to new benefits, such as no-cost preventive services, has the

to use preventative services by insurance status. By removing the cost barrier for preventative services, the ACA has provided these services to 137 million people as estimated by the HHS since the act took effect (Burke, &



potential to yield enormous gains in addressing disparities and reducing chronic illness, maintaining continuous insurance is critical to facilitating this access.

### *The ACA's Expansion of Medicaid*

The ACA provides subsidized insurance for the less well-off through two sources: Medicaid for those who earn less than 138% of the Federal Poverty Line (FPL) in states that voted to expand Medicaid; as well as subsidized plans in the ACA marketplace for those who earn up to 400% of the FPL (Garfield, Orgera, & Damico, 2020). 47% of the uninsured had an income that would make them eligible for one of these plans in 2018. However, 67% of the uninsured had not tried to examine their coverage options. While the Medicaid expansion was intended to be national, a Supreme Court ruling in 2012 made it optional so states could vote for or against it. As of January 2020, fourteen states have not expanded their programs. Over two million people in the uninsured population of those states are part of what is known as the “coverage gap” – they have incomes that are above Medicaid’s eligibility but below the FPL. These two million people would be eligible if states voted in favor of the expansion of Medicaid. The income of these individuals is between about 40%-100% of the FPL. A visualization of the Gap in Coverage for Adults in States that Do Not Expand Medicaid Under the ACA

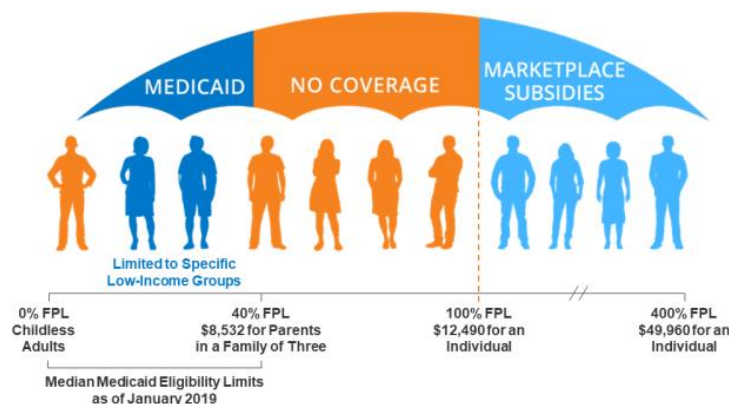


Figure 2: The Coverage Gap. Adapted from Garfield et al., 2020.

coverage gap is represented by

Figure 2. Furthermore, 92% of those in the coverage gap are located in southern states and 69% of them reside in Texas, Florida, Georgia, and North Carolina. All four of these states have not voted to adopt the

Medicaid expansion. According to research by the CDC, all four of these states have a lower number of primary care physicians (PCP) per 100,000 people than that of the national average (Hing, & Hsiao, 2014). Texas and Georgia have a significantly fewer number of PCPs than the national average while North Carolina and Florida do not have a significant difference at the  $p < 0.05$  level. These results

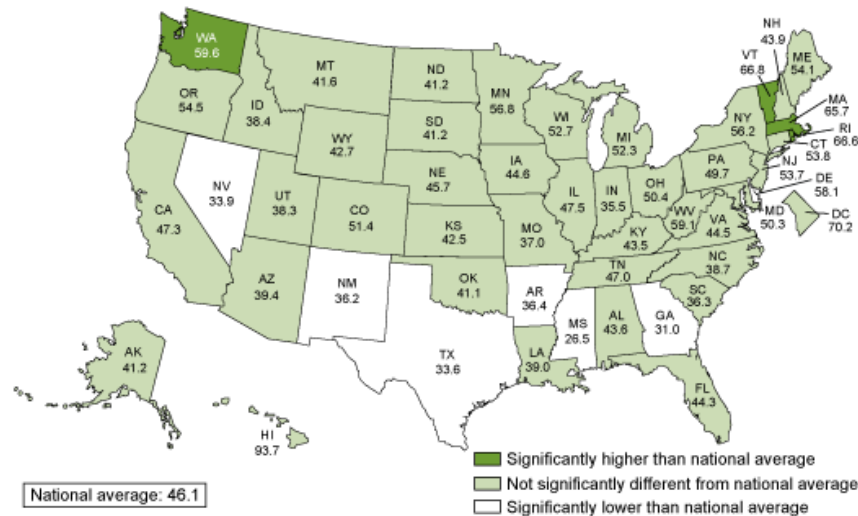


Figure 3: Number of PCPs per 100k population in 2012. Adapted from Hing and Hsiao, 2014.

are depicted in Figure 3. Those in the coverage gap in these states are likely to face worse health outcomes as a result of decreased access to PCPs, little or no access to

preventative care services, and a lack of coverage. Lastly, the Kaiser Family Foundation (KFF), a non-profit focused on national healthcare issues, analyzed research examining people who are between 100-138% of the FPL in Medicaid expansion and non-expansion states (Garfield et al., 2020). These individuals are eligible for the ACA marketplace coverage without Medicaid expansion in their respective states (Guth, Garfield, & Rudowitz, 2020). They found that Medicaid expansion coverage created reductions in average total out of pocket spending, average out of pocket premium spending, and average cost-sharing spending in comparison to ACA marketplace coverage alone (Garfield et al., 2020). Affordability is a primary obstacle for the uninsured population and a lack of knowledge about options further debilitates their ability to seek care. Non-expansion states should work to raise awareness of the options that are provided, even if they do not choose to expand Medicaid.



*The Impact on the Uninsured in the United States*

Merwyn Greenlick, Ph.D. (1996) claimed that it is an intolerable burden on the economics of the healthcare system to have 35 (+) million uninsured people in the U.S. She predicted this issue would be solved by most people receiving employer-based insurance or some form of government-subsidized insurance in the 21<sup>st</sup> century. As of 2018, 27.9 million nonelderly individuals are still uninsured (Tolbert, Orgera, Singer, & Damico, 2020). The number of uninsured people continuously decreased between 2013-2016, but it has been increasing each year since. A study by the Commonwealth Fund indicated that four million nonelderly Americans lost their health insurance between 2016-2018, and the study cites two main factors for this decline (Collins et al., 2018). The first is a “lack of federal action to improve certain weaknesses in the ACA”; the second is “actions by the current administration that exacerbate those weaknesses” including reduced spending on advertising and outreach along with shorter enrollment periods. According to the KFF, 45% of those 27.9 million individuals said they were uninsured simply because it was too expensive (Tolbert et al., 2020). One in five of those individuals said they were uninsured because the family member who carried the coverage lost their job or changed employers. These individuals are also less likely to receive preventative care services for chronic conditions, further exasperating annual healthcare spending when they eventually need to use hospital services. Figure 1 above shows a significance effect of the cost barrier for the uninsured trying to seek preventative care services. The KFF found that the uninsured are three times more likely than the insured to report not seeing a doctor at all in the past twelve months; they also reported that the uninsured are less likely to receive screenings including blood pressure checks, cholesterol checks, glucose screenings, pap smears, or mammograms (Garfield, Orgera, & Damico, 2019). Individuals with cancer who have

inadequate insurance coverage are also more likely to be diagnosed at a later stage and have a poorer chance of survival (Ward et al., 2008). Having insurance is still no guarantee that preventative care services are administered, however. A study published by the Research Triangle Institute in NC included multivariate regression analyses showing that individuals with continuous insurance had “essentially the same odds of receiving no preventative care regardless of whether coverage was public or private” (Lines et al., 2014). Not only do hospitals lose money when the uninsured get sick and go to the ER, but they can also cause crowding and increase wait times. Healthline reports that the vice president of strategic alliances for Merckitt Hawkins health consultants, Kurt Mosley, says that most hospitals “eat the cost” of treating uninsured patients; and hospitals do not necessarily have the choice of whether to treat them or not if they come in needing care (Mills, 2018). While this is in accordance with the ethics established by the Hippocratic oath physicians take, about 33% of uninsured adults are still asked to pay the full price of medical care before seeing a physician (Garfield et al., 2019).

Examining statistics about the uninsured certainly raises some eyebrows as there are many resulting implications. Before the ACA went into full effect on January 1<sup>st</sup>, 2014, the uncompensated costs of the uninsured amounted to \$85 billion dollars (Garfield et al., 2019). The uninsured, however, don’t always receive care at free or reduced costs. The KFF reports that only 27% of the uninsured reported receiving free or reduced costs in 2015. In fact, hospitals routinely charge them two to four times what private insurers or Medicare/Medicaid actually pays (Anderson, 2007). This is the American medical marketplace – where there exists a notion that those least able to pay are the ones singled out and asked to pay the highest rates. In “Bitter Pill: Why Medical Bills Are Killing Us,” Steven Brill (2014) cites a former appeals coordinator in a hospital billing department who says, “The hospitals all know the bills are fiction, or at least

only a place to start the discussion, so you bargain with them [the hospitals].” Unsurprisingly, individuals have a higher chance of incurring financial strain due to medical bills if they are uninsured (Garfield et al., 2019). A KFF analysis of the 2017 National Health Survey Interview even found that 45% of insured individuals reported that they worry about paying for medical bills if they get sick. What a reflection of the public’s trust in the systems that are meant keep them healthy – an ever-persistent looming coin toss of possible death or possible bankruptcy.

### *The Cost of American Healthcare*

Steven Brill (2014) writes, “According to one of a series of exhaustive studies done by the McKinsey & Co. consulting firm, we spend more on health care than the next ten biggest spenders combined: Japan, Germany, France, China, the U.K., Italy, Canada, Brazil, Spain, and Australia. We may be shocked at the \$60 billion price tag for cleaning up after Hurricane Sandy. We spent almost that much last week on health care. We spend more every year on artificial knees and hips than what Hollywood collects at the box office. We spend two or three times that much on durable medical devices like canes and wheelchairs.” Furthermore, Brill (2014) reports that patients have been charged \$199.50 for a “TROPONIN I Test” and \$7,997.54 for a “Stress Test,” which Medicare respectively pays \$13.94 and \$554 for. Even worse than that is patients who have been charged \$7 for each alcohol prep pad used in their care, \$18 for each diabetes test-strip, or \$24 for each Niacin pill, all of which can be purchased in bulk for a tiny fraction of the price. These insane prices can mean bankruptcy for someone who is sixty years old, just five short years away from Medicare eligibility. So where did these prices come from? Why is the cost of healthcare in the United States so much higher than that of other countries? While there aren’t necessarily any direct answers as many factors are at play in the U.S. healthcare economy, there are certain undeniable contributors to this reality.

### *Access to Pharmaceuticals through Medicare Part D*

Medicare Part D, with \$348 billion dollars in prescription drug spending in 2016, is the largest federal drug program in the United States (Altarum Institute, 2017). Around 58% of Part D spending goes directly to brand-name manufacturers (Avalere Health, 2011). The law restricts the Secretary of the HHS from interfering with negotiations between drug manufacturers, pharmacies, and sponsors under Part D on behalf of beneficiaries (Gagnon, & Wolfe, 2015). This non-interference clause prohibits Medicare Part D from leveraging its purchasing power, and study after study has reported that prescription drugs covered under Part D are priced at much higher costs than in other federal programs such as Medicaid and the Veterans Health Administration (VHA). The estimated average prices paid to brand-name drug manufacturers by

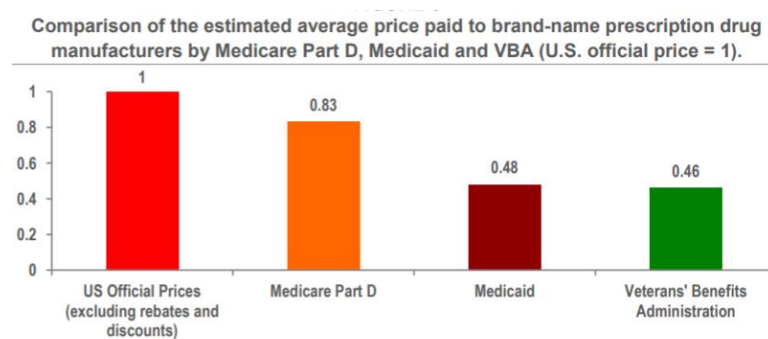


Figure 4: Estimated average price paid to brand-name drug manufacturers. Adapted from Gagnon and Wolfe, 2015.

federal programs is depicted in

Figure 4. In comparison to the member countries of the Organization for Economic Co-operation and Development

(OECD), Part D pays significantly

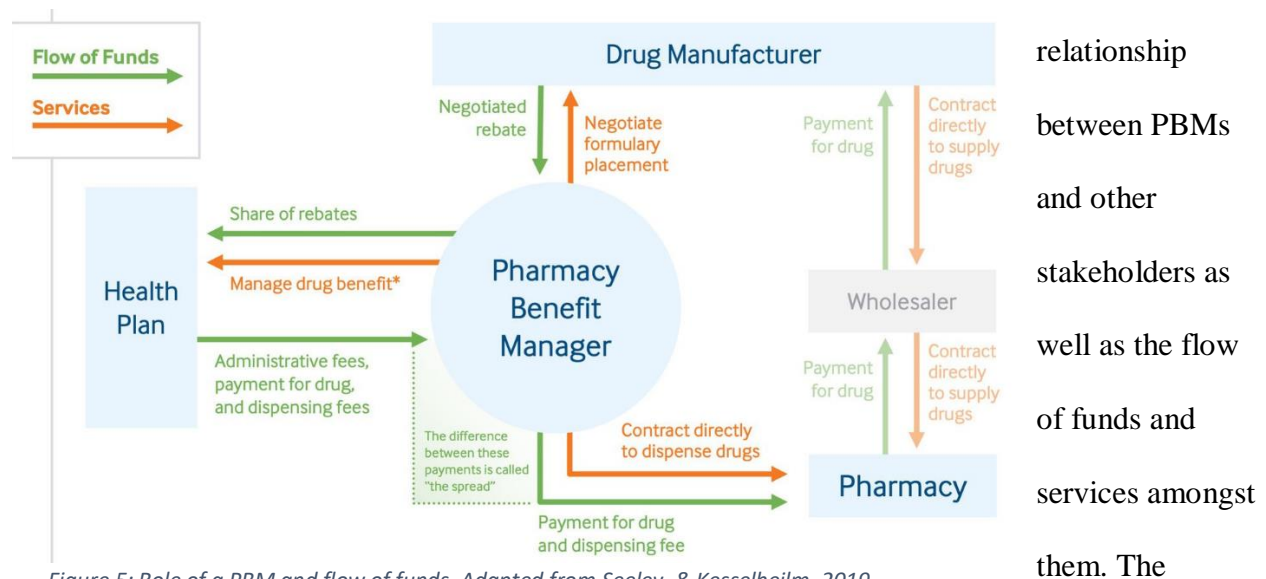
higher prices for brand-name drugs (Cohen, Malins, & Shahpurwala, 2013). The U.S. is, in fact, characterized by the highest cost per capita for pharmaceuticals among the OECD countries (Kanavos, Ferrario, Vondoros, & Anderson, 2013). Advocates of price reductions argue that Medicare Part D was created as a corporate welfare program for brand-name drug companies instead of a system to make prescription drugs affordable and available to the sick (Families USA, 2007). The law has essentially accepted the pharmaceutical companies' argument that unrestrained prices and profits are necessary to fund the risk of marketing, research, and

development (Branning, & Vater, 2016). The implications of Part D's affordability also extend into beneficiaries' lives. A 2014 Commonwealth Fund survey found that nearly 20% of people reported not filling prescriptions because they could not afford them (Collins, Rasmussen, Doty, & Beutel, 2015). What is the point of having drug coverage or even going to see the doctor if your prescriptions are still too expensive? The impact on health outcomes as a result of people failing to follow through on their prescribed plan of care can be severe. To reduce the cost related non-adherence (CRND) ratio, Medicare Part D plans need to reduce cost-sharing or be able to negotiate the price of prescription drugs. Reducing brand-name drug prices would reduce the CRND ratio by decreasing co-pays and premiums, and this could save taxpayers \$11 billion dollars a year (Gagnon, & Wolfe, 2015). A KFF poll even found that 82% of Americans from both sides of the aisle supported giving Medicare the authority to negotiate drug prices (Kirzinger, Wu, & Brodie, 2016). Congress has an ethical responsibility to fight the pharmaceutical companies, lawyers, lobbyists, and special interest groups in order to make drug prices more affordable, increase incentives to create medicines for unmet needs, and reduce annual healthcare spending.

### *The Role of Pharmacy Benefit Managers*

Among the many stakeholders at play in the U.S. healthcare economy, pharmacy benefit managers (PBMs) play a key role in establishing access to pharmaceutical products for patients. Although pharmaceutical manufacturers are often accused of setting their prices too high, PBMs have also contributed to the rise in cost of prescription drugs (Schulman, & Dabora, 2018). Complex relationships exist between manufacturers, wholesalers, pharmacies, PBMs, and health insurance organizations (HIOs). The wholesale distributors deliver drugs from manufacturers to pharmacies, where patients purchase them at costs which are reduced by cost-sharing and their

type of coverage. The distributor market is, however, highly monopolized, as three major companies account for 85% of the market share (Dabora, Turaga, & Schulman, 2017). PBMs were created to aggregate purchasing power from the payer they represented, and to be able to negotiate both the lowest price from drug manufacturers and dispensing fees from pharmacies. This would allow them to transfer the savings to the patient. PBMs also manage the pharmaceutical benefit on behalf of HIOs through the use of formularies and utilization management tools. This allows PBMs to negotiate lower prices from manufacturers through rebating (Seeley, & Kesselheim, 2019). Although defiantly reluctant to accept the term, PBMs act as middle men between manufacturers, pharmacies, and plan sponsors including almost all public and private insurers. They are also highly consolidated, as three major PBMs controlled 73% of the market in 2015 (Dabora, Turaga, & Schulman, 2017). Figure 5 represents the



relationship between PBMs and other stakeholders as well as the flow of funds and services amongst them. The Centers for Medicare and Medicaid Services (CMS) reported that PBMs have been able to negotiate larger rebates from manufacturers, contributing to lower net prices and less growth in drug spending over the past three years (Seeley, & Kesselheim, 2019). PBMs are able to provide competitive costs for pharmaceuticals; but their business model has gained notoriety, for good

reason, as the focus of intense debate in recent years. A Prescription Drug Price Transparency Report released by the California Department of Managed Health Care in 2018 found that PBM rebates were the highest contributor to increasing health insurance premiums. Whether the savings that PBMs created were ever transferred on to the patient or not still remains to be determined.

Since PBMs are organized to manage costs, they have little incentive to maximize the value of healthcare that patients receive (Shrank et al., 2009). One way that PBMs could increase this value, for instance, is by supporting a less expensive but equally (or more) effective medication on their formulary. The formulary is a list of pharmaceuticals that are preferred and covered by a health plan or employer. They are either open (covering a portion of all medications on the market) or closed (a smaller, specific list of covered medications). Modern formulary lists are more commonly open with tiers that distinguish varying levels of cost-sharing for patients. 81% of employer-based insurance plans have three or more formulary tiers set by their PBM (Dabora et al., 2017). PBMs use these tiers to negotiate with drug manufacturers, set retail prices for drugs, and negotiate rebates with manufacturers based on total sales volume (Shrank et al., 2009). In return for higher rebates, PBMs have the power to move certain medications onto a better placement on the list, translating to lower out of pocket costs for patients and higher sales volume. Since PBMs control how much of the rebate is passed on to plan sponsors, many critics say PBMs are guilty of serving themselves and distorting prices on the drug market (Dabora et al., 2017). Although PBMs report that up to 90% of their rebates are passed on to health plans, small payers and employers reported that they did not receive this share (Seeley, & Kesselheim, 2019). Schulman and Dabora (2018), who examined thirteen major drug companies between 2011-2016, found that while net revenues for pharmaceutical manufacturers grew by 2.7% on

average per year, rebates and other price concessions grew by 15% on average per year. Chan and Schulman (2020) reported that manufacturers paid \$100 billion dollars to PBMs and other intermediaries in 2016. The role of a PBM should be focused on reducing pharmaceutical costs while simultaneously increasing the value of healthcare that patients receive – not on enriching their profits at the expense of patient’s lives.

The current PBM business model is also flawed with secrecy. The structure and scale of payments from manufacturers to PBMs is private information (Chan, & Schulman, 2020), making matters more suspicious regarding their role in the increasing cost of patient care. This lack of transparency could incentivize PBMs to develop formularies that maximize their profit margins instead of maximizing the value delivered to patients (Seeley, & Kesselheim, 2019). According to the Advisory Council on Employee Welfare and Pension Benefit Plans (2014), plan sponsors testified that disclosure of PBM compensation would enable health plans to better determine reasonable compensation and conduct meaningful, cost-effective audits. On the other hand, PBMs argue that disclosing confidential pricing information, including about rebates and discounts, could harm competition. Essentially, manufacturers have more incentive to bid competitively against unknown prices than against known prices. Professor Joanna Shepherd from the Emory University School of Law says that drug manufacturers will collude to provide “less favorable pricing for PBMs” as a result of pharmacies competing with other pharmacies and lowering the amount that PBMs receive. By doing so, PBMs concur that releasing pricing information will increase drug prices for the consumer through their control of formularies and benefit plans.

There needs to be choice, transparency, and a lack of conflicting interests for a free market to work successfully. PBMs fail to stimulate a successful capitalistic market and



contribute to rising healthcare costs in the U.S through their monopoly over smaller entities, confidential pricing practices, and incentives to raise drug prices to increase the rebates and discounts they receive. The middle man should not be compensated more than those who research, develop, and manufacture new drugs or the trained professionals who prescribe and administer them. If PBMs are to continue playing such a massive role in the healthcare economy, they need to consistently place cheaper alternatives on their formulary; the savings they were originally meant to create also need to be transparently passed onto the patient. The most recent proposal from the Trump administration would require manufacturers and PBMs to fully pass the negotiated rebates to Medicare beneficiaries at the point of sale (Seeley, & Kesselheim, 2019). Drettwan and Kjos (2019) found that “point of sale rebates” was the PBM practice most likely to be found ethical on their models. Chan and Shulman (2020) also suggest that Congress can “amend the definition of fiduciaries to include PBMs or allow states to bypass the Employee Retirement Income Security Act (ERISA) of 1974 to impose a fiduciary duty on PBMs.” This solution would require PBMs to represent the interests of patients. It is unsure what effect altering the current pharmaceutical reimbursement process would have.

### *Billing Practices in Healthcare*

As hospitals, provider networks, insurance companies, and the overall healthcare industry has developed, the practice of billing patients has become very complex with numerous steps between when the patient calls to make an appointment and when they receive their part of the bill. Most of the administrative costs in the U.S. healthcare system (at least 62% based on prior studies) has been attributed to billing and insurance-related activities (Kahn, Kronick, Kreger, & Gans, 2005). These activities employ many specialists across various companies who work to process a patient’s bill. After a physician evaluates the patient and documents their conditions

and treatment plans in an Electronic Health Record (EHR) system, the information is assigned an ICD-10 code (the diagnosis) and a CPT code (the treatment, if necessary), as well as any code modifiers as necessary (All Things Medical Billing, 2017). These codes, as well as patient demographics and pertinent medical information, are used to create a “superbill.” Next, medical billers will transfer the information and the cost of procedures from the superbill into their practice management software. The medical biller is responsible for ensuring this final claim is accurate and meets coding and formatting standards. These standards are established by the Health Insurance Portability and Accountability Act (HIPAA) and the Office of the Inspector General (OIG). Electronic claims are then transmitted to the payer. Typically, billers only transmit claims to large payers like Medicare and Medicaid. If the claim is heading towards another payer, the biller will likely send it to a clearinghouse first. A clearinghouse is a third-

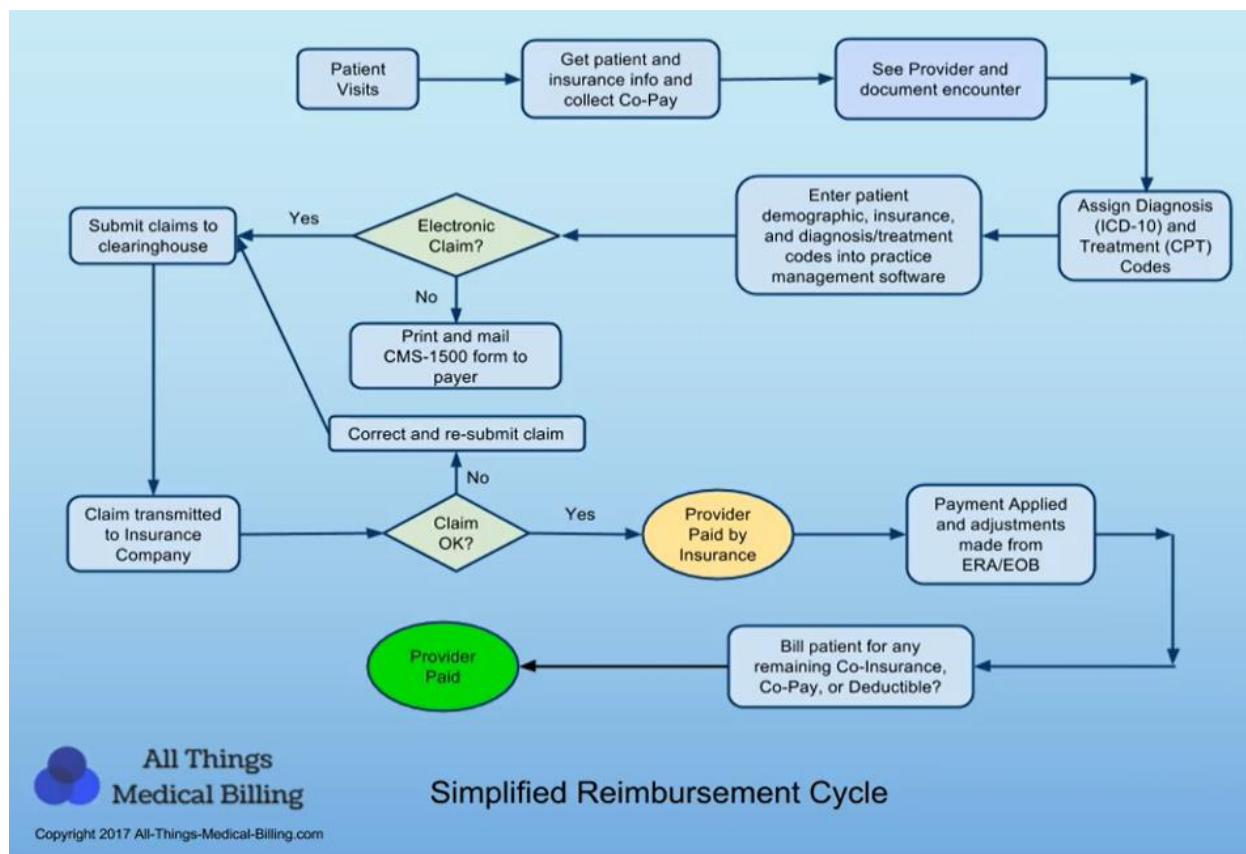


Figure 6: Simplified diagram of the billing reimbursement cycle. Adapted from All Things Medical Billing, 2017.

party company that receives and reformats claims before transmitting them to payers in their specified formats. Once received, the payer will adjudicate the claim to evaluate whether it is valid and how much they will reimburse the provider for. The claim can be accepted, rejected, or denied by the payer. If it is rejected due to any number of issues, the medical biller must follow up to fix them and resubmit the claim. After payer adjudication is complete, they will send a report to the provider or biller detailing how much they are willing to pay based on their contracts with the providers and other factors. The remaining payment for services is billed to the patient, and billers are responsible for following up on collection to pay the providers. Figure 6 depicts a simplified version of the billing reimbursement cycle.

The documentation of patient interactions in EHR systems has created a frustration that physicians feel towards the administrative side of healthcare. There exists a general consensus that healthcare has shifted from a patient-centric model to one in which the providers are required to spend more time on a computer performing non-clinical services. Physicians must allocate additional time and resources in their daily work routines, than before EHRs became commonplace, to accurately document every patient encounter with as much detail as possible. Not only does this reduce the amount of face-to-face interaction between the physician and the patient, but it also affects the likelihood of physician burnout. Kroth et al. (2018) found that 56% of all the physicians analyzed reported “excessive” or “moderately high” EHR time at home. Yes, EHRs have innumerable benefits to tracking and maintaining continuity of care. However, the purpose of the EHR should not be for insurance companies to be able to validate claims and reimburse providers. Maintaining the standards of EHR documentation is an excessive burden placed on physicians that extends into their time off work due to sheer volume. Researchers suggest a single transparent set of rules for multiple payers, a single claim form, and

standardized rules of submission would drastically reduce the burden on billing offices (Blanchfield et al., 2010). Administrative complexity reduces the efficiency of the reimbursement cycle, not to mention the costs incurred, time spent, and livelihoods impacted.

After the provider finishes documenting the EHR, each billable service is coded into the superbill. Every hospital in the U.S. maintains a chargemaster that lists the official prices of all billable services, and hospitals have the sole discretion to determine the prices (Anderson, 2007). Hospital list prices have grown more rapidly than payments for those services since 1970, and there is a difference by more than a factor of three between them (Batty, & Ippolito, 2017). Anderson (2007) reported that for every \$100 dollars in Medicare-allowable costs, the hospital charged \$307 dollars. The implementation of PPS along with a tightening of payments from Medicare and Medicaid in the 1980s imposed financial pressure on hospitals (Tompkins, Altman, & Eilat, 2006). The BBA also lowered the growth in Medicare payments to hospitals below what they believed appropriate for their services. To maintain profit margins, hospitals participated in cost-shifting by increasing prices to privately insured patients and by raising billed charges. The gap between gross revenues (what hospitals charged) and net revenues (what hospitals received) has exponentially increased since 1975, and this gap is depicted in Figure 7.

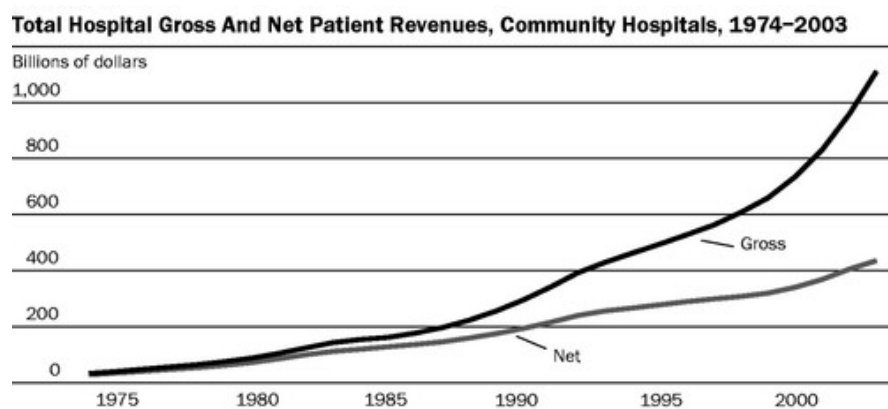


Figure 7: Total Hospital Gross and Net Patient Revenues. Adapted from Tompkins, Altman, & Eilat, 2006

William McGowan, CFO of the UC Davis Health System and thirty-year veteran of hospital financing, states: “There is no method to this madness. As we went

through the years, we had these cockamamie formulas. We multiplied our costs to set our charges” (Lagnado, 2004). These prices can also vary drastically between hospitals, even in the same region. For example, in 2014, the 25<sup>th</sup>-75<sup>th</sup> percentile was \$39,100 - \$71,600 for the amount charged to CMS for the hip replacement diagnosis-related group (DRG) (Batty, & Ippolito, 2017). Of course, variations in operational costs, overhead, and coverage of the patient population served are all factors that can account for differences in pricing between hospitals (Tompkins et al., 2006) – but such a huge variation seems unprecedented. Batty and Ippolito (2017) found that between 2002-2013, each additional dollar added to the chargemaster’s list price was associated with an increase of fifteen cents in payment from privately insured patients. Private insurers pay hospitals after negotiation based on DRGs, per day of care, or at discounted chargemaster prices that the hospitals offer them (Bai, & Anderson, 2016). For entities with purchasing power, the chargemaster prices serve simply as a point of discussion. Hospital executives argue that list prices act as a bookkeeping function, but studies have demonstrated the revenue-seeking function of the chargemaster instead – a function that derails from the ethics of medical practice. These inflated list prices are meant to ensure that what hospitals end up receiving will cover expenses (Woodworth, Romano, & Holmes, 2017). As is the case with any business, there needs to be a monetary incentive to continue operations. Contrary to what the executives tell us, however, chargemaster prices have important implications in the cost and quality of healthcare and patient’s access to it. Hospitals need to address their role regarding inflated chargemaster prices in the increasing cost of healthcare if they are to be sustainable in the future.

Even those with insurance can face chargemaster prices if they use out-of-network (OON) hospitals, equipment, or providers. One study estimates that 10-13% of billed charges

represent OON care for preferred provider organization plans (McDevitt et al, 2007). The Batty and Ippolito (2017) study, published in *Health Affairs*, found that the hospital a patient visited was the biggest determinant in the price that he or she paid for care. Most patients, who understand little to nothing about the healthcare system, do not have the ability to discern which hospital to use, especially in emergency situations. A patient's exorbitant bill is a result of a lack of cost transparency relating to: the lack of accessible list prices, the level of insurer reimbursement, and the unknown level of OON costs (Kyanko, Curry, & Busch, 2013). Kyanko et al. (2013) also found that almost 40% of OON services were involuntarily used, a figure that represents three million people. Furthermore, more than half of involuntary OON physician contacts were at in-network hospitals. It is impossible to know exactly what services patients will need in advance, so they are not able to "comparison shop" like in other markets (Anderson, 2007). Those who are uninsured or use OON services are classified as self-pay patients. While fiscal intermediaries provide most of the revenue for hospitals based on their list prices and negotiations, self-pay patients are inadvertently forced to bear the brunt of this complex system. While only a small proportion of self-pay patients actually pay fake chargemaster prices, those without insurance are at greater risk of facing the full charges and, consequently, are disproportionately more likely to face bankruptcy (Himmelstein, Thorne, Warren, & Woolhandler, 2009). To depict such a reality, imagine this story told in "Bitter Pill: Why Medical Bills Are Killing Us." A sixty-four-year-old clerk felt chest pains one night and was taken four miles by ambulance to an ER. After three hours of tests and a brief interaction with a doctor, she was sent home with the news that it was indigestion. The bad news was her medical bill. The hospital charged her \$995 for the ambulance ride, \$3,000 for the doctors, and \$17,000 for the hospital – \$21,000 dollars for a false alarm with less than one year from Medicare

eligibility. Although it is not clear what she ended up paying, it is horrific to think of what it must have felt like to get that bill, and that is the reality for millions of self-pay patients across America. The simple fact that medical care has to occur before knowing what the bill will be has created our complicated system of reimbursement. While this system serves the function of providing access to healthcare, it does not ensure that access to everyone. Millions of Americans even avoid using hospital services simply because they know they will not be able to afford it. The growth in healthcare costs, if not checked, will eventually exceed the ability of the U.S. population to service the debt (Mills, 2016).

### *Conclusion*

The modern system of healthcare in the United States is a complex web of interconnected entities that have grown immensely over the past sixty years. From humble beginnings, Medicare and Medicaid became law to ensure that the elderly and low-income individuals had access to care. Expansions to healthcare policy throughout the late 20<sup>th</sup> century and early 21<sup>st</sup> century were monumental in creating programs and setting guidelines for how involved entities are allowed to conduct access to care. These programs include Medicare Advantage and Medicare Part D, which sought to bring choice and access to pharmaceuticals to a much larger audience. The Patient Protection and Affordable Care Act further developed on the existing programs to expand Medicaid, ensure coverage for those who need it most, expand the availability of primary and preventative care, and improve the quality and efficiency of the healthcare system. By improving access to care, health insurance coverage is fundamentally important to better health care and health outcomes. However, millions of Americans are still uninsured and lack access to care, causing increased healthcare spending when they eventually need to use hospital services. This group is also more likely to face the negative consequences of higher medical costs than those

whose insurance companies are able to negotiate lower prices on their behalf. Since a lot of medical services can only be billed after the service has been provided, a complex system of reimbursement has developed. The system has provided countless jobs to various companies who perform specialized tasks in the delivery of health services and the reimbursement cycle, but it has also created inefficiencies that cause drag on the medical system. Physicians spend more time at a computer than they do working with patients, medicine has become more a business than a service to the sick, and the cost of accessing services has skyrocketed since the 1980s. Coverage does not always ensure that patients are left with a manageable bill either. Hospital executives, pharmaceutical companies, and insurance companies among others have inflated the cost of health care services, which makes it difficult for millions to access. The stakeholders in the chain of services required for the modern healthcare economy to function must perform their roles with the interests of patients in mind – not on monetary incentives. The path we are on is unsustainable. Managing the growth of healthcare spending is an attainable – and quite necessary – objective for the United States to maintain, and it will require the combined efforts of lawmakers and all those who participate in the delivery of health care services. Encouraging rational pricing for health care services is an important step toward ensuring access to care for everyone (Dusetzina, Basch, & Keating, 2015).

There are multiple implications of this research that I will be able to apply in my future. Understanding how health insurance coverage affects access to care is vital knowledge for physicians to possess. In my own interactions with physicians, I have seen how some may alter the way in which they create their EHR notes to account for the variability in patient's ability to pay. Specifically, one physician went to see a twenty-five-year-old patient for a yearly check-up and within ten minutes, he told the patient that he was healthy and to keep it up. When the



physician went to document the encounter, he told me that he was going to mark the visit as a certain type to reduce the amount that the patient would have to pay, because the patient worked full time at Chick-fil-A and the physician did not really do anything for him. While the doctor could have marked it as a regular check-up and have been reimbursed well, he realized that the service he provided was not worth that amount and the patient was not in a position to pay it. This is one example of how understanding the system allows physicians to better serve patients. Furthermore, I aim to practice a primary care specialty in one of the southern states of the U.S. As a PCP, I will be responsible for ensuring that my patients are up to date on their preventative care services. Most patients can only access these services if they have insurance coverage. Now that I have a better understanding of insurance coverage, I will be able to work with patients in the future to ensure that the plans they purchase will cover these necessary services to help identify illnesses early on. While the shortage of PCPs in southern states will likely continue to be prevalent, I can play my part by treating patients to the best of my ability and using my knowledge of the healthcare system to benefit those I see. If I choose to pursue private practice in my career, I will be able to facilitate my business by using this understanding of health insurance, pharmaceutical access, and medical billing. As I continue my journey in medicine, I aim to build my understanding of such systems that impact lives in the hope that I will be able to advocate for those who are unable to advocate for themselves.

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