THE MAYO CLINIC BUSINESS MODEL AND ITS PRESENT ROLE IN UNITED STATES HEALTH CARE

By

Ketan Verma

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Thesis Advisor: Dr. Gerald Swanson

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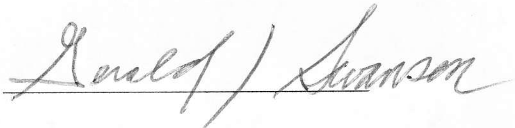

Dr. Gerald Swanson

Department of Economics

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Introduction and Statement of Purpose

Health care facilities and health insurance in the United States are both primarily provided by the private sector. Over the years, health care in the United States has become fragmented and unaffordable for many. Healthcare costs are growing much faster than the rest of the economy, while the unemployment rate has only gotten worse. Department of Health and Human Services (HHS) reported in a recent study that the health care costs in 2009 increased at the fastest rate in more than a half century. Health care spending increased from 16.2% in 2008 to 17.3% last year. In 2009, health care spending rose to an estimated $2.5 trillion or $8,047 per person. This number is projected to grow to $4.5 trillion in 2019, which amounts to 19.3% of the GDP.[12] More than seventeen percent of the United States' GDP being spent on health care sums up to be more money than what the nation spends on food (alcoholic beverages and tobacco products excluded).[13] Furthermore, more money per person is spent on healthcare in the United States than in any other nation. In spite of such staggering numbers, about 16% (47 million) of the population is still uninsured and many experience suboptimal clinical outcomes.[22] It is important to note that the 47 million Americans that are uninsured are mostly between the ages of 18 and 24 and have family incomes below $25,000.[2]

Infant mortality rates and life expectancy are means of assessing a nation's overall health status and given the amount of money and resources that are spent on health care in United States, one would expect U.S. to have extremely low infant mortality rate and high life expectancy. However, United States ranks 33 according to a 2006 list by the United Nations Population Division and 46 according to a 2009 list by the CIA World Factbook.[6, 38] Also, U.S. ranks 36 on the overall life expectancy scale according to the 2006 revision of the United Nations World Population Prospects report, for 2005–2010.[20, 38]

Some who currently have insurance are not able to hold onto it for very long; 62% of the population that filed for bankruptcy in 2007 claimed high medical expenses.[29] These statistics are often presented by news channels and radio stations whenever health care is being discussed. Nevertheless, the health care debate is quite complex with many experts holding differing viewpoints. The debate concerns the often debated question: is health care a right or a privilege? Encompassing this question are issues such as efficiency, cost, choice, value, and quality of health care provided. Whether health care is a right or a privilege is more of a philosophical and political question and not the basis of this thesis. The purpose of this thesis is to assess whether a certain business model of a hospital can be cost effective, make health care more affordable and efficient for patients, and at the same time, improve the patient-physician relationship and outcome of the patient.

Before being able to comprehend the significance of an efficient business model of a hospital, it is fundamental to pinpoint the possible reasons behind increasing healthcare costs. United States serves to an aging population and the healthcare spending is expected to increase significantly because of the baby-boom generation becoming eligible for Medicare.[20] Advances in technology have resulted in the life expectancy rate to go up from 69.8 years in 1960 to 78.4 years in 2008.[45] For population above the age of 85 years, 20% require nursing home care at an average cost of $60,000 per year.[20] In addition to the aging population, United States' citizens are experiencing a rapidly changing lifestyle. Obese patients consume approximately $1700 more in health care costs each year than healthy-weight patients. Also, obese Americans account for approximately 30% of growth in real per-capital healthcare spending from 1987 to 2003. Around 800,000 patients are diagnosed with diabetes each year, or 2,200 per day. The diabetes epidemic was the seventh leading cause of death based on U.S. death certificates in 2007 and The National Diabetes Information Clearinghouse estimates that diabetes costs $132 billion in the United States alone every year.[21, 29] Diabetes is not the

only result of lifestyle changes. Tobacco consumption, driving gas-guzzlers, eating fast-foods, and other lifestyle choices made by Americans have led to increased health complications, and hence, more hospital visits. This enormous shift in demand has led to a complementary rise in prices of health care services. In addition to the increased consumer demand, supply-induced demand by physicians has also lead to enormous increases in health care prices.

Robert Sherill provides some crazy statistics—doctors in the United States are six times more likely to perform cardiac bypass, two to three times more likely to perform hysterectomies, and twice more likely to perform cesarean sections than doctors in Europe. It is debatable whether prescribing more tests leads to better patient outcome. Also, it is interesting to note that physicians that have their own lab end up prescribing twice as many tests, with the charge per test being twice as high, compared to doctors without their own labs. Medicare, insurance and drug companies, and patients are routinely billed unexpectedly high amounts such as $8 per aspirin or $20 per box of tissues. According to Sherill, Medicare and Medicaid fraud costs taxpayers $100-$130 billion a year.[33] National Imaging Associates concluded that 30% to 40% of diagnostic imaging is inappropriate or noncontributory.[13] Administrative costs resulting from multiple payer system have also played a major role in increasing health care costs.[44] Some other reasons leading to high cost of health care in U.S. can be attributed to rising costs of medical technology and prescription drugs, and high proportion of uninsured people in the U.S. (15.8% of the population in 2008). Uninsured individuals are not able to undergo preventative care or get treatment in early stages of their illness. Emergency room visits or intensive care treatment when the health condition severely deters leads to the incredibly high costs that the taxpayers have to bear. About 60% of the population in United States is covered by employer-sponsored insurance[2] and the effect of these increasing costs is felt by the U.S. companies, which has played a vital role in

damaging the nation's economic productivity. Some policy makers and experts believe that changing some of the ways that medicine is practiced can solve many of these problems.[14, 15] An effective and efficient business model of a hospital might be the solution to cutting down health care costs for millions of Americans.

A business model deals with how an organization runs itself—how it creates, delivers, and captures value. A business model of a hospital describes factors such as how physicians are paid, how much time on average physicians get to spend with their patients, how satisfied are patients when they leave the hospital, how much money the hospital is able to save the government programs such as Medicare and Medicaid, and how quickly and effectively the patient recovers. Some economists, some of whom are doctors, argue that the primary problem with most business models of hospitals today is how doctors are compensated.

The way doctors are paid their salaries in United States is quite complicated and it is widely believed that payment system may affect physician's clinical behavior.[25] Robinson et al. performed a study in 2004 to analyze how physicians were being compensated. They concluded that the three popular methods are retrospective (fee-for-service, productivity-based salary), prospective (capitation, nonproductivity-based salary), and a blend of the two. Many doctors are paid piecemeal—for each test and procedure performed—and the fee is not based on the outcome of the patient. The two categories of fee-for-service model are indemnity plan and reimbursement plan. Under the indemnity plan, the insurer sets a certain amount that will be paid for a specific medical service. Under the reimbursement plan, the patient must pay all the fees up front and then file a claim to be reimbursed by the insurance company. This fee-for-service does tend to allow patients some flexibility as they can choose the doctor or the hospital and then submit claims to their respective insurance companies for reimbursement. The problem, however, is that these patients often end up having to pay higher copayments and deductibles. This is because the retrospective payment levels are set

above the marginal costs in order to cover the overhead costs of the physician practice.[31] Also, insurance companies often only reimburse a percentage of the fees that are submitted. Another major problem faced by the patients under the fee-for-service incentive plan is that the insured patient does not have many options, but to accept the costly and intensive medical interventions. This tendency of providers over-prescribing tests and over-treating creates what is called a “supplier-induced demand.”[37]

Medicare, a social insurance program run by the United States government for people over the age of 65, is primary run on traditional fee-for-service system, except for Medicare Part C. The traditional fee-for-service Medicare provides care that members can receive from nearly any hospital or physician in the country. The exception, Medicare+Choice or Medicare Part C is known as the Medicare Advantage (MA) plan. Under this plan, the members pay a premium in addition to the Medicare Part B premium, and are therefore entitled to benefits such as prescription drugs, dental care, and vision care. The MA plans receive a capitation fee per enrollee per month from the Medicare program. The problem with MA plans is that they place restrictions on patient’s choice of physician or hospital and limit the use of certain services.[11] Friedman et al. found that patients in the MA plans tend to be treated in hospitals with lower resource cost and higher risk-adjusted mortality in comparison to the traditional fee-for-service patients in Medicare.[11]

In the capitation system, the earnings are not productivity-based. The physician is paid a fixed amount for each person eligible to be served, regardless of the actual number or nature of services provided to each person in a time period. Capitation has shown to cut down on costs and physicians can retain the savings generated by reductions in utilization, complexity, or unit prices.[31] Under such payment method, the hospitals do not benefit from keeping the patients in the hospital for long. Therefore, physicians have an incentive to practice preventive medicine and reduce future costs. A positive of this system is that

physicians can spend more time with their patients without incurring the opportunity cost of not being able to see another patient. Once capitation method gained popularity, the average length of hospital stay fell by half a day and the number of admissions fell by 20%.[37] This statistic can be interpreted as a way to cut down on costs and preventing excessive wastage; however, critics of capitation argue that it rewards avoidance of the sick and attracts the healthy, a theoretical concept known as cream-skimming.[26] Under the capitation system, some private practices may try to attract patients by creating a reputation for a higher quality of care and better patient satisfaction.[16]

A tweaked version of the capitation system is the global payment system that has gained popularity in Massachusetts. Under such a system, physicians would be paid a flat monthly fee per patient, risk-adjusted for each patient's health status, other clinical factors, relevant socioeconomic characteristics, and if deemed necessary, geography. The global payment system would be linked to the formation of accountable care organizations (ACOs). It is proposed that this system would improve the quality of care and reduce costs by reduction in duplicative services readmissions. The big difference between this system and capitation is that this method allows patients to choose their providers and focuses on evidence-based care. It is believed that this pay-for-performance system would offer the providers a financial stake in reducing costs and improving quality. Kaiser Permanente has used the global payment system for years. However, the Congressional Budget Office has failed to find concrete evidence of whether this system will serve to be cost-effective.[35] Dr. Samuel Frank, neurologist at Boston University School of Medicine, raised concern against the global payment system by pinpointing that the per-patient-payment system "encourages practices to take on as many patients as possible for the financial aspect, meaning less time doctors can spend with each patient."[10]

Robinson et al. concluded that half the medical groups and independent practice associations (IPAs) in the nation work on a blend between fee-for-service and capitated method. This is important because of the need to balance the acceptance of severely ill patients with keeping costs down and overall productivity high. Robinson et al. study[31] also concluded that large medical groups are less likely than small groups to pay physicians on a fee-for-service basis. In addition to a blend system, some of the existing systems can be tweaked to increase physician productivity and reduce costs. For example, an enhanced fee-for-service model, which includes targeted fee increases, premiums for extended hours, performance-based initiatives, and patient enrolment increased patient productivity. Physicians working for this model had lower referral rates and treated slightly more complex patients.[19] Like the traditional fee-for-service model, however, this model can also lead to over-treatment. Also, for institutes undergoing budget cuts, it will be challenging to adopt this model and provide significant pay increases to achieve physician productivity.

Gosden et al.[16] discussed a fourth method of payment that, like capitation, can be categorized as a prospective method. This method, known as the salary method, is much like the capitation because in both these systems of payment the physician already knows how much he or she will make before the care is provided. Under salary systems, physicians are paid an annual salary and are expected to work a set number of hours per week per year. This method of payment is different from capitation because in capitation, the physicians are paid a set amount per patient registered with them. Unlike capitation, salaried physicians do not have the incentive to hold larger patient list sizes and can therefore take part in longer patient-physician interaction. Both capitation and salary system encourage physicians, especially in primary care, to refer their patients in order to contain costs.

The common hypothesis is that prospective systems like capitation and salaried physicians encourage cost containment; however, this can often lead to under-treatment. On

the other hand, retrospective system of fee-for-service encourages over-treatment.[16, 43] It is also important to note that these different systems of payment might influence a physician's job choice decision. A physician who is content with making a fixed amount of money and prefers financial security would choose to work for a business model that pays physicians on a salary system. Also, salary system is administratively quite simple and does not require too many claims to be made.[16, 32] On the other hand, someone who does not want a cap on how much he or she can potentially make and does not mind dealing with the administrative costs and issues would prefer to work for a practice that pays on a fee-for-service basis.

In order to test many of the hypothesis and beliefs regarding the prospective and retrospective methods of payment, it is important to perform case studies and survey patients and physicians to see how satisfied they are. Unfortunately, there are not many studies that provide concrete data on such issues. Gosden et al.[16] performed an intervention review to study the impact of these different methods of payment on primary care physicians (PCPs). Their first goal was to study the effect of the payment system on job satisfaction; however, no studies were found that provided such data. The second goal was to assess the quantity and cost of care amongst the different payment systems. The authors concluded that some evidence suggested that the quality of care provided under the fee-for-service payment system was higher than that provided by capitated and salaried PCPs. Another difference between prospective and retrospective method of payment was that under the retrospective fee-for-service system, the physicians made fewer referrals and repeat prescriptions when compared with the prospective capitation method of payment. The third issue addressed by this study was whether under fee-for-service, the physicians do indeed over-treat their patients and under prospective systems under-treat their patients. The authors were not able to find appropriate data to support or challenge this hypothesis. The fourth issue addressed by this review was to see whether there were differences in access to care; however, once again

no studies were found that provided such information. Finally, the fifth, and perhaps the most important, issue addressed by this study was to see whether the different payment methods resulted in changes in clinical outcomes and patient's health status. Surprisingly, there are also no studies that could be found that address this issue.[16] It is important to realize that what makes sense in theory can often fail in practice, therefore, it is important for researchers to perform such studies to understand what is the ideal method of payment (if there is such a method) for physicians that can help keep costs low and also keep both the physician and the patient satisfied.

Statement of Relevance

The health care debate has been a hot topic in the news and is being excessively covered by the media. With more than 17% of United States' GDP being spent on health care, it is quite relevant and necessary to address the problems and how they can possibly be solved. If solving the problem of high costs and inefficient and unsatisfactory care was easy, it would have been done by now. On a much different note, some strongly believe in the notion that 'you can't have it all' and that no matter what you do, someone will have to bear the price. There are many opposing views and polar opposite standpoints between political parties on how to reform the health care. A good place to start is by analyzing the hospitals that are successful at keeping their costs low and rank high in patient-physician interactions. The health care debate has revolved around the difficult question: who will pay for the coverage; however, the other fundamental question has been ignored: how is medicine practiced in this country. Perhaps if the way medicine is practiced can be made more cost effective and quality can be improved at the same time, savings will automatically follow. Researchers at the Rand Corporation and the Dartmouth Medical School have estimated that thirty percent of current U.S. healthcare expenditures are inefficient. Dr. Henry Weil and Dr. Stuart Guterman commented on this statistic pointing out that even if fifteen percent of this

estimated inefficiency could be prevented, it would yield savings of more than $100 billion per year and more than $1 trillion over the next ten years.[41] Health care providers such as Mayo, Geisinger, Cleveland Clinic, Bassett, and Kaiser Permanente have all done exceptionally well in the recent tough times, and therefore, can serve as models of health care reform. The Mayo Clinic in Rochester, Minnesota stands out for many reasons. According to U.S. News rating,[40] Mayo Clinic ranked in the top three hospitals for cancer, diabetes and endocrinology, gastroenterology, gynecology, heart and heart surgery, kidney disorders, neurology and neurosurgery, orthopedics, pulmonology, and urology. In a 2009 June speech, President Barack Obama singled out the Mayo Clinic and said, “The Mayo Clinic in Rochester, Minn., is famous for some of the best quality and some of the lowest cost. People are healthier coming out of there, they do great.” Some health care experts believe that the Mayo Clinic’s business model needs to be studied and its positives need to be adapted at other medical institutes in order to cut down costs and provide better care.[30] Therefore, this honors thesis hopes to shed some light on the Mayo Clinic’s business model and assess whether it should be used as the gold standard for the health care reform.

Methodology & Literature Review

There are two major problems with the health care in the United States: the enormous economic cost of health care and the significant number of people who are uninsured and under-insured. To research the issue by analyzing the existing literature, the goal of this honors thesis is to address possible solutions of cutting down costs and improving costs. The health care debate has revolved around the role of insurance companies, how much the care costs, will cost, and who will pay for it, how the doctors will be compensated, and finally, how to best account for the patient’s well-being. Peer-reviewed articles from PubMed were primarily accessed to achieve the goals of this honors thesis. Also, news articles from credible sources such as New York Times, The Wall Street Journal, The New Yorker, and

ABC News were used. Some published books pertaining to health care in America were also accessed.

The Mayo Clinic

The Mayo Clinic in Rochester, MN has been cited by many economists and professionals in the health care field as a clinical enterprise/business model on which to base health care reform. In 1915, the Mayo Graduate School of Medicine was established and this was the first official program in the world to train medical specialists. Mayo brothers founded Mayo Properties Association (now known as Mayo Foundation) in 1919 and since then, Mayo has been a not-for-profit, charitable public trust. Mayo's mission reads: "Mayo Clinic will provide the best care to every patient every day through integrated clinical practice, education, and research."[27] The Mayo Clinic's logo of three interlocking shields symbolizes the three areas of research, education, and clinical practice. According to the Mayo Clinic Model of Care, the Mayo brothers traveled the world frequently and brought back latest medical advances to Mayo. This practice has been continued since and consultants at Mayo travel frequently to teach and to learn. Hence, Mayo's translational research activity is among the largest in the world. Today, Mayo Clinic's medical practice and research group is located in three metropolitan areas: Rochester, MN, Jacksonville, FL, and Scottsdale, AZ. Mayo brings in about $9 billion in revenue each year and hosts about 250 surgeries a day. Collectively, Mayo is known to serve more than 50 million people each year. The doctors at Mayo Clinic are salaried and all proceeds are used to further education, research, and patient care. In 1998, national focus groups determined that people see Mayo as the gold standard in healthcare. Also, one in every five Americans would prefer Mayo over any other healthcare center for highly specialized procedures and Mayo's name is recognized by eighty-four percent of people across the country.[27] In addition, Mayo has been at the very top of the US News and World Report of Best Hospitals for over twenty years.[40] Mayo has also been on

Fortune magazine's "100 Best Companies to Work For" in United States list for eight years in a row.[28]

The Belief in Fewer Tests

Mayo Clinic is known to prescribe fewer tests, pay doctors a fixed salary, records are electronic, and physicians are known to take part in collaborative work, which has shown to cut costs and result in strong clinical outcomes.[30] A Dartmouth University study[42] concluded that Mayo provides better quality care even though it prescribes fewer tests and procedures. Mayo's Medicare spending is in the lower 15th percentile and Mayo spent thirty-seven percent less than Johns Hopkins, another hospital leading in patient satisfaction. Mayo surgeon, Dana Thompson, compared herself to working in a private practice: "[At Mayo,] I get to sit down and really give full, undivided attention and time without the pressure of a lot of other things. If I was at a private practice, this would be a very difficult thing to do just because there are many time constraints on the number of patients that you have to see in the given day for productivity."[30]

Mayo Clinic is known for not over-treating their patients. Their philosophy is that if the physician spends enough time with the patient and actually listens to the patient, often times the proper diagnosis can be made through the patient history and there is no need for overprescribing tests. Dr. William J. Mayo, one of the founders of Mayo, addresses the concern behind over-treating patients: "Sometimes I wonder whether today we take sufficient care to make a thorough physical examination before our patient starts off on the round of laboratories…the highly scientific development of this mechanistic age had led perhaps to some loss in appreciation of the individuality of the patient and to trusting largely to the laboratories and outside agencies which tends to make the patient not the hub of the wheel, but a spoke."[27] 2008 Dartmouth Atlas[42] serves to be one of the only studies attesting to the idea that fewer tests actually lead to better patient outcome; however, the conclusions of this

study have been widely argued.[3, 9] Therefore, more research needs to be performed to see whether cutting down on the number of tests actually leads to better patient outcome and satisfaction and something that the health care reform can benefit from.

The Egalitarian Culture

Since Mayo physicians are salaried employees, they are not paid based on how many tests they prescribe, how many procedures they perform, and how many patients they see. In other words, Mayo pays doctors based on the value, not the volume, of the services provided. An example of this policy in practice is cited by Dr. Jeff Thompson, a chief executive officer and chairman of the boards of Gundersen Lutheran Health System. He explains that a hospital that pays its physicians a salary can perform fewer Caesarean deliveries because the obstetricians are not worried about the number of patients they can see and surgeries they can perform; instead, they can avoid surgery and wait out the more time taking, yet natural process of labor.[23]

Mayo is one of the very few medical centers where after their first five years, all the physicians within a single department are paid the same salary. Most other health care providers work on a much more hierarchical system. At Mayo, the salaries are caped so someone who has worked for six years receives the same salary as someone who has worked for thirty years. Some consider this egalitarian culture essential for collegiality and see it as a way to promote people to work together without egos and cult of personalities coming in the way.[24, 36]

Critics argue, however, that this egalitarian culture destroys the drive to work harder and will discourage people against the field. Critics also argue that the salary method of payment leads to less career satisfaction.[23] Dr. Jaramillo and Dr. Wilson, both surgeons at Mayo Clinic, think differently: [We] think it's going to draw people that are interested in medicine…because it isn't going to be money that drives us. But we're here because we love

medicine, and we want to improve health care."[30] Also, the turnover rates at Mayo do not agree with the critics' theory regarding paying physicians a salary. The national average turnover for nurses is 20%; on the other hand, the turnover rate for Mayo hospital nurses in 2003 was a mere 3%. Also, voluntary physician turnover rates at Mayo were less than 4%.[18]

The egalitarian culture leaves a few questions unanswered. It is unclear as to how Mayo would be able to recruit a noteworthy physician who is being paid well at another medical center. Would Mayo be willing to step outside their egalitarian culture and offer the physician a bonus or pay him or her higher salary or make a competitive and compelling offer? Is it really just the 'Mayo culture' as opposed to the lucrative salary options in this competitive and capitalistic society that attract excellent physicians? Perhaps, the Mayo model can be studied in more detail and physicians can be surveyed to answer such questions.

Integrated Coordinate Care

Integrated coordinate care that involves a team approach among doctors from different specialties has helped Mayo diagnose patients more effectively and efficiently. Mayo also collaborates among its three sites to receive the input of experts in a specific specialty and diagnose certain patients.[27] Therefore, when a patient comes to Mayo, he or she does not just get a doctor, but instead, in a way, gets the whole Mayo Clinic. Dr. William J. Mayo summed it best: "Group medicine is not a financial arrangement except for minor details, but a scientific cooperation for the welfare of the sick."[27] This integrated, multi-specialty, outpatient and inpatient medical care has significantly helped Mayo cut down costs and represents one of Mayo's most important competitive advantages.[30]

In addition to incorporating a collaborative policy involving physicians from different fields within the same hospital and its three branches, Mayo has also joined hands with other leading health care organizations to improve care and lower costs. Dr. Robert Nesse, Chief Executive Officer of Mayo Clinic Health System and member of Mayo Clinic's Board of

Trustees, shared his belief: “If we know that the treatment plan for diabetes at one institute results in better clinical outcomes, higher patient satisfaction, and lower overall costs, then there is knowledge to be shared and replicated in other institutes. We need to learn from each other and put systems in place that ensure that every patient gets the very best, most appropriate care, every time.”[1] This strong belief of the CEO has helped Mayo Clinic join forces with Dartmouth-Hitchcock, Cleveland Clinic, Denver Health, Geisinger Health System, and Intermountain Healthcare to share data on outcomes, quality, and costs. These six health care providers have a combined population of over 10 million people. This collaborative effort will initially focus on: knee replacement, diabetes, heart failure, asthma, weight loss surgery, labor and delivery, spine surgery, and depression. These eight conditions are responsible for the majority of the cost increases and patient population over the last decade. This collaboration will help researchers study an extremely diverse population of patients that represent a broad geography and demography. Also, the collaborative practice can be expanded to study more conditions and over time include more health care providers to further reduce costs and improve patient outcome.

Personal Care

Mayo Clinic is also different from a lot of other health care providers because it assigns each patient a personal physician to be responsible for his or her care.[27] This is important because studies have shown that patients feel safe and cared for when they have their own doctor to contact for complex medical needs.[21, 22] In addition, no one at Mayo is seen only by residents, which is the case at many academic medical centers. At many other medical centers, Medicaid patients are seen only by residents.[29] Nevertheless, Mayo does not indulge in such practice.[24]

Dr. Marc Patterson worked at Mayo Clinic in Rochester, MN for nine years and then moved to Columbia University Medical Center in New York. Eventually, he moved back. He

has many good things to say about the Columbia University Medical Center; however, moving from Mayo provided him with an opportunity to compare the two. He believes that Columbia University Medical Center and many other nation's top medical centers focus on research instead of clinical practice. On the other hand, Dr. Patterson points out that "at Mayo the focus in on the patient. The needs of the patient come first…being a superb clinician is the *sine qua non*—if you're not able to practice at the highest level, you won't succeed here."[24] The physicians working at Mayo strongly attest to believing in the values of Mayo set back in 1910 by the Mayo founders. Also, the founding fathers quotations that highlight the idea of 'patients come first' appear in many high-traffic spaces within the Mayo facilities. Furthermore, the core values and the vision of the founding fathers are almost guaranteed to be mentioned in speeches and seminars given at Mayo.[18] Such practices can hard-wire the importance of treating patients effectively and putting them first, and hence, could explain the high patient satisfaction rate.

Keeping Costs Low

The most important goal of a health care provider should be to provide the best possible care to the patients (hence the name 'health-care-provider'). In addition, however, it is also fundamental to keep costs low in order to sustain the goal of providing quality health care to an expanding patient population. Simply put, lower costs go hand in hand with higher quality and patient satisfaction. Researchers at Dartmouth University revealed that treatment at Mayo Clinic in Rochester, MN costs Medicare far less money than when patients with very similar symptoms and medical conditions are treated at other medical centers—including medical centers that are ranked highly in patient satisfaction.[42] The 2008 Dartmouth Atlas[42] compared five prestigious medical centers (UCLA, John Hopkins, Massachusetts General, the Cleveland Clinic, and Mayo's St. Mary's hospital) in terms of how much Medicare spends per patient on similar chronically ill patients during the final two years of life.

According to this Dartmouth study, Medicare spent $93,842 per patient when treated at UCLA Medical Center and only half as much ($55,333) at Mayo Clinic. The study showed that Mayo costs the government 17 percent less than the national average for treating chronically ill Medicare patients.[42] This significant difference can be explained by patients at Mayo spending fewer days in the hospital, fewer physician visits per patient, and fewer ICU admissions. One might argue that saving money is not the answer because it could mean physicians neglecting patients and lower patient outcomes and overall satisfaction. This, however, does not seem to be the case at Mayo, which has been ranked really high in both patient and physician satisfaction—much higher than UCLA.[40]

Because the study claims to compare chronically ill patients with identical outcomes that died in two years, such drastic difference in Medicare spending between UCLA and Mayo perhaps cannot be explained by the difference in severity of patient illness. Some critics turn to other possibilities and have proposed that Mayo mostly sees wealthy patients, and therefore, they are easier to treat than patients seen at other medical centers.[23, 41] In order to test this claim, it is important to understand the demographics of Rochester. According to the 2010 US Census, non-Hispanic whites make up about 82% of Rochester's population, blacks make up 6.3%, Hispanics and Latinos make up around 5% and Asians are the largest minority group representing about 7% of the population.[39]

A surgeon at Mayo Clinic disagrees to the theory that Mayo mostly sees rich patients. He further explains that many Spanish speaking migrant workers are treated at Mayo. The demographics of patients treated at Mayo do include patients from poor backgrounds. Minnesota is home to many refugees from Africa. In 1990s, several faith-based groups in Minnesota welcomed Somali refugees. Today, over thirty-thousand Somalis are approximated to be residing in Minnesota. In addition, Minnesota is the home to about 60,000 Hmongs, an ethnic group that fled mountain regions in Southeast Asia, specifically

Laos.[24] These patients do not come from financially stable households and many are non-English speaking; however, Mayo treats them on a regular basis.

Mayo treats a fair number of patients that do not have health insurance.4 In 2007, Mayo spent $182 million providing charity care and $352 million covering Medicaid patients who did not pay their bills. The physicians at Mayo do not know whether a patient is on Medicare, Medicaid, and whether the patient has insurance or not because the business office deals with all of that information and since doctors are paid on the salary, it really does not matter.[24, 27] Nevertheless, critics have pointed out that Mayo's other facilities like Jacksonville, FL and Phoenix, AZ have spending rates that are not much different than other hospitals in the area and this is because unlike Rochester, these hospitals deal with more diverse and poor patients.[23]

Another possibility that might explain Mayo's Medicare savings and overall profits over UCLA's might be that Mayo takes care of a lot of wealthy international patients like the Saudi Sheiks.[23, 41] In fact, Rochester's Abubakar Siddiq Mosque was recently built and also, a Middle Eastern sheik built a hotel, the tallest building in town—all because of the large number of international Muslim patient population at Mayo. In addition, Mayo has set up a concierge area to help translate and exchange currencies. Dr. Marc Patterson, a neurologist at Mayo, argues that it is indeed true that Mayo, due to its prestige, is attractive to many wealthy patients; however, he adds that this is also true for other prominent medical centers like UCLA, Cleveland Clinic, and Johns Hopkins Hospital. Therefore according to Dr. Patterson, this reasoning alone cannot be used to explain Mayo's ability to save the United States money on Medicare.[24]

Some common claims that critics bring up against adapting the Mayo business model are that Mayo's patients are wealthier, healthier, less racially diverse, and that Mayo price discriminates. The rates that Mayo charges private insurers and self-paying patients are

higher than their other patients are charged and this is what allows Mayo to thrive and at the same time save Medicare money. Dr. Richard A. Cooper, a professor of medicine at the University of Pennsylvania shared this belief: "It's not Mayo's model. It's their patients and money. If you have the money, you can attract good staff, good doctors, and good nurses. You are going to force hospitals to find ways to avoid taking care of poor people just because they are going to be penalized because poor people cost more."[23] Another example of price discrimination is pointed out by citing the low number (only 5%) of Medicaid patients that Mayo Clinic in Rochester sees. However, it is not clear as to why this number is so small. Also, Mayo Clinic in Rochester does accept Medicare patients from outside Minnesota; however, these patients are supposed to pay a premium beyond the normal Medicare coverage. This could weed out some patients who cannot afford the cost of the premium. In addition, Mayo is known to charge higher rates to people paying out of pocket.[23] Mayo Clinic has, however, started limiting the number of Medicare and Medicaid patients. The Mayo in Rochester is now accepting Medicaid patients only from Minnesota and the four states that border it. Also, the branch in Arizona would no longer accept Medicare patients seeking primary care at the Glendale facility.[23] According to Mayo Clinic Rochester's patient demographics from 1997, 17.5% of the population came from the same county as Mayo, Olmsted County. Another 30% of the population came from within 120 miles. 37% of the population came from 120 to 500 miles away. 11.5% of the patient population came from 500 miles away and 5% of the patient population was international. Traveling to another state can be quite expensive and could deter lower income patients from travelling to Mayo; hence, this can support the hypothesis that Mayo tends to cater to a richer population.

The 2008 Dartmouth Atlas of Health Care[42] is widely cited and even President Obama has used its findings to praise Mayo clinic and suggested to model the health care reform based on the Mayo Clinic. The main conclusion interpreted from the Atlas is that spending

more money is not correlated with better health outcome of the patient. Dr. Peter B. Bach, a physician and epidemiologist at Memorial Sloan-Kettering Cancer Center in Manhattan, argued that many of the conclusions drawn from the Atlas are flawed.[3, 17] One example out of several that Dr. Bach puts forth regarding the bad methodology behind the Atlas' conclusions is that the Atlas assumes that all patients were equally sick just because they all died within two years from data collection. He explains how this is a false assumption because some hospitals take care of sicker patients than others, and therefore, the average severity of illness of patients that died cannot be considered equal. Additionally, Dr. Bach points out that "the average decedent in a hospital with a low average severity of illness started out much less sick than the average decedent in a hospital with high average severity, and [therefore] differences in resource consumption should be expected."[3] This error on the part of the Atlas, if indeed true, makes less-severity hospitals look more efficient than high-severity hospitals even though both hospitals might very well be equally efficient. Also, Dr. Bach warns that the conclusions from the Atlas can lead to catastrophic misinterpretations and decisions such as the possible idea that withholding care from the seriously ill is the right approach.3

Discussion

The problems with the health care are easily identifiable and not the topic of debate, however, the smaller, specific tribulations that lead to these bigger problems and the possible ways to solve them are the topics of heated debate and differing political viewpoints. Pretty much everyone in United States would agree that health care costs are really high and too many people are uninsured. The question then turns to: how do we solve the problem of 47 million uninsured and at the same time not increase our costs, not add to the deficit, and not sacrifice on the quality and patient outcome. Some have given up and accepted that it cannot all be done. Many have proposed possible solutions to solve the health care catastrophe in America. A major issue is that there is not enough research done that can support some of the

solutions proposed, and therefore, it is difficult to assess whether what worked once will work again or whether what worked on a smaller scale will work on a larger scale. A safe place to start is by looking at hospitals that have been successful in the tough times and survived the recession well. The Mayo Clinic, the Cleveland Clinic, Kaiser Permanente, John Hopkins Hospital, and UCLA Medical Center have all done really well and the things that these hospitals do well can be used as a model for the health care reform.

This honors thesis focused specifically on the Mayo Clinic model and a few things that Mayo does differently are that it pays its doctors on a salary, incorporates an integrated system, and most importantly puts their patients first. Much more research needs to be done to assess the differences between paying doctors on a fee-for-service system versus capitation versus salary or a blend of these systems. This is because salary as a method of payment has shown to work at Mayo, but there is no guarantee that it would work at other medical centers. The egalitarian culture that the salary method creates might not be acceptable by physicians across the nation and United States being a capitalistic country might not accept what it has to offer. Therefore, if through repeated research the salary system can indeed be shown to work better at lowering health care costs, can save the government money, and at the same time improve patients' outcome then some of the skeptics and cynics can be converted to accept it over fee-for-service.

Even if the salary method is shown to work, adopting it is only possible if the physicians are willing to accept what it offers. Those who join the profession because of the lucrative pay that fee-for-service will not be open to the egalitarian culture. It is understandable to a certain extent that doctors entering the field do not want a cap on how much they can make because of the massive amounts of loans they need to pay back from medical school and undergraduate studies. Still, expansion of Mayo model is much more

possible if people enter the field of medicine with the goal of healing and with immense passion for treating patients as opposed to a goal of making money.

The integrated system has shown to be much more promising and more needs to be done to adopt it widely. Change takes time and often needs getting used to; however, if doctors start working across specialties and coordinate across medical centers with the availability of electronic records, the patient can be diagnosed much more quickly and successfully. This can not only improve patient outcome, but can also cut down costs by reducing the number of days a patient spends in the hospital and reducing the unnecessary tests that are prescribed. Once again, even though the integrated systems have shown to succeed in the current environment, their success is made challenging by the payment system. Policy makers should adopt measures to create an environment where collaboration among physicians and across medical centers is encouraged and better practices are rewarded.

It is important to note that even having the perfect business model, if there is such a thing, cannot solve all the problems. A huge cost to the government is when patients show up to the emergency room without insurance—often, these are the same people who thought that they would never get sick. It is important to note that many of these people are not poor and if they made a few sacrifices, they could afford at least minimal insurance coverage. Some refuse to buy insurance because they believe that the premiums that they would have to pay would far exceed what their health insurance would cover. The reform bill could solve this problem if it becomes mandatory to buy insurance; however, many states are already deeming this part of the reform bill as unconstitutional.

In addition to the integrated approach, Mayo seems to excel because of the values and mission of their founding fathers to keep the quality of care high by placing patients ahead of everything else. Most physicians would agree that the one thing that can play the most important role in cutting down health care costs is preventive medicine. Unfortunately, even

though preventive medicine is the most cost-effective approach to illness, it is largely neglected. The reasoning behind this can be explained by the fact that listening to a patient takes much more time than prescribing a test or a medicine. Many doctors have brought forth their strong belief that if more time was spent listening to the patient, looking beyond the chief complaint of the patient, looking into the patient history, and building trust and rapport with the patients then the health care costs can be tremendously lowered and patient outcome enormously improved.[5, 7, 8, 34]

In a recent article, Dr. Atul Gawande explained how in Camden, New Jersey, one percent of patients accounted for a third of the city's medical costs. This one percent is termed "super-utilizer." A similar trend was seen in other places. The solution proposed: take intense care of that one percent—the physician teamed up with a nurse practitioner who could make home visits, hiring a social worker to look over these patients, and the physician taking active role in caring for these patients. The outcome of one such project showed that: "the first thirty-six super-utilizers averaged sixty-two hospital and E.R. visits per month before joining the program and thirty-seven visits after—a 40% reduction. Their hospital bills averaged $1.2 million per month before and just over half a million after—a 56% reduction." It is important to note that the sickest patients, these super-utilizers, become much more expensive to the health care because they put off care and prevention until they get really sick and then they show up in the emergency room. Also, in most cases, these are poor patients on Medicare or Medicaid, which end up costing the government even more money. Unfortunately, the United States health care system was never designed for these kinds of patients.[15] Nevertheless, if hospitals, specifically primary care physicians, are willing to invest the time on the small percentage of these super-utilizers, health care costs can perhaps be greatly reduced. At the moment, this strategy of "hot spotting," which involves intensely focusing on the sickest five percent of the patients is being tried in Camden, Atlantic City,

and Boston. If it the successes can be replicated on a larger scale, it can lead to improved health care outcomes, reduced hospitalizations, and hence, much lower costs. The problem, however, is that even if it does work—"the struggle will be to survive the obstruction of lobbies, and the partisan tendency to view success as victory for the other side."[15]

Even though Mayo has been successful in the recent past and has much to offer to the health care debate, it is important to realize that it is not an epitome for all physicians—even those who are in the profession with the only goal of helping patients. Maggie Mahar, a fellow at the Century Foundation, said it best: "There is, after all, a difference between health care and hamburgers. Healthcare is not a commodity."[24] Therefore, it would be impractical to conclude that just because Mayo has shown to be successful, every hospital should do exactly what Mayo does. Nevertheless, successful hospitals like Mayo clinic should not be ignored when possibilities are being considered as to how to improve the health care in United States.

Conclusion

Health care is a major problem in the United States with more than 17% of the GDP being spent on it, and yet, 47 million people being uninsured and even more being under-insured. For how much money is spent on healthcare, the quality of health care in United States is subpar compared to some other nations. The Mayo Clinic offers some evidence that even in tough times, both patient and physician satisfaction can be maintained at high levels and at the same time the medical bills can be kept lower. Much more research needs to be done to study the Mayo model and models of other successful medical care providers and the positives need to be adopted to improve patient quality and cut down health care costs.

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