

Slaying the Unicorn: Deconstructing Cost, Quality, and Access

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### **Abstract**

Healthcare costs in the United States are rising and causing declines in both access and quality. Beyond the argument of a fee-for-service incentive system driving costs and superfluous care, this paper highlights increasing costs resulting from a cyclical pattern of care for reasons other than physician greed. The pattern includes patients receiving technology-heavy diagnostics and interventions for reasons ranging from defensive medicine to chasing patient satisfaction. These treatments lead to decreased quality and poor outcomes. Poor outcomes lead to admissions in emergency rooms, inpatient hospitals, and visits for acquired comorbidities. Through peer-reviewed articles, textbooks, and periodicals, this paper displays causes and metrics within this cycle of care. By identifying causality, debunking myths, and reviewing results from a practice in Seattle that changed the way healthcare is delivered, it is possible to increase quality and access, while reducing costs; effectively deconstructing the idea of an iron triangle.

*Keywords: cost, quality, access*

### **Slaying the Unicorn: Deconstructing Cost, Quality, and Access**

The continuing conundrum in delivering healthcare is finding the balance between cost, quality, and access. Some say that improving all three, simultaneously, is impossible and refer to this trifecta as the iron triangle (Kissick, 1994). The principal idea of an iron triangle has been adopted by many industries to illustrate the conflict between competing priorities. Essentially, the three sides of this triangle are connected, and manipulating one side will have an unintended or undesirable effect on at least one of the other two sides.

Regarding healthcare, the iron triangle surmises there is simply no way to provide increased access to healthcare providers, who will then deliver quality healthcare to patients at low cost (Niles, 2015). This thought has held true for quite some time, but with advanced thinking and some creativity, it is possible to shift the paradigm. Improving cost, quality, and access is not the mythical unicorn many believe it to be. Positively affecting all three, simultaneously, is possible.

Contradictory to the many naysayers, at least one medical practice, Group Health, operating out of Seattle, Washington, launched a prototype clinic to determine if improving access to care, quality, and patient satisfaction at the same time was indeed an impossibility. What they found would not only contradict everything that so many others had said, it would push their version of a concept called the patient centered medical home to the forefront of the cost, quality, access debate.

### **Background and Problem Definition**

Healthcare costs in the U.S., as a percentage of gross domestic product (GDP), have been steadily rising and are (generally) the greatest barrier to access and quality. Additionally, when

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compared to healthcare expenditures in other industrialized nations within the Organization for Economic Co-operation and Development (an international 34-nation-member economic group), the U.S. spends nearly two times the average (Kane, 2012). In what should be the most basic medical service, primary care, the United States spends almost two times the nearest nation, Switzerland (Kane, 2012). Furthermore, these costs have been erasing the realized rise in net income, particularly for the middle class.

In the decade from 1999 to 2009, the average income for a middle class family rose from \$76,000 to \$99,000 (Auerbach & Kellermann, 2011), for an increase of just over 30%. To put it in perspective, average inflation over the same period was 28.8% (US. Inflation Calculator, 2014). This displays the average American income was just outpacing inflation, so middle class families should have realized a small increase in quality of living.

Unfortunately, during the same period, the modest gains in income were offset by increased healthcare costs, including both insurance and healthcare related taxes. After accounting for these additional expenses, the average middle class family only realized a \$95 per month gain instead of what should have been an increase of nearly \$550 per month (Auerbach & Kellermann, 2011). Most logical people would expect increasing expenses would result in increasing quality of care and outcomes over the same period. If this were true, perhaps the United States would emerge as a leader in measures of global quality of health.

When ranking the quality of healthcare in the United States against economically comparable nations across ten metrics including quality, access, efficiency, equity, healthy lives and expense, the overall result is last place out of 11 other leading, industrialized peers (Munrow, 2014). These results are not limited to one study. In fact, when measuring the individual aspects

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of infant mortality, and life expectancy, the United States falls below the average in each measure there as well (Kane, 2012). Evidently, the increased expense is not providing the expected increase in quality. Maybe the increased spending is associated with an increase of healthcare providers and an increase in access to care. It would be logical that funding more providers would cause an increase in expense.

Contrary to the thought that an increase in spending is the result of the increase in number of physicians, the U.S., when measured against its peers on the number of physicians per 1,000 people, falls well below the average of 3.1 per 1,000. In fact, the United States only has 2.4 physicians per 1,000 (Kane, 2012). This is hardly a metric to be proud of and potentially a reason for an increase in expenses. The economic laws of supply and demand dictate, as physician supply shrinks, the supply curve would shift, effectively increasing costs for them.

It is evident the United States is not performing well against its peers, relatively speaking, in most aspects of healthcare. Costs are greater than two times the average; quality is not on par with the rest of the world, and in fact, the U.S. ranks absolutely last in measures relating to quality of care. Access to care is not performing any better, and is sitting far below the industrialized average as well. The data is overwhelming; U.S. healthcare spending is not resulting in acceptable returns on investment. It almost seems as though, when compare to other nations, the United States is achieving a negative return.

It is imperative to determine what is actually driving up the cost of healthcare, beyond the argument of a fee-for-service reimbursement system being the primary culprit. Maybe identifying the problems will lead to actual increases in quality and access, with the potential to

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reduce costs. This would effectively deconstruct the iron triangle and set the stage for a revolution in the healthcare industry.

### **Method**

The principal method of research for this paper is a qualitative review of existing literature, data, journal articles, and books. With data compiled from seven peer-reviewed journal articles, three books, five globally distributed periodicals, and one online data calculator this paper defines a cyclical pattern driving an increase in healthcare costs. Supporting documentation was found using Google Scholar, with articles sorted by relevance using date-defined searches from 2010-2014. Reference books are not limited to a date range as the theories are relevant for discussion. The five periodical sources providing supporting data, are globally distributed, and subject to academic scrutiny. There is no geographical limitation to generalized findings; however, clinical and financial findings that are interrelated are limited to the United States.

### **Findings**

There is no single cause for the dramatic rise in U.S. healthcare costs. However, it is possible to identify a few key factors as significant driving forces. After exploring the impacts of technology, defensive medicine, and chasing patient satisfaction, we are able to better understand a cyclic force responsible for driving the trends in rising healthcare costs.

Compounding the problem of increasing costs are the negative clinical outcomes associated with many of the same drivers (Grady, 2010). Meaning, there is correlation between the increased use of technology, defensive medicine, and chasing patient satisfaction and a

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decline in the quality of care and outcome measures. It is essential to systematically explore these factors to gain an understanding of the problem at hand.

### **Factors Driving the Increase in Costs**

**Impact of technology, diagnostics, and procedures.** Americans have long had a love affair with technology. Since Eli Whitney, the Wright Brothers, and Nikola Tesla, the United States has enjoyed great gains in innovation and technological advancement. Advancement in technology is not limited to the industrial sectors. In a relatively short amount of time, the medical world has seen the invention of functional magnetic resonance imaging (fMRI), x-rays, artificial joints, and cardiac stents. As expected, when innovative products are developed, they are intended to be used, and concurrently, the populace intends to use them.

No other country has embraced advances in medical technology like the United States. In fact, the U.S. owns 151% as many MRI machines, per capita, as the industrialized peer-group average. With these machines, we conduct 111% more MRIs. Additionally, the United States owns 80% more computerized tomography (CT) scanners per 1,000 people and conducts 114% more CT scans than its peers. The use of technology is not just limited to imaging services; America leads the way in use of medical interventions as well (Kane, 2012).

Beyond diagnostics, on a per capita basis, the U.S. conducts 96% more tonsillectomies, 67% more coronary bypass surgeries, 86% more knee replacements and 26% more caesarian sections (Kane, 2012). As will be discussed later, not all of these additional tests and procedures result in an increase in quality, longevity, or positive outcomes. What all of these interventions do contribute is an increase in costs. To illustrate this point, a brief analysis of one diagnostic procedure is required.

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When evaluating a small sample of MRI costs in America, the median price for an MRI is \$2395 with a range of \$400 to \$4700 (New Choice Health, 2014). This sample includes multiple body parts and specialties conducted in facilities across the country. While the sample is somewhat small when compared to the number of facilities and MRI machines in the U.S. inventory, it is still indicative of the overall cost of the procedure. Where this level of cost really becomes understood is when the price of an MRI in America is compared to the price of an MRI in other countries.

In France, for example, an MRI will cost about \$280 (Klein, 2013). Whereas in Germany, the same procedure will cost around \$839, and the United Kingdom sets prices very low, at nearly \$180, on average (Wright, 2009). The most telling difference when comparing the prices of these procedures is in the fact that all three of these other countries outrank the U.S. when it comes to measures of quality. So if all the additional technology, diagnostics, and interventions are only contributing to rising costs, why is the U.S. performing so many more diagnostic and interventional services?

**Defensive medicine and the malpractice myth.** Another trend contributing to rising costs, and potentially the decline in quality of care, is the practice of defensive medicine. Whether the reason is defensive medicine as protection against litigation or in the pursuit of patient satisfaction (which will be discussed later), the practice of defensive medicine is where providers either avoid high-risk patients or services, or order extra tests, referrals, and services (Kachalia & Mello, 2011).

Historically, defensive medicine is categorized as either positive or negative, however both contribute to rising costs. Positive defensive medicine is physicians providing excessive



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and (often) unnecessary diagnostic testing, interventions, and hospitalizations. Negative defensive medicine is physicians avoiding or denying services to dodge or dissuade high-risk patients or interventions (Sethi, Obremskey, Natividad, & Mir, 2012).

A common idea or excuse behind practicing defensive medicine is to avoid frivolous litigation. Frivolous malpractice litigation is a common theory behind the rise in healthcare costs, so of course the practice of defensive medicine follows as providers maneuver to defend themselves. Unfortunately, the belief of runaway malpractice lawsuits is largely a myth (Gottlieb & Doroshow, 2013).

In reality, there are far more actual instances of medical malpractice than there are malpractice lawsuits, and the rate of lawsuits due to medical malpractice is very low (Gottlieb & Doroshow, 2013). Multi-state studies, across broad populations reveal only around 3% of malpractice cases terminate in trial. In New York, a study of 30,000 records found only 280 actual cases of malpractice. Of those 280 cases, only eight were brought to trial. Additional reviews of 15,000 records from Colorado and Utah revealed 161 cases of medical malpractice, of which only four were litigated (Gottlieb & Doroshow, 2013). Additionally, medical malpractice payments in 2012 were 43.4% lower than in 2001 (Gottlieb & Doroshow, 2013). These are hardly statistics that should drive fear, but they do. The perception of runaway litigation has driven the practice of defensive medicine even though the data does not support the notion of an overly litigious society. What is supported is the fact that increased treatment (whether defensive or not) increases the cost of care.

When examining just orthopedics, defensive medicine is responsible for 24% of all tests ordered, resulting in over \$2 billion in excess healthcare costs (Sethi M. K., Obremskey,

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Natividad, & Mir, 2012). When examining costs associated with defensive medicine across the country, in all specialties, expenses in excess of \$650 billion are reported (Schertz & Oliver, 2013). This tells us that even though malpractice is not (or should not be) a threat, there is something driving the delivery of defensive medicine. Is it always about keeping the lawyers off the back of the physician, or is there a trend of providing care to please the patient?

**Chasing patient satisfaction.** Chasing patient satisfaction is becoming a more common concept. As greater incentives are tied to pleasing patients, and as medical practices compete for business, providers are beginning to more often treat in the name of pleasing the patient. This includes ordering additional tests, procedures, and medications. As noted earlier, additional interventions contribute to rising costs and decreased quality outcomes. While rising costs in isolation are bad, the picture becomes bleaker when examining the negative outcomes associated with superfluous intervention(s). What the data begins to reveal are results that contribute to a cycle of decreasing quality of care and increased morbidity (Fenton, Jerant, Bertakis, & Franks, 2012).

Negative outcomes from chasing patient satisfaction are well documented (Fenton, Jerant, Bertakis, & Franks, 2012). The data points to a negative correlation between patient satisfaction and actual quality outcomes; the relationship is inversely related. What this research found is patients with higher rates of satisfaction are actually the least healthy, spend more time in the hospital, cost more, and use more prescription medications (Fenton, Jerant, Bertakis, & Franks, 2012). One shining light from this study is the positive correlation between higher patient satisfaction and lower emergency room utilization. However, the reduced costs associated with a decrease in emergency room visits may be eclipsed by the increase in other expenses. So why are happier patients actually sicker patients?

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Medical interventions come with risk. Every time a procedure is performed, especially invasive procedures, the patient and provider assume risk. When a provider gives discretionary or unnecessary treatment, these risks rise (Grady, 2010). When services lead to complications associated with invasive interventions, prescription medications, or any other treatment, the result is a sicker patient who then requires additional healthcare, which in turn increases cost and increases the odds of morbidity and mortality (Grady, 2010). It is disturbing to note that, in general, happier patients are sicker patients who have an increased risk of death attributed to medical intervention or error.

In a 142,565 person-years study that ran from 2000 to 2006, the most satisfied patients (relative to the least satisfied) had a 26% greater risk of mortality (Fenton, Jerant, Bertakis, & Franks, 2012). Additionally, the data clearly supports the correlation of patient satisfaction with greater medical intervention (Fenton, Jerant, Bertakis, & Franks, 2012). There are higher prescription drug expenses, higher medical expenses overall, and higher hospital admissions associated with the most satisfied patients, who also happen to carry a greater risk of death (Fenton, Jerant, Bertakis, & Franks, 2012). Granted, death is the ultimate expense associated with excessive healthcare but not all costs are as extreme. What research reveals by this point is a cycle of decreasing quality and rising costs; exactly the opposite of what many would like.

The greatest costs from negative outcomes and declining quality are those associated with the additional treatment required from effectively creating more illness. It is a vicious cycle of a patient presenting to the provider, the provider ordering excessive, technology driven treatments (for a variety of reasons), those treatments causing more illness or injury, and the patient then requiring additional treatment or further hospitalization, where the cycle begins anew. Not all is lost, however, and there is evidence that the cycle can, and should be stopped.

### **Bucking the Trend and Breaking the Cycle**

In 2006, Group Health in Seattle, Washington launched a prototype primary care clinic to test a revamped patient-centered medical home model. Their findings were generally, statistically significant, and indicate the notion of an iron triangle could be outdated. Initially, Group Health tested its concept of a patient-centered model in 2000 and it failed. The reason for failure was partially attributed to provider burnout due to incentivizing increased volume (Reid, et al., 2010). In light of this failure, they tried again; this time however, they adjusted the model in a direction that was counterintuitive to most.

When developing the new prototype clinic, Group Health decided to hire more providers and support staff, reduce provider panel size, and increase scheduled visit times. How could they possibly improve cost, quality and access by spending more money, reducing providers' empanelled populations, and decreasing the amount of available appointments per provider? The results are both surprising and, in some instances, statistically significant.

In terms of quality outcomes, using the Healthcare Effectiveness Data and Information Set (HEDIS), at the 24-month mark, the prototype clinic improved by 20-30% as compared to control group clinics across three of four separate, aggregated measures (Reid, et al., 2010). Also noted, and associated with increases in quality of care, were decreases in costly emergency room visits and inpatient admissions.

When measuring access to care, the prototype clinic found patient utilization decreased by 6% (Reid, et al., 2010). This translates to greater access for others because providers are not seeing as many patients during the day, thus freeing appointment slots for other patients to take

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advantage. It should be noted there was an increase in virtual communication by the test clinic patients, but in-person visits were much lower (Reid, et al., 2010).

Finally, when measuring costs, as you would expect, per-member-per-month costs in the test clinic rose slightly from the increase in staff; however, associated with the increase in quality, the decrease in emergency room use and decrease in inpatient hospitalization, the overall per-member-per-month costs fell by \$10.31 (Reid, et al., 2010). The overall decrease in cost, increase in access, and increase in quality was fantastic news, but there were more surprises on the way.

In addition to successfully bending (if not breaking) the iron triangle, Group Health noted an increase in patient satisfaction and a decrease in provider burnout (Reid, et al., 2010). These are positive outcomes, and only serve as additional reasons to expand this model and apply it as a proof of concept for future testing by other organizations.

### **Contributions**

By understanding the primary drivers behind rising healthcare costs, beyond a fee-for-service reimbursement system, healthcare executives will be able to reign-in costs and begin to focus on methods for increasing access to care and quality. If more healthcare organizations are able to adopt proven methods and adapt them to their own practices, we could see improvements in healthcare operations nationally.

### **Discussion and Conclusion**

Currently, the U.S has a system that, while good intentioned, is contributing to a decrease in quality, a decrease in access to care, and an increase in cost. Increasing costs only serve to further prevent access and decrease quality. The cycle driving increased costs partially stems

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from providers using technology-rich practices, often in the name of defensive medicine or chasing patient satisfaction, which results in decreased quality and poor outcomes. Decreased quality and poor outcomes result in the need for further treatment. The need for further treatment drives a decrease in access for new patients, and the patients cycling back through are now more complicated and require greater care. The cycle creates more complex cases which require greater resources, which generate poorer outcomes. Breaking the cycle is imperative to the future of U.S. healthcare. Breaking the cycle is possible and proven.

When Group Health in Seattle used strategic thinking and expanded their primary care operations (at a nominal upfront cost), they experienced overall gains in access to care, quality outcomes, and a significant decrease in per-member-per-month costs. It was an innovative concept, and while the prototype clinic was somewhat small in scope when compared to the rest of the practice, it absolutely serves as proof of concept (Reid, et al., 2010). Their model should be tested and structured to fit other practices across the country. Simultaneously increasing quality and access while decreasing costs is possible, and imperative to the future of U.S. healthcare.

Harnessing costs will ultimately result from healthcare organizations strategically reshaping business operations to focus on increasing access and creating quality outcomes. Together, increased access and better quality, will only serve to reduce costs further, thus allowing healthcare providers to continue a positive cycle of practicing medicine and improving the health of the nation.

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### References

- Auerbach, D. I., & Kellermann, A. L. (2011). A Decade Of Health Care Cost Growth Has Wiped Out Real Income Gains For An Average US Family. *Health Affairs*, 1-7.
- Fenton, J. J., Jerant, A. F., Bertakis, K. D., & Franks, P. (2012). The Cost of Satisfaction: A National Study of Patient Satisfaction, Health Care Utilization, Expenditures, and Mortality. *Archives of Internal Medicine*, 405-411.
- Gottlieb, E., & Doroshov, J. (2013). *Briefing Book: Medical Malpractice: By the Numbers*. New York: Center for Justice and Democracy.
- Grady, D. (2010). Less Is More: How Less Health Care Can Result in Better Health. (R. F. Redberg, Ed.) *Archives of Internal Medicine*, 749-750.
- Kachalia, A. M., & Mello, M. M. (2011). New Directions in Medical Liability Reform. *The New England Journal of Medicine*, 1564-1572.
- Kane, J. (2012, Oct 22). *The Rundown*. Retrieved Aug 17, 2014, from PBS:  
<http://www.pbs.org/newshour/rundown/health-costs-how-the-us-compares-with-other-countries/>
- Kissick, W. (1994). *Medicine's Dilemmas: Infinite Needs versus Finite Resources*. New Haven: Yale University Press.
- Klein, E. (2013, Mar 15). Why an MRI costs \$1,080 in America and \$280 in France. *The Washington Post*.

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Munrow, D. (2014, Jun 16). U.S. Healthcare Ranked Dead Last Against Ten Other Countries.

Retrieved Aug 17, 2014, from Forbes:

<http://www.forbes.com/sites/danmunro/2014/06/16/u-s-healthcare-ranked-dead-last-compared-to-10-other-countries/>

New Choice Health. (2014, Aug). MRI Cost and MRI Procedures Information. Retrieved Aug

17, 2014, from New Choice Health: <http://www.newchoicehealth.com/MRI-Cost>

Niles, N. J. (2015). Basics of the US Healthcare System. Burlington: Jones and Bartlett

Publishing.

Reid, R. J., Coleman, K., Jonson, E. A., Fishman, P. A., Hsu, C., Soman, M. P., . . . Erikson, M.

(2010). The Group Health Medical Home At Year Two: Cost Savings, Higher Patient Satisfaction, And Less Burnout For Providers. Health Affairs, Online.

Schertz, H., & Oliver, W. (2013). Defensive Medicine: A Cure Worse than the Disease.

Retrieved Aug 20, 2014, from Forbes:

<http://www.forbes.com/sites/realspin/2013/08/27/defensive-medicine-a-cure-worse-than-the-disease/>

Sethi, M. K., Obremsky, W. T., Natividad, H. M., & Mir, H. R. (2012). Incidence and Costs of

Defensive Medicine Among Orthopedic Surgeons in the United States: A National Survey Study. American Journal of Orthopedics, 69-73.

US. Inflation Calculator. (2014, Aug 17). US. Inflation Calculator. Retrieved from US. Inflation

Calculator: <http://www.usinflationcalculator.com/>



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Wright, D. B. (2009, Nov 18). The Price of Diagnostic Imaging Around the World. Huffington Post. Retrieved from [http://www.huffingtonpost.com/d-brad-wright/the-price-of-diagnostic-i\\_b\\_361934.html](http://www.huffingtonpost.com/d-brad-wright/the-price-of-diagnostic-i_b_361934.html)