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Cover Page Footnote

The author would like to thank his daughters, Maya and Stella, and his wife, Carola, for their support and inspiration.

A Systems Thinking Approach to Health Care Reform in the United States

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“To the extent we can even refer to an American healthcare “system,” it functions brilliantly . . . to make money.”^a

Introduction

It is common to use the term “system” to describe a series of parts working together to serve a purpose or achieve a particular goal. A computer system can be components of a single computer (hardware and software, working together) or a number of interconnected computers sharing software or networks. A combustion engine is also a system of interconnected parts working together to generate the power necessary to propel an automobile. Systems are often thought of as linear in nature with unidirectional causation; thus, Component A affects Component B which affects Component C which produces a predictable output or result. This type of system is often described as a “machine,” which is made up of perfectly-designed parts working together to achieve a particular output.¹ The phrase “working together as a well-oiled machine” is often used to describe a system of people (a department in a company or a sports-team) functioning well together towards a common goal.

The term “system” is also used in the context of health care, referring to health systems both on a micro, or delivery-level, such as a health system consisting of hospitals, physicians practices, and laboratories and a macro, or national-level, such as a health system consisting of a financing mechanism, such as the government, a delivery mechanism, such as different types of providers,

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^a Ali S. Khan, *Witch Doctors, Zombies, and Oracles: Rethinking Health in America*, 28 HEALTH MATRIX 79 (2018).

¹ James W. Begun et al., *Health Care Organizations as Complex Adaptive Systems*, ADVANCES IN HEALTH CARE ORGANIZATION THEORY 253, 253 (S.M. Mick and M. Wytenbach eds., 2003).

and patients who access the care.² However, most interactions within a national health system are not linear and do not occur with unidirectional causation. There are multiple agents within the health care system, each with their own incentives to motivate their behavior. Patients rarely understand these incentives and blindly stumble through the health care system. The patient doesn't know if the lab performing her blood draw is owned by the referring physician (which may be legal, but only if the practice is set-up in a particular way),³ or that the price of an MRI ordered by their physician may differ by as much as 1000% depending on where she lives or where she goes for the scan.⁴ Of course, this is better than a patient who has acute appendicitis and needs an appendectomy, where she can expect to pay anywhere in the range of \$1,529 to \$182,955.⁵ The patient's insurance may pay this amount (if she has insurance), depending on the type of insurance coverage she has and whether this is a covered benefit,⁶ what the insurance company's negotiated rate with the provider is, whether the provider was in-network or out-of-network, what the patient's deductible and co-insurance obligations are, whether she obtained a pre-authorization for the service, and whether she received the service on the second Tuesday of the month while wearing the color blue.

A new approach to understanding and addressing the complexity of the U.S. health care system and health care reform is needed. General Systems Theory, published by Ludwig von Bertalanffy, was first developed to better understand complexity in the physical sciences.⁷ General Systems Theory looks at the unity of science, attempting to consider complex organisms, whether they be biological in nature, or organizations, and considering how these complex organisms work together.⁸ Other scientific fields, such as sociology and organizational behavior, have taken a page

² James A. Johnson & Douglas E. Andersen, *SYSTEMS THINKING FOR HEALTHCARE ORGANIZATIONS, LEADERSHIP, AND POLICY*, Sentia Publishing (eBook) (2018).

³ 42 C.F.R. 411.355(b) (2018).

⁴ Sze-jung Wu et al., *Price Transparency for MRIs Increased Use of Less Costly Providers and Triggered Provider Competition*, 33:8 HEALTH AFFAIRS 1391, 1391 (2014).

⁵ Renee Y. Hsia et al., *Health Care as a "Market Good?" Appendicitis as a Case Study*, 172:10 ARCH. INTERN. MED. 818, 819 (2012).

⁶ If the health insurance is a PPACA-compliant plan, it would cover this service; however a short-term limited-duration plan does not have to cover any particular service.

⁷ LUDWIG VON BERTALANFFY, *GENERAL SYSTEMS THEORY: FOUNDATIONS, DEVELOPMENT, APPLICATIONS* (George Braziller, New York 1968).

⁸ *Id.* Many of the concepts that eventually became known as General System Theory were developed by biologist Ludwig von Bertalanffy in the 1940s and consolidated into his book, *General System Theory: Foundations, Development, Applications* in 1968. General System Theory was created to address the shortcomings of

from General Systems Theory and this has inspired theories such as Systems Thinking, which encourages a holistic view of other types of complex systems. Health care reform in the U.S. has not considered how a complex system, such as the U.S. Health Care System, works together; this results in health care reform efforts focused on fixing a particular bad act, or agent, or even a particular subsystem. Trying to reform a part of a complex system without concern for the larger system is a recipe for failure.

Understanding the implications of complex systems has been the goal of scientists from General Systems Theory to Systems Thinking to complexity science. General Systems Theory and Systems Thinking have both evolved into a field of study known as complexity science, which extends into such fields as management science and health care.⁹ Although there are many different ways in which complexity science could be applied to the analysis of the U.S. health care system, and the economic and legal systems that regulate the health care system, this Article will focus on Systems Thinking. Systems Thinking is “an approach to problem solving that views ‘problems’ as part of a wider, dynamic system.”¹⁰

On the national-level, the U.S. health care system has never been referred to as a “well-oiled machine.” There are many well-documented and discussed challenges with the U.S. health care system, including high-costs, difficulty accessing care, and problems with over and under-

reductionism and the need to account for more complex systems. Von Bertalanffy found that the complex nature of the universe called for a theory that took into account this complexity, and looked to other scientific disciplines for contribution. General System Theory stands for the premise that “it is necessary to study not only parts and processes in isolation, but also to solve the decisive problems found in the organization and order unifying them, resulting from dynamic interactions of parts, and making the behavior of parts different when studied in isolation or within the whole.” General System Theory recognizes that an imbalance in one part of a system throws the entire system out of balance, so the whole system must be taken into consideration when studying, investigating or reforming the system.

⁹ Lela M. Holden, *Complex Adaptive Systems: Concept Analysis*, 56:6 J. OF ADVANCED NURSING 651, 656 (2005). The study of complex adaptive systems, and the evolution of complexity science, began in the physical sciences and the work of physicists in quantum theory and activity at the subatomic level. Complexity science also includes work done in thermodynamics by Nobel Prize winning physicist Ilya Prigogine. One of the most well-known concepts in complexity science, chaos theory, and the metaphor of the “butterfly effect” was created by Massachusetts Institute of Technology meteorologist, Edward Lorenz. The butterfly effect describes the non-linear nature of complex adaptive systems where a small input (the flapping of a butterfly’s wings) can trigger a huge response (a hurricane in another part of the world).

¹⁰ WORLD HEALTH ORGANIZATION (WHO), *Everybody’s Business: Strengthening Health Systems to Improve Health Outcomes, WHO’s Framework for Action*, 33 (2007).

utilization (and related quality of care issues). There are so many different parts and incentives and causative pathways that thinking of the U.S. health care system as a “system” analogous to a “machine” is the wrong characterization in the first place. Instead, the U.S. health care system should be viewed as a complex system, which is more analogous to a “living organism” with an interrelationship and interdependency between the parts.¹¹ This re-characterization of the U.S. health care system as a living organism rather than a machine has implications for health care reform. Instead of simply reforming one aspect of the system (repairing a part of the machine), it is necessary to consider a holistic reform that will impact the entire system. This is where Systems Thinking can be of assistance.

Even the field of health law, which regulates the health care system, has become a complex system of its own, incorporating rules and philosophies from several other substantive areas of the law.¹² While these laws work to provide some structure around the system, they also serve to destabilize the system and create dysfunction by promulgating adaptive behavior from the agents within the system. Traditional legal concepts, such as those found in torts, antitrust, corporations, and contract law all have special application in the health care system.¹³ One reason traditional areas of law such as antitrust law, do not work well when applied to the health care system is that many of these laws were formed (or rely on) a neoclassical, free-market economic system. Unfortunately, these traditional economic principles do not function well when applied to the health care system. Courts (and antitrust enforcers for that matter) have struggled to apply antitrust principles to the health care sector.¹⁴

Reforming this complex system has been an abject failure because the focus of these reforms has been on reforming one single aspect of the system, which generally involves reforming one subsystem within the health care system. This type of reform, referred to in this Article as “reductionist reform”, invariably fails, largely because reforming one subsystem within a complex system doesn’t take into account the interdependencies between the subsystems, the various feedback loops within the system, and the responses made to the reform by the adaptive agents

¹¹ Begun, *supra* note 1 at 254.

¹² Einer R. Elhauge, *Can Health Law Become a Coherent Field of Law?*, 41 WAKE FOREST L. REV. 365, 366 (2006).

¹³ *Id.* at 371.

¹⁴ *Id.*

within the system. Reductionist reform also leads to unintended consequences caused by the failure to recognize the entire system and the interdependencies of the subsystems. It is essential to understand the health care system as a complex system and take a holistic approach to reform; Systems Thinking is a process that can promote this type of holistic reform.

In the book *General System Theory*, von Bertalanffy uses the air travel system as an example of a man-made system that exemplifies the need to consider the whole rather than the individual parts. As von Bertalanffy explains, “[a]nybody crossing continents by jet with incredible speed and having to spend endless hours waiting, queuing, being herded in airports, can easily realize that the physical techniques in air travel are at their best, while “organizational” techniques still are on a most primitive level.”¹⁵ This sounds familiar to the U.S. health care system; we have the best and most modern technology and some of the best trained physicians and health care providers in the world (the “physical techniques” referred to above), but they are embedded in a dysfunctional system in which patients rely on an insurance company to finance their care and negotiate the best deal for that care, while providers are in the enviable position of setting prices while also setting demand for care. So, how did we get here and what should we do?

Complex systems, and a particular type of complex system referred to as complex adaptive systems, both of which will be defined and discussed in Section I.A, are unique and different from standard linear systems. Section I will examine the U.S. health care system with all of its flaws and challenges, and consider the health care system as a complex adaptive system and the implications inherent in this classification. Section II will consider recent health care reform efforts as reductionist reforms and examine why they have not served to improve the U.S. health care system. Finally, Section III will examine Systems Thinking and consider what impact Systems Thinking can have on health care reform efforts. This paper will argue that the U.S. Health Care System’s status as a complex system makes recent reforms, such as managed care, the Patient Protection and Affordable Care Act (PPACA), and efforts to sabotage the PPACA, such as Association Health Plans and Short-Term, Limited-Duration health plans, insufficient to address the “iron triangle” of health care (cost, access, and quality). These reforms, referred to as reductionist reforms in this Article, have done little to improve the U.S. health care system.

¹⁵ VON BERTALANFFY, *supra* note 7 at 45.

While a true application of complexity science to the U.S. health care system would include a description of all of the “systems” that influence health, including population health, individual health, and ecosystem health (e.g. the One Health approach),¹⁶ this is beyond the scope of this Article. However, Systems Thinking has been applied to the public health¹⁷ and global health systems.¹⁸

I. The U.S. Health Care System as a Complex Adaptive System

The U.S. health care system has evolved over time to become a unique and complex system of different stakeholders (referred to as “agents” in this Article), each with their own incentives and goals. Unfortunately, the incentives and goals driving key agents have not been aligned, resulting in a heavily regulated free-market system that doesn’t work. The cost of care (no matter how you calculate it) is too high, and individuals in the U.S. are not in better health compared to their contemporaries in other countries; in fact, in many ways they are much worse off.¹⁹ The blatant profiteering rampant in the U.S. health care system is the result of a complex system held subject to reductionist reform rather than holistic reform, that is, reform based on the entire system rather than just a subsystem.²⁰ Merriam-Webster defines profiteering as “the act or activity of making an unreasonable profit on the sale of essential goods especially during times of emergency.” This term is used very deliberately throughout this Article.²¹

Countless articles and books have been written on the high costs and other assorted failures of the U.S. health care system. In her book, *An American Sickness: How Healthcare Became Big*

¹⁶ CENTERS FOR DISEASE CONTROL AND PREVENTION, *One Health*, <https://www.cdc.gov/onehealth/index.html> (visited July 11, 2018).

¹⁷ Scott Leischow et al., *Systems Thinking to Improve the Public’s Health*, 35:2 (Supp.) AM. J. PREV. MED. S196 (August 2008).

¹⁸ Taghreed Adam, *Advancing the Application of Systems Thinking in Health*, 12:50 RESEARCH POLICY AND SYSTEMS 1 (2014).

¹⁹ Eric C. Schneider et al., *Mirror, Mirror 2017: International Comparison Reflects Flaws and Opportunities for Better U.S. Health Care*, THE COMMONWEALTH FUND (July 2017), <http://www.commonwealthfund.org/interactives/2017/july/mirror-mirror/>.

²⁰ Larry R. Churchill, *The Hegemony of Money: Commercialism and Professionalism in American Medicine*, 16 CAMBRIDGE QUART. OF HEALTHCARE ETHICS 407 (Oct. 1, 2007).

²¹ MERRIAM-WEBSTER, *Profiteering*, <https://www.merriam-webster.com/dictionary/profiteering> (visited July 11, 2018).

Business and How You Can Take It Back, Dr. Elizabeth Rosenthal details the many ways in which the U.S. health care system cheats and otherwise fails the patients it is meant to serve.²² This book highlights how the different agents in the system, hospital systems, providers, and health insurers, have transformed over time from service-oriented not-for-profit organizations to some of the most ruthless, profiteering organizations in business.²³ In *Overcharged: Why Americans Pay Too Much For Health Care*, Professors David Hyman and Charles Silver provide more examples of profiteering in the health care industry, including pharmaceutical companies who game the patent system in order to maintain their monopoly, and physicians who perform unnecessary procedures in order to maximize profit.²⁴ Many books that detail the failures of the U.S. health care system have been written over the years.²⁵ All of these books provide hundreds of examples of how each subsystem in the health care system manipulates (or adapts to) the rules and the existing structure of the system to maximize profit at the expense of patients. Understanding the complexity of the system and why reform efforts have failed is the purpose of this Article.

So why does it matter if the system is complex or not? Other industries, like the airline industry, are complex, and seem to work pretty well.²⁶ Considering the complexity of the health system and understanding the characteristics of a complex system will assist policymakers to reform the system, ultimately making it less costly, more efficient, and provide better value for patients. This section will first consider the U.S. health care system, and the economic and legal systems supporting it as a complex system. This section will then review the implications of the health care system as a complex adaptive system by examining the characteristics indicative of a complex

²² Elisabeth Rosenthal, *AN AMERICAN SICKNESS: HOW HEALTHCARE BECAME BIG BUSINESS AND HOW YOU CAN TAKE IT BACK* (Penguin Books, 2017).

²³ *Id.* at 24-29. Details the transformation of hospitals from not-for-profit status to for-profit status. *See also Id.* at 19. Describing the transformation of Blue Cross Blue Shield plans from not-for-profit status (with medical loss ratios around 95%) to for-profit status (with medical loss ratios of 64.4%-80%).

²⁴ CHARLES SILVER & DAVID A. HYMAN, *OVERCHARGED: WHY AMERICANS PAY TOO MUCH FOR HEALTH CARE*, (Cato Institute, 2018).

²⁵ *See* STEVEN BRILL, *AMERICA'S BITTER PILL: MONEY, POLITICS, BACKROOM DEALS, AND THE FIGHT TO FIX OUR BROKEN HEALTH CARE SYSTEM* (Random House, 2015); STEPHEN M. DAVIDSON, *STILL BROKEN: UNDERSTANDING THE U.S. HEALTH CARE SYSTEM* (Stanford University Press, 2010); T.R. REID, *THE HEALING OF AMERICA: A GLOBAL QUEST FOR BETTER, CHEAPER AND FAIRER HEALTH CARE* (Penguin Books, 2009); DAVID GOLDHILL, *CATASTROPHIC CARE: WHY EVERYTHING WE THINK WE KNOW ABOUT HEALTH CARE IS WRONG* (Vintage Books, 2013).

²⁶ Yes, this is debatable, but if you consider how many people travel by plane each day and the number of fatalities there are, the airline industry is very safe, and even efficient.

adaptive system. Finally, this section will consider the health care system in its entirety (with a focus on the financing subsystem), including the legal and economic systems that support and regulate the U.S. health care system as a complex adaptive system.

A. The Present State of the U.S. Health Care System

To say the U.S. health care system is inefficient and fails to meet the needs of the population, is not a novel argument. The U.S. spends considerably more money on health care than other countries with comparable economies, but with worse outcomes. By any measure, the \$3.6 trillion spent on health care in the U.S., which accounts for 17.9% of the GDP, does not result in better health.²⁷ On average, the U.S. spends at least twice the amount per person than the next highest “high-income” country without better health comes.²⁸ Of the \$3.6 trillion spent, at least a third (over a trillion dollars) is considered “wasteful spending”²⁹ and is not what business school professors would call value added spending (what a consumer would willingly pay).³⁰ By 2026, the U.S. is expected to spend \$5.7 trillion on health care, which will account for almost 20% of all economic spending in the United States.³¹ These facts and figures are well-known. Less well-known are the reasons behind why the U.S. health care system continues to be the most inefficient and expensive in the world. This unknown is largely why reform efforts over the past sixty-years have not improved the system. In fact, many “reforms,” including those offered in an attempt to

²⁷ Gigi A. Cuckler et al., *National Health Expenditure Projections 2017-26, Despite Uncertainty, Fundamentals Primarily Drive Spending Growth*, 37:3 HEALTH AFFAIRS 482 (2018).

²⁸ Irene Papanicolas et al., *Health Care Spending in the United States and Other High-Income Countries*, 319(10) JAMA 1024 (2018).

²⁹ INSTITUTE OF MEDICINE, *BEST CARE AT LOWER COST: THE PATH TO CONTINUOUSLY LEARNING HEALTH CARE IN AMERICA* 101 (Mark Smith, Robert Saunders, Leigh Stuckhardt, & Michael McGinnis eds., National Academy Press 2013). Estimates of waste in the U.S. health care system range from \$750 to \$765 Billion dollars, or one-third to one-half of all spending (using data from 2009). See also Tanya G.K. Bentley, Rachel M. Effros, Kartika Palar, and Emmett B. Keeler, *Waste in the U.S. Health Care System: A Conceptual Framework*, 86:4 THE MILBANK QUARTERLY 629, 639-64 (2008) which describes the three categories of waste found in the U.S. health care system. These categories include administrative waste, operational waste and clinical waste. Administrative waste includes inefficiencies caused by the administrative complexity of the system, which includes physician practices having to bill any number of insurance companies. Operational waste “refers to the inefficient and unnecessary use of resources in the production and delivery of such services....” Finally, clinical waste is spending on services that produce marginal or no health benefits to patients.

³⁰ Michael E. Porter, *What is Value in Health Care?* 363:26 NEW ENGLAND J. OF MED., 2477, 2477 (2010). See also William P. Kratzke, *Tax Subsidies, Third-Party-Payments, and Cross-Subsidization: America’s Distorted Health Care Markets*, 40 U. MEM. L. REV. 279, 282 (Winter, 2009) defining value as “the measure of one’s willingness to pay for something s/he does not have or the measure of one’s willingness to sell something s/he does have.”

Footnote 4.

³¹ Cuckler, *supra* note 27, at 482.

repeal the PPACA, actually make the system worse, specifically because they are reductionist reforms.

While the health care industry remains one of the healthier sectors in the U.S. economy (in terms of profits),³² the health of the U.S. population is lacking.³³ Overall, the health of the U.S. population is statistically worse than other comparable countries; in fact, when health care outcomes are compared against ten other countries, such as France, Sweden, Germany and the United Kingdom, the U.S. comes in last.³⁴ This highlights the myth that despite having the most expensive health care system in the world (by a high margin), the U.S. achieves better outcomes.³⁵ Digging deeper into the statistics on other aspects of health care system performance, such as administrative efficiency and access to care, the U.S. finishes dead-last among the eleven countries studied.³⁶ Administrative cost, or more specifically “administrative waste,” is defined as “administrative outputs that add little or no value” and “processes that are inefficient and could be carried out at lower cost.”³⁷ Administrative waste in the U.S. is estimated to be about 8% of all health care spending, whereas the average administrative waste in Organization for Economic Co-operation and Development (OECD) countries is about 3% of all health care spending.³⁸ By way of comparison, the administrative costs for the Medicare program is estimated to be around 1-2 percent, although some calculations put this figure closer to 6% when taking into account the administrative costs associated with the private insurance companies that administer the Medicare Advantage program and Medicare Part D.³⁹

³² Ben Herman, *The Health Care Industry is Awash with Cash*, AXIOS (May 18, 2018), <https://www.axios.com/health-care-industry-awash-profits-2018-1526573623-ea06b13a-099e-4c72-ba2e-cce4f94a5c11.html>.

³³ Schneider, *supra* note 19.

³⁴ *Id.*

³⁵ William M. Sage, *Minding P's and Q's: The Political and Policy Questions Framing Health Care Spending*, 44 J.L. MED. & ETHICS 559, 560 (Winter, 2016); See also Eric C. Schneider and David Squires, *From Last to First – Could the U.S. Health Care System Become the Best in the World?*, COMMONWEALTH FUND WEBSITE, <https://www.commonwealthfund.org/publications/journal-article/2017/jul/last-first-could-us-health-care-system-become-best-world> (July 17, 2017).

³⁶ Schneider, *supra* note 19.

³⁷ OECD, TACKLING WASTEFUL SPENDING ON HEALTH, OECD Publishing (2017) at 230.

³⁸ *Id.*

³⁹ Kip Sullivan, *How to Think Clearly About Medicare Costs: Data Sources and Measurement*, 38(3) J. HEALTH POLIT. POL'Y L. 479, 481 (2013). It is important to note that the Medicare Advantage program is administered by private insurance companies, so any additional inefficiencies could be associated with these plans.

The U.S. health care system is a regulated free-market system characterized by not-for-profit health systems earning massive profits,⁴⁰ providers who can practice defensive medicine and earn extra income from it,⁴¹ a pharmaceutical industry that invents diseases that it can then treat,⁴² and health insurance companies that raise premiums while simultaneously covering fewer costs.⁴³ Patients with diabetes are skipping medical care⁴⁴ or dying because they tried to ration their insulin⁴⁵ all because the costs are too high.⁴⁶ People get their leg stuck in a subway door and refuse an ambulance because they are afraid they cannot afford it.⁴⁷ A small child who gets hurt one weekend gets billed \$937 for some toe-ointment, a band-aid, and a 29-minute encounter in an emergency room because the wound would not stop bleeding and the doctor's office was not open on the weekend.⁴⁸ Another patient was unconscious with a broken jaw, but took the time upon regaining consciousness to make sure the hospital was in-network before getting his jaw repaired. Unfortunately his oral surgeon was not in-network and he received a \$7,924 bill.⁴⁹ At least that patient made it into the emergency room; one patient was charged \$5,751 for obtaining an ice-

⁴⁰ Ge Bai and Gerard F. Anderson, *A More Detailed Understanding of Factors Associated with Hospital Profitability*, 35:5 HEALTH AFFAIRS 889 (May 2016).

⁴¹ Leonard J. Nelson III, David J. Becker, & Michael A. Morrissey, *Medical Liability and Health Care Reform*, 21 HEALTH MATRIX 443, 456 (2011).

⁴² John LaMattina, *There Go Those Drug Companies Inventing Diseases Again*, FORBES (June 20, 2018), <https://www.forbes.com/sites/johnlamattina/2018/06/20/there-go-those-drug-companies-inventing-new-diseases-again/#76c389b934bb>.

⁴³ Gary Claxton et al., *Employer Health Benefits Annual Survey*, KAISER FAMILY FOUNDATION AND HEALTH RESEARCH & EDUCATIONAL TRUST (2017). This report focuses on employer-based benefits. See also Sam Baker, *Why some families with insurance still can't afford health care*, AXIOS (June 27, 2018), <https://www.axios.com/health-insurance-deductibles-health-care-528eea7e-2d81-4760-8348-e8c580c88349.html>; see also John Tozzi and Zachary Tracer, *Sky-High Deductibles Broke the U.S. Health Insurance System*, BLOOMBERG (June 26, 2018), <https://www.bloomberg.com/news/features/2018-06-26/sky-high-deductibles-broke-the-u-s-health-insurance-system>.

⁴⁴ Kate Gibson, *Study: Almost Half of Diabetics Skip Medical Care Due to Costs*, CBS NEWS – MONEYWATCH (June 18, 2018), <https://www.cbsnews.com/news/study-almost-half-of-diabetics-skip-medical-care-due-to-costs/>.

⁴⁵ Julie Mazziotta, *Mom Fights for Lower Insulin Costs After Her Diabetic Son Died from Rationing His Medication*, PEOPLE (May 24, 2018), <https://people.com/health/mom-fighting-lower-insulin-diabetic-son-death/>.

⁴⁶ Aimee Picchi, *The Rising Cost of Insulin: "Horror Stories Every Day"*, CBS NEWS – MONEYWATCH (May 9, 2018), <https://www.cbsnews.com/news/the-rising-cost-of-insulin-horror-stories-every-day/>.

⁴⁷ David Williams, *Woman Feared She Couldn't Afford Ambulance After Her Leg was Trapped by a Subway Train*, CNN (July 3, 2018), <https://www.cnn.com/2018/07/03/health/subway-accident-insurance-fear-trnd/index.html>.

⁴⁸ Sarah Kliff, *Toe Ointment, a \$937 Bill, and a Hard Truth About American Health Care*, VOX.COM (April 10, 2018), <https://www.vox.com/health-care/2018/4/10/17156230/emergency-bill-prices-pediatric-patients>. The young child had wrapped a piece of hair around her finger and caused it to bleed, since it was a Saturday, the parents did not know what else to do. The visit took less than 30-minutes and the family was responsible for the entire bill since they had not yet met their deductible.

⁴⁹ Sarah Kliff, *He Went to an In-Network Emergency Room. He Still Ended Up with a \$7,924 Bill*, VOX.COM (May 23, 2018), <https://www.vox.com/2018/5/23/17353284/emergency-room-doctor-out-of-network>.

pack in the waiting room of the emergency room.⁵⁰ Something is wrong with the system when patients refuse care, ration care, or die because they cannot afford proper treatment. So what happened with the U.S. health care system and why have we not yet fixed it?

B. Systems and Complexity

In a meeting with the nation's governors, President Trump stated, “[n]obody knew health care could be so complicated.”⁵¹ Although he was referring to health care reform, the President's comments on health care reflect common understanding. Many people, including many policymakers, think the health care system is complicated, and this is the problem. A complicated system is still a linear system, and reductionist reform, breaking the system down and reforming certain parts or subsystems, would work to reform the entire system. Linear systems presuppose unidirectional causation, which fails to hold-up in complex systems like the U.S. health care system where solutions like reductionist reforms do not work.⁵² This section will present the U.S. health care system as a complex adaptive system and consider the implications of this complexity.

Generally, a system consists of three elements: multiple agents, interconnections between the agents, and a function or a goal.⁵³ Fundamentally, a health system is a “‘means to an end’... which ‘exists and evolves to serve societal needs’....”⁵⁴ The World Health Organization considers a health system to be composed of six building blocks: service delivery, health workforce, information, medical products (including vaccines, devices and technologies), financing, and leadership and governance.⁵⁵ Each of these building blocks is actually a complex system of its own, with specific agents working towards specific goals subject to rules and feedback loops. Complex systems are composed of modules or subsystems that work together and create their own

⁵⁰ Sarah Kliff, *She Didn't Get Treated at the ER. But She Still Got a \$5,751 Bill Anyway*, VOX.COM (May 1, 2018), <https://www.vox.com/2018/5/1/17261488/er-expensive-medical-bill>.

⁵¹ Kevin Liptak, *Trump: 'Nobody Knew Health Care Could be so Complicated,'* CNN POLITICS (Feb. 28, 2017), <https://www.cnn.com/2017/02/27/politics/trump-health-care-complicated/index.html>.

⁵² Begun, *supra* note 1, at 269.

⁵³ John C. Williams, *A Systems Thinking Approach to Analysis of the Patient Protection and Affordable Care Act*, 21:1 J. PUBLIC HEALTH MGMT. PRAC. 6, 10 (2015).

⁵⁴ Rifat Atun, *Health Systems, Systems Thinking and Innovation*, 27 HEALTH POL'Y AND PLANNING iv4 (2012).

⁵⁵ WHO, *supra* note 10, at 35.

rules, feedback loops, and often have non-proportional responses to changes.⁵⁶ Policymakers have viewed the U.S. health care system and its subsystems as linear systems which can be influenced using reductionist reform. As will be discussed, the U.S. health care system is not a linear system.

A complex system should be distinguished from a complicated system which may have many different parts, but those parts work together in a precise, simple, and known way obeying simple cause-and-effect rules.⁵⁷ The difference between a complicated system and a complex system is more than a difference in degree; it is instead a difference in type, a complex system is simply a different type of system than a complicated system.⁵⁸ A complicated system follows the same “one structure-one function” prevalent in linear systems.⁵⁹ This is the difference between a car, which is complicated in the sense that it has a lot of different parts which work together and can be understood using standard engineering analyses, and traffic on a highway, which is a complex system in the sense that the cars are piloted by drivers with their own behaviors, expectations, and habits, with no single driver in control of the traffic and no single destination for all of the cars on a highway.⁶⁰

A linear system is one in which the whole of the system is the sum of its parts.⁶¹ Put another way, a linear system can be understood by understanding each component part individually, then putting them together.⁶² This type of analysis, reducing a system to its components to facilitate understanding, is referred to as reductionism. A system is referred to as a “linear” system because if you plot a linear system mathematically it will create a straight-line; the input produces a measureable and known or predictable output.⁶³ Linear systems are referred to as a “reductionist’s

⁵⁶ Mireya Martinez-Garcia & Enrique Hernandez-Lemus, *Health Systems as Complex Systems*, 3 AM. J. OF OPERATIONAL RESEARCH 113 (2013).

⁵⁷ OECD Global Science Forum, *Applications of Complexity Science for Public Policy: New Tools for Finding Unanticipated Consequences and Unrealized Opportunities*, Sept. 2009 (based on a workshop convened on Oct. 5-7, 2008 in Erice, Sicily), at 2.

⁵⁸ Roberto Poli, *A Note on the Difference Between Complicated and Complex Social Systems*, 2:1 CADMUS 142, 143 (Oct. 2013).

⁵⁹ *Id.* at 144.

⁶⁰ OECD Global Science Forum, *supra* note 57, at 2-3.

⁶¹ Melanie Mitchell, *COMPLEXITY: A GUIDED TOUR*, Oxford University Press (2009), at 22.

⁶² *Id.*

⁶³ *Id.* at 24.

dream” because of the ease of understanding the whole system by understanding its parts.⁶⁴ Cause-and-effect is easy to see in a linear system because each individual part’s relationship to the other parts is known or can be known. If you change one element of the system, you can predict how the rest of the system will react. You can also fix or repair this type of system by identifying the broken part and fixing that part.

Nonlinear systems or complex systems, by comparison, are a reductionist’s nightmare.⁶⁵ A complex system is “one in which the whole is different from the sum of its parts.”⁶⁶ This can be understood by contemplating a chemical reaction in which the characteristics of the substances that are mixed together differ considerably from the resulting compound.⁶⁷ Nonlinear systems are always complex. Complex systems form organically from interactions between the various agents within the system and the reactions to these interactions.⁶⁸ Complex systems that exhibit the tendency to be self-organizing, the existence of emergent properties, sensitivity to initial conditions, and resistance to change are referred to as complex adaptive systems.⁶⁹ The defining characteristic of a complex adaptive system is the ability of the agents within the system to receive feedback from external and internal sources and learn from, or adapt to, this feedback.⁷⁰ Complex systems are generally composed of other related complex subsystems, which are composed of interrelated and interdependent agents, “for which the degree and nature of their relationships is imperfectly known.”⁷¹

The U.S. health care system is not just a complex system, but it is a complex adaptive system.⁷² A complex adaptive system is “a collection of individual agents with freedom to act in ways that

⁶⁴ *Id.* at 23.

⁶⁵ *Id.* at 23.

⁶⁶ *Id.*

⁶⁷ *Id.* The specific example given is the introduction of baking soda and vinegar together, which interacts to create a lot of carbon dioxide (the traditional science-fair ‘volcano’).

⁶⁸ Martinez-Garcia & Hernandez-Lemus, *supra* note 56, at 113.

⁶⁹ Alan Shiell, Penelope Hawe and Lisa Gold, *Complex Interventions or Complex Systems? Implications for Health Economic Evaluation*, 336 *BMJ* 1281, 1282 (June, 2008).

⁷⁰ Ben Ramalingam et al., *Exploring the Science of Complexity: Ideas and Implications for Development and Humanitarian Efforts*, Overseas Development Institute, Working Paper 285, pg. 44 (2008).

⁷¹ Joseph M. Sussman, *The New Transportation Faculty: The Evolution to Engineering Systems*, WHITEPAPER (Jan. 10, 1999).

⁷² Begun, *supra* note 1.

are not always totally predictable, and whose actions are interconnected so that one agent's actions changes the context for other agents."⁷³ In addition to being non-linear, self-organizing, and governed by feedback, complex adaptive systems also share the following characteristics: they are constantly changing, tightly linked, history dependent, counter-intuitive, and resistant to change.⁷⁴ Although every complex adaptive system is unique they all exhibit four characteristics, complex adaptive systems are: dynamic, massively entangled, robust, and emergent, (or self-organizing)⁷⁵ As will be demonstrated in Section I.C, complex adaptive systems like the U.S. health care system, exhibit all four of these characteristics.

C. The U.S. Health Care, Health Law, and Economic System as a Complex Adaptive System

Saying the U.S. health care system is complex by any definition of the word is an easy argument to make. Indeed, the "health care field is . . . perhaps the most complex of any area of the economy."⁷⁶ As described *supra*, a system is complex when it is composed of many parts or agents that interconnect in intricate ways⁷⁷ and is composed of a group of related units (and subsystems) for which the degree and nature of the relationship is imperfectly known.⁷⁸ To further complicate matters, the U.S. health care system is composed of several subsystems that are themselves complex adaptive systems. These subsystems include the health care financing subsystem, the purchasing subsystem, and the delivery/supply subsystem. The legal system that regulates the health care system is also tightly interconnected with the health care system. Finally, the free-market economic system that is the basis of the health care system, is also tightly interconnected with the health care system and influences how it functions. The financial subsystem, as well as the legal and economic systems that frame and support this subsystem, will be the focus of this section. Other subsystems, such as the public health/community health subsystem are also an important part of our health care system, but are outside the scope of this Article.

⁷³ Paul E. Plsek and Trisha Greenhalgh, *The Challenge of Complexity in Health Care*, 323 *BMJ* 625 (Sept. 15, 2001).

⁷⁴ WHO, *supra* note 10, at 40.

⁷⁵ Begun, *supra* note 1, at 256. *See also* Holden, *supra* note 9, at 654.

⁷⁶ Begun, *supra* note 1 at 271 citing I. Morrison, *HEALTH CARE IN THE NEW MILLENIUM: VISION, VALUES, AND LEADERSHIP* (San Francisco: Jossey-Bass) (2000).

⁷⁷ Sussman, *supra* note, 71.

⁷⁸ *Id.*

The U.S. health care system certainly has the characteristics of a complex adaptive system.⁷⁹ The U.S. health care system has a variety of agents, governed by a multitude of laws, rules, and regulatory agencies. It is a heavily regulated free-market with extremely imperfect competition in a market replete with market failures.⁸⁰ Different agents compete against each other despite playing by different rules. Not-for-profit health systems, granted exemption from state and federal taxes in exchange for serving a community purpose, compete directly against for-profit companies with shareholders and publicly-traded shares of stock.⁸¹ Self-insured health plans, which are subject to the Employee Retirement Income Security Act of 1974 (ERISA) and exempt from state laws regarding benefit mandates and consumer protections “compete” with fully insured plans in the sense that companies have to make a choice whether to purchase health insurance or self-insure their employee population.⁸² Pharmaceutical companies are permitted to extend the patent protection of their drugs and the monopoly power that protection brings by conspiring with generic manufacturers to delay production.⁸³

The U.S. health care system is complex for a variety of reasons. There is not one single entity controlling or regulating the system.⁸⁴ There was also no formal structure or philosophy adopted to guide the shaping of the system.⁸⁵ Unlike other countries, health care is not a Constitutionally-protected right in the United States.⁸⁶ The United States is one of eighty-six countries that do not guarantee their citizens any type of health care, with the exception of prisoners.⁸⁷ So unlike other

⁷⁹ Begun, *supra* note 1.

⁸⁰ Erin C. Fuse Brown, *Resurrecting Health Care Rate Regulation*, 67 HASTINGS L.J. 85, 92-102 (Dec. 2015).

⁸¹ Terry L. Corbett, *Healthcare Corporate Structure and the ACA: A Need for Mission Primacy Through a New Organizational Paradigm?*, 12 IND. HEALTH L. REV. 103, 107-109 (2015).

⁸² Amy B. Monahan, *Federalism, Regulation or Free Market? An Examination of Mandated Health Benefit Reform*, 2007 U. ILL. L. REV. 1361, 1362 (2007).

⁸³ Silver and Hyman, *supra* note 24.

⁸⁴ M. Gregg Bloche, *The Emergent Logic of Health Law*, 82 S. CAL. L. REV. 389-390 (Mar. 2009).

⁸⁵ *Id.* at 422; *see also* Laura D. Hermer, *Private Health Insurance in the United States: A Proposal for a More Functional System*, 6 HOUS. J. HEALTH L. & POL’Y 1, 64 (Fall 2005).

⁸⁶ Jody Heymann et al., *Constitutional Right to Health, Public Health and Medical Care: The Status of Health Protections in 191 Countries*, 8:6 GLOBAL PUB. HEALTH: AN INT’L J. FOR RES., POL’Y AND PRAC., 639 (July 4, 2016); *See also* Elizabeth Weeks Leonard, *State Constitutionalism and the Right to Health Care*, 12 U. PA. J. CONST. L. 1325, 1328-29 (June 2010).

⁸⁷ *Id.* *See Estelle v. Gamble*, 429 U.S. 97, 103 (1976). The Supreme Court held that the eighth amendment “proscribes more than physically barbarous punishments” and that the government has an obligation to provide medical care for individuals who are incarcerated because an inmate is entirely reliant upon prison authorities to treat his or her medical needs and a failure to do so may cause “unnecessary and wanton infliction of pain.” Citing *Gregg v. Georgia*, 96 S.Ct. at 2925 (1976).

countries including England, Canada, Uruguay, and even Senegal, the U.S. did not adopt a government-funded universal program that provides health care to all citizens.⁸⁸ Instead, the U.S. defaulted to a free-market system for the delivery of health care no different from other industries. This early free-market system, in which patients paid providers directly for services rendered and providers charged a sliding-scale based on the ability to pay, worked reasonably well for many years, in large part because medical science was far less advanced than it is today.⁸⁹

Even the introduction of insurance did not significantly change the system, at least at first. It was not until World War II when employer-based health insurance was adopted to attract employees in an environment of wage restrictions that health insurance took on its predominant role of financing health care in the U.S.⁹⁰ Unlike other types of insurance, which are intended to protect against unforeseen risks, health care insurance has been used to finance all aspects of health care from the expected annual physical to the unexpected emergency condition, like a heart attack or broken leg.⁹¹ This was also the beginning of the sky-rocketing health care costs in the U.S., in part, because the fee-for-service reimbursement methodology became the standard and because it is well-established that the cost of a service or device rises dramatically once it is covered by insurance.⁹² This historical perspective is significant because complex adaptive systems are sensitive to their starting conditions, so these starting conditions, especially the prominent role of employer-based health insurance and not-for-profit health institutions, must be considered and understood if reform is going to be undertaken.⁹³ In addition to being sensitive to their starting condition, complex adaptive systems are also dynamic, massively-entangled, emergent and self-organizing, and robust and responsive to feedback.

⁸⁸ *Id.*

⁸⁹ Laura D. Hermer, *Private Health Insurance in the United States: A Proposal for a More Functional System*, 6 HOUS. J. HEALTH L. & POL'Y 1, 6-9 (Fall 2005).

⁹⁰ *Id.* at 10-14.

⁹¹ Peter J. Hammer, *Health Evolution: (Quality = Learning) + (Ethics = Justice)*, 10 IND. HEALTH L. REV. 415, 428 (2013).

⁹² Rosenthal, *supra* note 22, at 20.

⁹³ Ramalingam, *supra* note 70, at 23.

Dynamic

A dynamic system has a large number of agents with many different types of relationships.⁹⁴ These multiple agents are interconnected and under the influence of internal and external forces, resulting in the sharing of information and reactions to that information.⁹⁵ For example, individual decisions made by agents within the system are often determined or influenced by the behavior of other agents within the system.⁹⁶ This is exemplified by Nobel Prize winning economist Thomas Schelling's "go-with-the-winner" strategy, which describes the phenomenon of people crossing the street against the light if others around them are doing so.⁹⁷ Although dynamic systems share information, the withholding of information is also an important indicator to the other agents in the system. This withholding of information, or lack of transparency, is quite prevalent in the health care system. For example, patients rarely know the cost of any service prior to receiving it.

The financing subsystem is composed of multiple agents that are interconnected in various ways. There are multiple financing sources for health care. Employers finance health care for their employees directly when they self-fund coverage for their employees and when they pay a portion of premiums for fully-insured coverage. Health insurance companies (including managed care organizations) finance health care by accepting premiums in exchange for coverage described in an insurance policy or certificate of coverage. Patients that are uninsured tend to pay full charges, although health delivery systems have adopted more generous charitable care policies in response to litigation, the threat of litigation, and consumer protection laws.⁹⁸ The financing subsystem is also composed of the federal government, which administers government-financed programs such as the Medicare program and also contributes to premiums and cost-sharing amounts for people purchasing policies through the PPACA Marketplaces. State governments also administer dually-financed programs like Medicaid and the Children's Health Insurance Program (CHIP). Finally, individuals play a significant role in financing their own health care by paying premiums for individual or short-term limited-duration coverage, paying providers directly (in the case of the

⁹⁴ Begun, *supra* note 1.

⁹⁵ *Id.* at 256; *See also* Holden, *supra* note 9, at 654.

⁹⁶ Martinez-Garcia & Hernandez-Lemus, *supra* note 56, at 114.

⁹⁷ *Id.* at 114; citing Thomas Schelling, *MICROMOTIVES AND MACROBEHAVIOR*, Norton Publishing, New York (1978).

⁹⁸ Erin C. Fuse Brown, *Irrational Hospital Pricing*, 14 *HOUS. J. HEALTH L. & POL'Y* 11, 44 (2014).

uninsured), paying a portion of their employer-sponsored premium, and also by paying providers directly to meet their co-payment, co-insurance, and deductible obligations. Recent trends in health care, specifically consumer-driven health care, is designed to make consumers more sensitive to costs, but these initiatives have not been shown to significantly impact costs.⁹⁹

These many different agents are interconnected and interrelated, which creates complexity within the system. The price-setting mechanism in the financing subsystem is extremely complex. In its simplest form, health delivery systems set charges¹⁰⁰ that health insurers negotiate from and generally pay a negotiated percentage of those charges. Self-funded employers contract with insurers (acting as third-party administrators) to take advantage of those discounts. These negotiated rates are also used by health insurers to formulate premium rates that they charge consumers. In reality, there is much debate and mystery over how the health system delivery charges are formulated, and this topic will be examined in more detail Section III.B. In addition to being dynamic, meaning interconnected and responsive to the other agents within the system, the U.S. health care system is massively-entangled.

Massively-Entangled

Complex adaptive systems, such as the U.S. health care system, are also massively entangled. In a massively entangled system, the effect of changes to the system are hard to predict and the agents within the system influence, and are influenced, by the other agents through various feedback loops; in short, this highlights the adaptive nature of a complex adaptive system.¹⁰¹ This unpredictability is caused, in part, by autonomous agents that do not obey a standard cause-and-effect relationship.¹⁰² These agents can also work together, as conditions dictate, to create a multiple causality environment in which many different agents can cause one outcome.¹⁰³ These systems are also non-linear in nature, that is, an input or change to the system does not cause a known and predictable outcome; instead, in a complex adaptive system, an input causes

⁹⁹ Wendy Netter Epstein, *Price Transparency and Incomplete Contracts in Health Care*, 67 EMORY L.J. 1, 4-6 (2017).

¹⁰⁰ John T. McLean & Vinay Datar, *Mastering the Chargemaster: Minimizing Price-Gouging and Exposing the Structural Flaws in the Healthcare "Market,"* 9 PITT. J. ENVTL PUB. HEALTH L. 1 (Winter 2014).

¹⁰¹ Begun, *supra* note 1, at 256.

¹⁰² Martinez-Garcia & Hernandez-Lemus, *supra* note 56, at 113.

¹⁰³ *Id.*

disproportionate output.¹⁰⁴ So a small input or change can cause a large output, and vice versa, a large input or change can cause a small output.¹⁰⁵ This nonlinearity exemplifies the unpredictable nature of a complex adaptive system.

The financing subsystem is massively-entangled; a change to one section of the subsystem directly effects other areas of the subsystem. For example, as will be discussed in Section II.B of this Article, the PPACA, which was intended to lower premiums by growing the risk pools for individual and small group business, actually resulted in rising premiums, especially in the early years of implementation.¹⁰⁶ These rising premiums were caused by the increase in the number of benefits health plans were required to offer (the Essential Health Benefits), higher medical costs, and uncertainty around risk profiles and government financing programs such as the risk-corridor programs. Attempts to bring down premiums, such as value-based payment methodologies are being introduced, but fee-for-service is still predominantly used.¹⁰⁷

As with any massively-entangled system, the health care financing subsystem has many different feedback loops. Changes to one aspect of the health care financing subsystem sends signals to other parts of the system, causing a cascading, or ripple-effect, of changes. For example, to gain efficiencies (and market-power), health delivery systems will vertically-integrate, that is, purchase and merge providers up-and-down the health delivery supply chain.¹⁰⁸ A vertical-integration may involve hospitals and physician groups, or even health plans and delivery systems.¹⁰⁹ Vertical-integration, or any change that concentrates market power, impacts the entire system because this market power creates a ripple-effect among other agents within the system. The vertically-integrated entity can use their market-power to raise prices, which raises insurance premiums because the insurance company then pays higher rates to the vertically-integrated system, passing the costs along to the consumer.¹¹⁰ Rising insurance premiums force individuals to seek-out other

¹⁰⁴ Begun, *supra* note 1, at 256.

¹⁰⁵ *Id.*

¹⁰⁶ John P. Geyman, *A Five-Year Assessment of the Affordable Care Act: Market Forces Still Trump the Common Good in U.S. Health Care*, 45:2 INT'L J. OF HEALTH SERVICES 209 (2015).

¹⁰⁷ Wendy Netter Epstein, *Revisiting Incentive-Based Contracts*, 17 YALE J. HEALTH POL'Y & ETHICS 1, 10-20 (Winter 2017).

¹⁰⁸ Erin C. Fuse Brown & Jaime S. King, *The Double-Edged Sword of Health Care Integration: Consolidation and Cost-Control*, 92 IND. L.J. 55, 61-62 (Winter 2016).

¹⁰⁹ *Id.* at 62.

¹¹⁰ *Id.* at 69-70.

alternatives to health insurance, such as going without insurance (and self-funding any care they might need) or purchasing a short-term limited-duration plan. Rising premiums also force employer groups to other types of funding, such as self-funding their coverage. As more employers shift to self-funding, premiums continue to rise because the risk pools get smaller and insurers want to maintain their profitability. Since the federal government has few tools to police antitrust issues with vertical-integrations, the feedback loops will encourage more and more market concentration and insurers to move to combat the rising premiums caused by vertical-integration with their own consolidations to increase market power.¹¹¹

Emergent & Self-Organizing

Complex adaptive systems are also emergent systems, taking cues from other agents to act and react, leading to a self-organizing system.¹¹² The human brain is an example of an emergent system, in which chemical and electrical reactions between the neurons, caused by internal and external stimuli, result in outputs such as thought, or movement (in the case of a fight-or-flight response).¹¹³ Taking this analogy one step further,¹¹³ studies have shown that as parts of the brain are damaged, new neural pathways will develop to sustain functionality.¹¹⁴ This is an example of self-organizing behavior where emergent systems tend to organize based upon the goals of the agents that make-up the system.¹¹⁵ The agents within the emergent system do not necessarily have a sense of the goals of the larger system, nor do these goals really matter to the agents within a system; the agents within a complex adaptive system are motivated by their own goals and respond to internal and external stimuli in the pursuit and furtherance of these goals.¹¹⁶ Since each agent within a complex adaptive system is working independently from the other agents, yet are

¹¹¹ *Id.* at 78.

¹¹² WHO, *supra* note 10, at 42.

¹¹³ Bloche, *supra* note 84, at 420.

¹¹⁴ Bryan Kolb and Robbin Gibb, *Brain Plasticity and Behavior in the Developing Brain*, 20:4 J. CAN ACAD CHILD ADOLESC. PSYCHIATRY 265 (Nov. 2011). The phenomenon of new neural pathways being formed is referred to as “brain plasticity.”

¹¹⁵ Mitchell, *supra* note 61. An example of self-organizing behavior are ants that encounter a barrier in their pathway, such as a gap in the path. The army ants, acting without central leadership, will swarm over each other creating a bridge so that they may continue on their way.

¹¹⁶ WHO, *supra* note 10, at 42.

interdependent on the other agents, complex adaptive systems tend to be resistant to change as well.¹¹⁷

This financial subsystem has self-organized to put employers in place as a key financier of health care. The employer-based health insurance system took on the key role of financing health care in the U.S. due to the circumstances of World War II and the desire of employers to enhance their employee benefit plans in the face of restrictions on wages.¹¹⁸ Since employers could not use higher salaries to entice employees, employers started offering more generous health insurance benefits as part of the employee benefit package that employees were already receiving.¹¹⁹ At the time employers started offering health insurance to employees as an employee benefit, Congress changed the tax code to exempt employer and employee contributions to these health benefits from taxable income.¹²⁰ This led to an increase in the number of employers offering health benefits,¹²¹ which complicated things for employers operating in several different states (who would have to coordinate with several different benefit plans) regulated under different state laws. According to one commentator, the “[k]ey hallmarks of an employer-based system, at least as it has evolved in our country, are diversity, complexity, and cost.”¹²² As employer-based health insurance took hold in the U.S., the entire health care system self-organized around this financing mechanism. Employer-based health insurance with fee-for-service reimbursement caused a rapid expansion of entrepreneurial agents moving into the health care system to profit from this new financing scheme.¹²³

¹¹⁷ *Id.* at 42.

¹¹⁸ Laura D. Hermer, *Private Health Insurance in the United States: A Proposal for a More Functional System*, 6 HOUS. J. HEALTH L. & POL’Y 1, 6-13 (Fall 2005). See also Clark C. Havighurst, *American Health Care and the Law* at 3 in THE PRIVATIZATION OF HEALTH CARE REFORM: LEGAL AND REGULATORY PERSPECTIVES (Oxford University Press)(2003); William P. Kratzke, *Tax Subsidies, Third-Party-Payments, and Cross-Subsidization: America’s Distorted Health Care Markets*, 40 U. MEM. L. REV. 279, 285-287 (Winter 2009).

¹¹⁹ Laura D. Hermer, *Private Health Insurance in the United States: A Proposal for a More Functional System*, 6 HOUS. J. HEALTH L. & POL’Y 1, 10-13 (Fall 2005).

¹²⁰ *Id.* at 10.

¹²¹ *Id.*

¹²² Arnold J. Rosoff & Anthony W. Orlando, *Employers and Health Insurance Under the Affordable Care Act*, 24 ANN. HEALTH L. 470, 483 (Summer 2015).

¹²³ Monahan, *supra* note 82.

The characteristics of the system, as well as the agents working within the system, “can render the system ‘policy resistant,’ particularly when all of the actors within a system have their own, often competing, goals.”¹²⁴ In the U.S. health care system, all of the various agents (making-up the various sub-systems), including providers, health insurers, health delivery systems, pharmaceutical manufacturers, and other agents (such as medical device manufacturers and durable medical equipment sellers) all pursue their own competing goals, which is, across the board, profit maximization.¹²⁵ The only agent not pursuing profit is the patient, who simply wants to maintain or improve their health without going bankrupt. Even as change is imposed upon a complex adaptive system, the system exhibits attractor behavior, which is tendency for a system to settle-back into a consistent pattern of behavior, similar to the pendulum of a grandfather clock, an interruption to the pendulum will cause an irregular swing until the pendulum finds its original rhythm.¹²⁶ This is why a Systems Thinking approach is essential to reforming the U.S. health care system.

Robust & Responsive to Feedback

Finally, complex adaptive systems are robust and active; they have the ability to alter themselves in response to feedback.¹²⁷ Complex adaptive systems are called robust because they effectively adapt to a wide-range of feedback both internal and external to the system.¹²⁸ Since complex adaptive systems tend to be tightly-linked (with a high-degree of connectivity between agents and subsystems), a change in one agent or subsystem creates a change in another agent or subsystem, sometimes causing a cascade of changes that tend to be unpredictable and often create unintended outcomes.¹²⁹ Complex adaptive systems are also “complex irreducible” in the sense that you cannot change a single agent or subsystem without changing the dynamics and functionality of the entire system, sometimes dramatically.¹³⁰ These characteristics will be considered in the context of the U.S. health care system.

¹²⁴ WHO, *supra* note 10, at 42.

¹²⁵ Silver & Hyman, *supra* note 24.

¹²⁶ OECD Global Science Forum, *supra* note 57, at 7.

¹²⁷ *Id.*

¹²⁸ Begun, *supra* note 1, at 258.

¹²⁹ WHO, *supra* note 10, at 41; *see also* Lewis A. Lipsitz, *Understanding Health Care as a Complex System: The Foundation for Unintended Consequences*, 308:3 JAMA 243 (July 18, 2012).

¹³⁰ Martinez-Garcia & Hernandez-Lemus, *supra* note 56, at 117.

Around the time employer-based health insurance became the predominant source of health care financing in the U.S., Congress enacted the ERISA to address abuses in the administration and investment of pension plan assets.¹³¹ The intent of ERISA was to regulate pension plans and was not necessarily intended to regulate health benefit plans to the extent that it has; however, non-pension benefits, that is, health benefits, were included in this sweeping piece of legislation.¹³² Since health benefits were part of employee benefit plans, the federal government gained unexpected authority over health benefit plans by virtue of changes made to ERISA.¹³³ While ERISA gives the Department of Labor and Internal Revenue Service authority over employer-sponsored health plans (both self-funded and to a lesser extent, fully-insured plans), this statute does not provide nearly as many consumer protections as state laws that regulate comparable health insurance coverage.¹³⁴ ERISA added to the complexity of the health care system by regulating otherwise identical health plans differently and created the incentive for plans to self-fund, which drew people out of the insurance risk pool.¹³⁵ ERISA is an example of reductionist reform. Although the stated intent of ERISA was to address abuses of pension plans,¹³⁶ it inadvertently created a secondary health insurance market that impacted and influenced the way the health care system has evolved and operates.

Health Care Legal System as a Complex Adaptive System

To further complicate the analysis, the legal system that regulates the health care system is also a complex adaptive subsystem that influences the health care system. Professor Bloche describes the system of health law as having emergent properties with no “master actor with the power to

¹³¹ Donald T. Bogan, *Protecting Patient Rights Despite ERISA: Will the Supreme Court Allow States to Regulate Managed Care?*, 74 TUL. L. REV. 951, 966 (Feb. 2000).

¹³² *Id.* at 964.

¹³³ Clark C. Havighurst, *American Health Care and the Law* at 3 in *THE PRIVATIZATION OF HEALTH CARE REFORM: LEGAL AND REGULATORY PERSPECTIVES* (Oxford University Press) (2003).

¹³⁴ Laura D. Hermer, *Private Health Insurance in the United States: A Proposal for a More Functional System*, 6 HOUS. J. HEALTH L. & POL’Y 1, 30 (Fall 2005).

¹³⁵ Monahan, *supra* note 82. A self-funded health plan, in which employers fund the costs of health claims incurred by their employees, can offer nearly identical benefits to fully-insured health plans, in which the employer pays a premium for health insurance and the health insurer takes the risk (pays the claims). However, the self-funded plan is subject to federal law (ERISA) and the fully-insured plan is subject to state law. Although the benefits offered are nearly identical, the fully-insured plan has to include benefits mandated by state law while the self-insured plan does not.

¹³⁶ Bogan, *supra* note 131, at 964.

impose a unifying vision” on the system.¹³⁷ This lack of a “master actor” is characteristic of a complex adaptive system, which develops through self-organization using simple locally applied rules.¹³⁸ The legal system that regulates the health care system also has a myriad of agents that act and react to each other in ways that change the system, “[c]ountless market players, public planners, and legal and regulatory decision makers interact in oft-chaotic ways, clashing with, reinforcing, and adjusting to each other.”¹³⁹ Of course, there is great debate over whether the field of health law is a coherent, distinct, field of law (such as contracts, or property law).¹⁴⁰

As Professor Havighurst illustrates in his chapter *American Health Care and the Law*, there is no “health law system” of unified legal and regulatory guidance reinforced by a special judiciary well-versed in the nuances of health care and the health care system.¹⁴¹ Instead, we have a fragmented regulatory system of different federal agencies and state laws pieced together in a complex system where the different regulatory agents pursue their own goals against the backdrop of a legal system not designed to properly oversee such a unique and specialized system. If we view the U.S. health care system as a complex adaptive system, as argued herein, and how the legal system influences the behavior of the agents and otherwise provides feedback loops to the agents (which further modifies their behavior) and how the unique economics of the health care system also influence the system (and the system of law), the answer to the question of whether health law is a distinct field of law, is a resounding “yes.” Given that the legal system itself is a complex adaptive system,¹⁴² it is not difficult to see how the system of health law as a subsystem of the legal system is a complex adaptive system of its own (and certainly a coherent field of law).

Health care agents, like providers, are extremely adept at adapting to changes in health care law. For example, the Medicare Advantage program, which was created by the Medicare Prescription Drug Improvement and Modernization Act of 2003, privatized Medicare and allowed private

¹³⁷ Bloche, *supra* note 84.

¹³⁸ Plsek and Greenhalgh, *supra* 73, at 627.

¹³⁹ *Id.*

¹⁴⁰ Elhauge, *supra* note 12.

¹⁴¹ Havighurst, *supra* note 133.

¹⁴² J.B. Ruhl, Daniel Martin Katz, and Michael J. Bommarito II, *Harnessing Legal Complexity Bring Tools of Complexity Science to Bear on Improving Law*, 355:6332 SCIENCE 1377 (Mar. 31, 2017).

insurance companies to administer and pay the benefits for Medicare beneficiaries.¹⁴³ The Medicare Advantage program included a risk-adjustment program to incentivize insurers to participate in the program by balancing the risk associated with enrolling a less healthy, and more expensive, population.¹⁴⁴ However, the risk adjustment program, in which health plans are reimbursed at a higher rate for members with higher risk scores (based on the coding found in their medical record and validated by the Centers for Medicare & Medicaid Services (CMS) through Risk Adjustment Data Validation audits), has been subject to abuse as health insurers find ways to maximize revenue by allegedly up-coding patient records to make them appear sicker than they really are.¹⁴⁵ The risk adjustment program resulted in \$9.3 billion in overpayments and caused risk scores to increase from 10% to 30% in some plans.¹⁴⁶ When pursuing profits, health insurers are extremely adaptable to the rules of the game.

Health Care Economics

Even a free-market economy, which many consider the U.S. health care system to be, is modeled on a linear system of production and utility functions and does not work well with complex systems.¹⁴⁷ There is much debate in economics over whether neoclassical economics work within a complex system.¹⁴⁸ The ideal market engaged in perfect competition, as envisioned by Adam Smith, does not exist in the U.S. health care market.¹⁴⁹ Eminent economists like Kenneth Arrow, Uwe Reinhardt, and others voice great doubt about whether traditional economic theories, like neoclassical economics, even apply to the U.S. health care system.¹⁵⁰ The challenge with

¹⁴³ Medicare Prescription Drug Improvement and Modernization Act of 2003, PUB. L. NO. 108-173 Stat. 2066, (codified as amended in scattered sections of 42 U.S.C.).

¹⁴⁴ Timothy D. McBride, *Medicare Advantage: What Are We Trying to Achieve Anyway?*, 1 ST. LOUIS U. J. HEALTH L. & POL'Y 405 (2008).

¹⁴⁵ Mary Williams Walsh, *Scheme Tied to UnitedHealth Overbilled Medicare for Years, Suit Says*, NYT-DEALBOOK (Feb. 16, 2017), <https://www.nytimes.com/2017/02/16/business/dealbook/unitedhealthcare-improperly-took-money-from-medicare-suit-says.html>.

¹⁴⁶ Lisa Schencker, *Were patients really sicker? Lawsuits say Medicare Advantage plans inflated diagnoses to boost payments*, MODERN HEALTHCARE (Nov. 22, 2014), <http://www.modernhealthcare.com/article/20141122/MAGAZINE/311229981>.

¹⁴⁷ John Foster, *From Simplistic to Complex Systems in Economics*, Discussion Paper No. 335, School of Economics, The University of Queensland (Oct. 2004).

¹⁴⁸ Magda Fontana, *Can Neoclassical Economics Handle Complexity? The Fallacy of the Oil Spot Dynamic*, 76:3 J. ECON. BEHAVIOR AND ORG. 584 (2010).

¹⁴⁹ Ari Mwachofi and Assaf F. Al-Assal, *Health Care Market Deviations from the Ideal Market*, 11:3 SQU MED. J. 328 (Aug. 2011).

¹⁵⁰ See, generally Kenneth Arrow, *Uncertainty and the Welfare Economics of Medical Care*, 53:2 AM. ECON. REV. 941 (1963); Uwe E. Reinhardt, *Health Care Price Transparency and Economic Theory*, 312:16 JAMA 1642; Peter

neoclassical economics is that it approaches systems with an “input-blackbox-output paradigm,” which is consistent with linear thinking while disregarding other aspects of the system, such as inputs, outputs, initial state, feedback loops, and other characteristics of a complex system.¹⁵¹ Although this argument is beyond the scope of this Article, it is interesting to note that even the economic theory underlying the U.S. health care market is not a good fit for a complex system.

II. Reductionist Reform

Much has been written on the history of the U.S. health care system and health care reform.¹⁵² Some of these sources have highlighted the fundamental philosophical debate between the right to health care and whether this right is rooted in property law,¹⁵³ the law of public goods,¹⁵⁴ a social contract,¹⁵⁵ or exists as a fundamental human right.¹⁵⁶ Other sources have focused on the political battle between a more universal, government-funded system, and a free-market system.¹⁵⁷ Still other sources considered the history of health care reform efforts over the years.¹⁵⁸ This section will not revisit these arguments or attempt to provide a detailed history of health care reform in the U.S. Instead, this section will argue that health care reform in the U.S. has been unsuccessful in meeting the iron triangle goal of cost, access, and quality because a reductionist approach has been taken, as opposed to a Systems Thinking, or complexity science, approach. Section A will

J. Hammer, *Medical Antitrust Reform: Arrow, Coase and the Changing Structure of the Firm*, John M. Olin Center for Law & Economics, University of Michigan, Paper #00-012. The health care market is significantly different from the neoclassical free-market economic system; the nature of demand is different, physicians play a different role than the standard purveyor of services, the product within the health care system is hard to define, as is the quality of the service, there are different barriers to entry in the market and there is a distinct lack of transparency in pricing. There are also various market failures such as the moral hazard associated with health insurance.

¹⁵¹ Peter J. Hammer and Charla M. Burill, *Global Health Initiatives and Health System Development: The Historic Quest for Positive Synergies*, 9 IND. HEALTH L. REV. 567, 599 (2011/2012) citing WHO Systems Thinking at 34.

¹⁵² See, generally Monahan, *supra* note 82; Jaqueline Fox, *Reforming Health Care Reform*, 50 U. RICH. L. REV. 557, 561-562 (Jan. 2016); Arnold J. Rosoff, *Of Stars and Proper Alignment: Scanning the Heavens for the Future of Health Care Reform*, 159 U. PA. L. REV. 2083 (June 2011); Lawrence O. Gostin, Peter D. Jacobson, Katherine L. Record & Lorian E. Hardcastle, *Restoring Health to Health Reform: Integrating Medicine and Public Health to Advance the Population's Well-Being*, 159 U. PA. L. REV. 1777 (June 2011).

¹⁵³ Mark Earnest and Dayna Bowen Matthew, *A Property Right to Medical Care*, 29 J. LEGAL MED. 65 (2008).

¹⁵⁴ Nicholas Bagley, *Medicine As a Public Calling*, 114 MICH. L. REV. 57 (Oct. 2015).

¹⁵⁵ Fazal Khan, *Towards Achieving Lasting Healthcare Reform: Rethinking the American Social Contract*, 19 ANN. HEALTH L. 73 (2010).

¹⁵⁶ Jean Connolly Carmalt, *Holding the U.S. Accountable: How American Health Care Fails to Meet International Human Rights Standards*, 11 N.Y. CITY L. REV. 359 (2008).

¹⁵⁷ Jill Quadagno, *ONE NATION UNINSURED: WHY THE U.S. HAS NO NATIONAL HEALTH INSURANCE*, Oxford University Press (2005).

¹⁵⁸ Arnold J. Rosoff, *Of Stars and Proper Alignment: Scanning the Heavens for the Future of Health Care Reform*, 159 U. PA. L. REV. 2083 (June 2011).

provide a brief history of health care reform from the 1970's to 2010, highlighting various efforts to reform the U.S. health care system. Section B will start in 2010 and take a more in-depth look at the Patient Protection and Affordable Care Act, the largest reform effort since the inception of the Medicare program. Section C will analyze post-2016 efforts toward health care reform.

Health care reform in the United States over the past sixty years has been characterized by taking the path of least resistance; that is, reforming the segment of the health care system with the least powerful lobbying mechanism (this is also an example of reductionist reform). As one commentator observed, “[o]ur learnt instincts with such issues, based on reductionist thinking, is to trouble-shoot and fix things...”¹⁵⁹ Obviously this is largely a consequence of the democratic system but is also the consequence of the failure to recognize the health care system as a complex adaptive system. Indeed, discussions about the U.S. health care system (notably the debate between universal health care and the free-market approach) have been met with mischaracterization, misinformation, and more lobbying than almost any issue in America.¹⁶⁰ The amount of money spent lobbying by the health care industry routinely tops the list of total lobbying spending in the U.S. For example, in 2017 the health care industry spent \$561.23 million dollar on lobbying, which is almost \$40 million more than spending in the next highest sector.¹⁶¹ This is money well-spent because the current inefficient system is extremely lucrative to current stakeholders. For-profit and not-for-profit health systems continue to experience substantial profits¹⁶² while eight of the ten most profitable firms in the health care sector are pharmaceutical companies (and all ten are part of the pharmaceutical supply-chain¹⁶³, including United Health, which in addition to being a health insurance company also owns a pharmacy-benefit manager¹⁶⁴).

Reductionist reform occurs when lawmakers, regulators, and policymakers view the health care system as linear rather than complex and make changes to a particular sub-system without

¹⁵⁹ Plsek & Greenhalgh, *supra* note 73, at 627.

¹⁶⁰ Quadagno, *supra* note 157.

¹⁶¹ *Total lobbying expenses in the United States in 2017, by sector*, <https://www.statista.com/statistics/257368/total-lobbying-expenses-in-the-us-by-sector/>, (last visited June 2, 2018).

¹⁶² Sam Baker, *Where Hospital Finances Stand in Q1*, AXIOS VITALS, <https://www.axios.com/newsletters/axios-vitals-9fb8d89c-7537-440d-9841-4153888487d9.html> (Monday, May 14).

¹⁶³ Herman, *supra* note 32.

¹⁶⁴ UNITEDHEALTHCARE, *Pharmacy*, <https://www.uhc.com/employer/pharmacy> (visited July 14, 2018).

considering or accounting for how it will impact the system as a whole (or in some cases, as we see in Section II.C, implementing policy with a full-understanding of the negative impact it will have on the system). Isaac Newton referred to reductionism as the “clockwork universe” “in which big problems can be broken down into smaller ones, analyzed, and solved by rational deduction...”¹⁶⁵ If one part breaks or fails, the machine can be deconstructed, the broken part repaired, and the machine reconstructed to work as before. Reductionism was the principle approach to scientific study promoted and practiced by Descartes, Newton, and other prominent scientists through the nineteenth and into the twentieth century.¹⁶⁶ In complex systems, this reductionist reform may result in minor improvements in that particular subsystem, but these improvements are sometimes cancelled out by reactions and adjustments made by agents in other parts of the system. As discussed, complex systems like the U.S. health care system have many different agents extremely adaptive to change. A similar phenomenon that is often used as a criticism of policies is the law of unintended consequences.¹⁶⁷ Reductionist reform can be seen as a root cause of unintended consequences in health policy.

Complex systems are more susceptible to unintended consequences because of the difficulty in understanding the interactions between the parts of the system.¹⁶⁸ Unintended consequences are results that deviate or differ from the purpose or goal of the policy or rules enacted. Five factors give rise to unintended consequences, including the “imperious immediacy of interest” or a focus on foreseen consequences;¹⁶⁹ this is exemplified by reductionist reform where policymakers believe reforming one aspect of the system will fix the whole system. One example of an unintended consequence in health care is the 3-day inpatient admission rule used by Medicare for a patient to qualify for care in a skilled nursing facility (SNF). Although the rule was intended to manage costs by defining what patients are eligible for SNF care, this rule also created pressure on providers to offer justification for 3-days’ worth of inpatient care, even if less inpatient care

¹⁶⁵ Plsek & Greenhalgh, *supra* note 73.

¹⁶⁶ Mitchell, *supra* note 61.

¹⁶⁷ Robert K. Merton, *The Unanticipated Consequences of Purposive Social Action*, 1:6 AMERICAN SOCIOLOGICAL REVIEW 894 (Dec. 1936).

¹⁶⁸ Lipsitz, *supra* note 129, at 243.

¹⁶⁹ Merton, *supra* note 167 at 900-903. The five factors of unintended consequences include (1) Ignorance, (2) Error; (3) Imperious immediacy of interest, (4) Basic values, and (5) Self-defeating prediction or Self-fulfilling prophecies.

was needed, just to qualify the patient for covered SNF care.¹⁷⁰ This resulted in over-utilization, which is a waste of resources.

Another example, again from the Medicare payment rules, is the use of observation status by hospitals.¹⁷¹ In an attempt to reduce unnecessary hospitalizations, CMS implemented a more rigorous claim review process and subsequently began denying many admissions on a retroactive basis, leaving the patient, or the hospital, responsible for the charges.¹⁷² In response to this practice, hospitals became afraid to admit patients and placed patients in observation status, billed in a different manner, which then became over-utilized and wasteful.¹⁷³ Finally, the imposition of taxes on sugary beverages has been found to shift preference for or consumption of other unhealthy drinks rather than help reduce the rate of obesity.¹⁷⁴

A. A Brief History of Health Care Reform in the U.S.

To understand the complexity of the health care system, and the subsequent failures of its reformation, it is essential to understand a key underlying challenge: rising costs. The health care financial subsystem is the focus of this Article because health care costs are the number one challenge facing the health care system.¹⁷⁵ As is the case with understanding any complex system, the history of the system must be understood (since a complex adaptive system is largely influenced by its initial state). Likewise, it is essential to understand efforts made to reform the system to gain an understanding of what has not worked, and why. The reductionist approach, taken over the years, typically involves identifying one aspect of the iron triangle of health care, or one particular industry or agent, and attempting to reform that part without any consideration or thought to how that reform will impact or influence the other elements of the iron triangle or the other agents in the health care system. This section will focus on the reform efforts taken to manage costs, and analyze them as reductionist reforms.

¹⁷⁰ Lipsitz, *supra* note 129.

¹⁷¹ Jaqueline Fox, *Reforming Health Care Reform*, 50 U. RICH. L. REV. 557, 561-562 (Jan. 2016).

¹⁷² *Id.*

¹⁷³ *Id.*

¹⁷⁴ Senarath Dharmasena & Oral Capps Jr., *Intended and Unintended Consequences of a Proposed National Tax on Sugar-Sweetened Beverages to Combat the U.S. Obesity Problem*, 21 HEALTH ECON. 669 (2012).

¹⁷⁵ Eleanor D. Kinney, *For Profit Enterprise in Health Care: Can it Contribute to Health Reform?*, 36 AM. J. L. AND MED. 405 (2010). *See also* Mark A. Hall and Carl E. Schneider, *Patients as Consumers: Courts, Contracts, and the New Medical Marketplace*, 106 MICH. L. REV. 643 (Feb. 2008).

As discussed *infra*, the U.S. adopted an employer-based health insurance system in response to the societal, market, and legal conditions present at the time.¹⁷⁶ The Medicare and Medicaid programs in the 1960's brought-about the first-wave of cost-escalation with the adoption of the "fee for service" payment model which became known as a "blank check" system of payment with few, if any, cost-controls built into the system.¹⁷⁷ The expansion of employer-based health insurance, along with the rise of for-profit activity in the health care sector (and the accordant profiteering mind-set), caused costs to sky-rocket to their current levels.¹⁷⁸ Costs significantly increased for a variety of reasons, including overutilization, overcharging, and patient insulation from charges (due to insurance).¹⁷⁹ This cost-escalation was noticed by policymakers who took steps to try to "manage" these costs. Unfortunately, policymakers took a reductionist approach and only focused on one aspect of the system, specifically the insurance industry, to try to reign-in costs.

The movement towards managed care originated in the 1970's with the issuance of an "HMO White Paper" by the Department of Health, Education and Welfare and the passage of the federal Health Maintenance Organization Act.¹⁸⁰ The Health Maintenance Organization Act incentivized the creation of HMOs, which managed costs by requiring patients to only seek care within a designated network of providers, and financially incentivized providers (specifically primary care providers) through capitation arrangements to better manage the care their patients were receiving by serving as a gate-keeper (requiring all care be coordinated by the primary care physician). HMOs also became vertically integrated by employing their own physicians which more closely aligned the financing function with the delivery function.¹⁸¹ Managed care continued through the 1990's and even the 2000's and while it was moderately successful in restricting cost-increases in the health care industry, patient dissatisfaction with this model of insurance eventually caused it to fall out of favor.¹⁸²

¹⁷⁶ Rosoff, *supra* note 122, at 472-473.

¹⁷⁷ *Id.* at 474.

¹⁷⁸ Kinney, *supra* note 175 at 9.

¹⁷⁹ Rosoff, *supra* note 122, at 474.

¹⁸⁰ *Id.* at 478-479.

¹⁸¹ William Sage, *Minding P's and Q's: The Political and Policy Questions Framing Health Care Spending*, 44 J.L. MED. & ETHICS 559 (Winter 2016).

¹⁸² *Id.* at 562. See also Rosoff, *supra* note 122, at 479 and Hermer, *supra* note 85, at 23-25. See also Andre Hampton, *Markets, Myths, and a Man on the Moon: Aiding and Abetting America's Flight from Health Insurance*, 52 RUTGERS L. REV. 987, 992-993 (Summer 2000) discussing how managed care "created the temporary illusion

The managed care experiment is an example of reductionist reform because “policymakers turned to managed care without reframing the cost problem they were trying to solve.”¹⁸³ Although managed care tried to connect the financing of health care with the delivery of health care services, the administrative burden along with the dissatisfaction of patients made this reform too difficult to sustain. This reform is reductionist reform because it focused on one subsystem, the financing subsystem, and one aspect of agent, health insurers/managed care organizations. The underlying issue of cost of care in the system went largely ignored. Managed care organizations were tasked with restricting the care delivered, not the costs being charged for that care. Having moved on from the managed care movement, the U.S. now moved to a more elaborate reform of the health insurance industry.

B. The Patient Protection and Affordable Care Act (PPACA)

In the years prior to the enactment of the PPACA, the health insurance industry, specifically the small group and individual markets, was rife with abuses and shady practices that finally caught the attention of regulators.¹⁸⁴ During Congressional hearings, insurance company executives were called upon to explain the practice of rescission and their application of these practices in cancelling the policies of people who need to utilize their coverage. Rescission is a principle of contract law which allows a party to a contract, who has been deceived by the other party, to rescind or cancel the contract from the beginning, or essentially void the contract.¹⁸⁵ This legal doctrine also applies to health insurance policies, which are contracts between the insurance company and the insured. Before the passage of the PPACA, individuals were asked to complete questionnaires during the application process detailing their medical history. If the individual is found to have misrepresented a health condition, or simply did not include it in the application, the entire policy can be rescinded. However, insurance companies abused this practice by targeting

that we can have access to adequate and affordable coverage through operation of the insurance model in the free market.”

¹⁸³ Sage, *supra* note 181, at 563.

¹⁸⁴ Terminations of Health Policies By Insurance Companies: State Perspectives and Legislative Solutions: Hearing Before the Subcommittee on Oversight and Investigations of the Committee on Energy and Commerce, 111th Cong. 4 (July 27, 2009) (Testimony of Rep. Bart Stupak, D-MI).

¹⁸⁵ Gary Schuman, *The Devil is in the Details: Establishing an Insured's Intent to Deceive in Life and Health Insurance Rescission Cases*, FDCC QUART. 84 (Winter 2015).

high-cost claims (such as cancer and leukemia) and rescinding policies when people needed them most.¹⁸⁶

The Patient Protection and Affordable Care Act of 2010 (PPACA) was perhaps the most comprehensive health care reform since the inception of the Medicare program in 1965. Although referred to as “health care reform,” the PPACA is actually “health insurance reform” since it directly impacts the health insurance industry (and the products sold in this industry). It was enacted, in part, to correct the egregious business practices rampant in the health insurance industry at the time, including rescission, as well as the high-cost of coverage, especially for individuals with pre-existing conditions.¹⁸⁷ In addition to these corrective actions, the PPACA was also intended to improve access to health insurance (and by association, the health care system), by improving competition among health insurance companies that would result in lower costs, or at least, lower insurance premiums.¹⁸⁸ This focus on lowering the cost of health care was important because of the high-rate of bankruptcies and medical debt due to medical bills.¹⁸⁹ The PPACA most closely resembles a socialized insurance model with privately administered “sickness funds” that are tightly regulated with heavy involvement by private health insurers.¹⁹⁰

¹⁸⁶ Terminations Hearing, *supra* note 184, at 3 (statement of Rep. Bart Stupak, D-MI), 69 (statement of Rep. John Yarmuth, D-KY), 89-91, 95. *See also* Schuman, *supra* note 185 at 94, 96. Although rescission generally requires a showing of misrepresentation that is material to the risk being assumed and is knowingly false and reasonably relied on by the insurer, challenging these cases required resources, such as attorneys, that individuals did not always have access to.

¹⁸⁷ Terminations Hearing, *supra* note 184, at 3 (statement of Rep. Bart Stupak, D-MI), 30 (statement of Rep. Baron Hill, D-IN), 33-34 (statement of Rep. Stupak).

¹⁸⁸ Max Huffman, *Competition Policy in Health Care in an Era of Reform*, 7 *IND. HEALTH L. REV.* 225, 228-29 (2010); *see also* Thomas L. Greaney, *The Affordable Care Act and Competition Policy: Antidote or Placebo?*, 89 *OR. L. REV.* 811, 825-27 (2011).

¹⁸⁹ Robert W. Seifert & Mark Rukavina, *Bankruptcy is the Tip of a Medical Debt Iceberg*, 25:2 *HEALTH AFFAIRS* W89 (Feb. 28, 2006).

¹⁹⁰ Uwe E. Reinhardt, *Reforming the Health Care System: The Universal Dilemma*, 19 *AM. J.L. AND MED.* 21, 22 (1993); *See also* Arnold J. Rosoff & Anthony W. Orlando, *Employers and Health Insurance Under the Affordable Care Act*, 24 *ANN. HEALTH L.* 470 (Summer, 2015) outlining the history of a health system built on the foundation of employer responsibility. The “Bismarck Model” as it came to be known evolved from a communal model of health care which involved workers, and later employers, to pay into “sickness funds” to care for the health needs of their fellow employees.

Upon the passage of the PPACA, insurers were immediately prohibited from rescinding policies (except in cases of fraud)¹⁹¹ excluding pre-existing medical conditions¹⁹² and medically underwriting policies.¹⁹³ Basically, the PPACA altered the insurance industry by “combatting the insurers’ desire to dodge risk.”¹⁹⁴ The PPACA also commoditized the insurance product by introducing “Ten Essential Benefits” that insurers must include in each policy,¹⁹⁵ eliminating annual and lifetime caps on benefits,¹⁹⁶ and standardizing cost-sharing levels in each policy.¹⁹⁷ The Ten Essential Benefits, which are categories of benefits such as mental health, substance abuse, and pharmacy benefits, are specified by the benchmark plan in each state. Thus, each insurance policy sold in each state has nearly identical benefits. As Professor Jost notes, insurers “can’t compete on benefits and cost-sharing, so you compete on your prices and your network and your quality of services.”¹⁹⁸

Although the PPACA attempted to make the insurance market more competitive, costs remain an issue.¹⁹⁹ *Since the health care system and health financing subsystem are complex adaptive systems, the health care system adapted to the rules set forth in the PPACA.* For example, “[t]he ACA has led to accelerating consolidation of hospital systems” as health systems adapted to the new regulatory environment.²⁰⁰ Unfortunately, antitrust laws and enforcement are not well-equipped to regulate the health care industry because of its complex adaptive nature.²⁰¹ Another

¹⁹¹ Patient Protection and Affordable Care Act, Pub. L. No. 111-148, §2712, 125 Stat. 119, 131 (codified at 42 U.S.C. §300gg-12).

¹⁹² 45 C.F.R. §144.103 (2010).

¹⁹³ Patient Protection and Affordable Care Act, Pub. L. No. 111-148, § 2705, 124 Stat. 156 (2010) (codified at 42 U.S.C. § 300gg-4).

¹⁹⁴ Valerie Blake, *Narrow Networks, the Very Sick, and the Patient Protection and Affordable Care Act: Recalling the Purpose of Health Insurance and Reform*, 16 MINN. J.L. SCI. & TECH. 63 (Winter, 2015).

¹⁹⁵ 42 U.S.C. § 18022(b)(1)-(2) (2010); Patient Protection and Affordable Care Act, Pub. L. No. 111-148, § 2707, 124 Stat. 161 (2010) (codified at 42 U.S.C. § 300gg-6); *Id.* at §1302, 124 Stat. 163-64 (2010) (codified at 42 U.S.C. §18022).

¹⁹⁶ Patient Protection and Affordable Care Act, Pub. L. 111-148, §2711, 125 Stat. 119, 161 (codified at 42 U.S.C. §300gg-11).

¹⁹⁷ Patient Protection and Affordable Care Act; Standards Related to Essential Health Benefits, Actuarial Value, and Accreditation; Final Rule, 78 Fed. Reg. 12834,12837, 12834,12847-48 (Feb. 25, 2013) (codified at 45 C.F.R. pts. 147, 155, 156).

¹⁹⁸ Valerie Blake, *supra* note 194, at 77 (quoting Timothy Jost).

¹⁹⁹ Geyman, *supra* note 106.

²⁰⁰ *Id.* at 212; Thomas L. Greaney, *The Affordable Care Act and Competition Policy: Antidote or Placebo?*, 89 OR. L. REV. 811, 820 (2011).

²⁰¹ *Id.* at 820.

reason that antitrust laws and enforcement are ill-equipped to regulate the health care industry is the fact antitrust laws are premised on protecting competitive markets, and the health care market is not an effectively competitive market.²⁰² Until there is a panel of health law experts to help shape and guide the application of laws to the health care industry,²⁰³ a Systems Thinking approach to implementing new reform is necessary.

The PPACA reformed the insurance industry in many different ways. The individual mandate, requires all people to be covered by health insurance either through their employer, or directly by purchasing a policy from the Marketplace.²⁰⁴ This mandate is the cornerstone of the PPACA because it is thought to be a stabilizing factor for the insurance industry by reducing the impact of adverse selection. Adverse selection, the notion that only those that will benefit from insurance will buy it (in some cases, at the moment the benefits exceed the costs), is mitigated by the requirement that all individuals have to have insurance or they will pay a penalty.²⁰⁵ Adverse selection is a market failure that can be corrected by universal coverage, that is, everybody enrolling in insurance so that the risk pools are adequate and insurance companies can properly understand and account for risk.²⁰⁶ Other aspects of the PPACA, such as the expansion of the Medicaid program,²⁰⁷ were not specific to reforming health insurance and are outside the scope of this Article (although they did have an impact on the health care system²⁰⁸).

There are several reasons why the PPACA has failed to reduce health care costs, and most of these reasons exemplify how reductionist reform results in unintended consequences. In this case, an increase in overall health care costs made sense since the PPACA resulted in more people having health insurance coverage, and thus, access to the health care system. However, the PPACA also

²⁰² *Id.* at 821. See also John P. Geyman, *supra* note 106, at 211 stating “. . .it has long been documented that competition in health care does not work the same as in other industries.”

²⁰³ Havighurst, *supra* note 133, at 18-19.

²⁰⁴ 26 U.S.C. §5000A(a)-(b)(1).

²⁰⁵ Robert Rich, Eric Cheung and Robert Lurvey, *The Patient Protection and Affordable Care Act of 2010: Implementation, Challenges in the Context of Federalism*, 16 J. HEALTH CARE L. & POL'Y 477 (2013).

²⁰⁶ Mwachofi, *supra* note 149, at 332.

²⁰⁷ Jonathan Oberlander & Theodore R. Marmor, *The Health Bill Explained at Last*, N.Y. REV. OF BOOKS, (Aug. 19, 2010), available at <http://www.nybooks.com/articles/archives/2010/aug/19/health-bill-explained-last>.

²⁰⁸ Ge Bai & Gerard F. Anderson, *A More Detailed Understanding of Factors Associated with Hospital Profitability*, 35:5 HEALTH AFFAIRS 889 (May 2016).

raised the cost of accessing care through higher premiums, more out of pocket expenses, and higher costs charged by providers.²⁰⁹ Health care premiums are established using several different factors, these factors include: the composition of the risk pool; projected medical costs; the composition of the provider networks and rates negotiated with this network; the benefits offered in the insurance policy (including cost-sharing and deductible amounts); administrative costs (such as costs associated with marketing, sales, customer service, and regulatory compliance); taxes and assessments charged to the insurance company; geographic factors; and any profit targets that the insurance company wants to meet.²¹⁰ These factors are supportable by data, but there are also less quantitative factors used, such as regulatory uncertainty and market competition, that also influence insurance premiums.²¹¹

One of the most significant factors associated with insurance premiums are the provider networks and the rates associated with this provider network.²¹² However, insurance companies are not incentivized to drive hard bargains with health delivery systems and providers (even if they are in a market where they can leverage their market power). First, insurance companies are required to meet network adequacy standards. So, depending on the market, insurers may not have much power to negotiate rates if the network needs a particular delivery system.²¹³ Even in markets where insurers have market power, dominant insurers are reluctant to exercise this power to drive down rates, and small insurers are more likely to engage in “shadow pricing” rather than try to compete on price.²¹⁴ This is partly because insurers need health delivery systems for their networks,²¹⁵ and partly because health insurers are less concerned about costs given that they have to meet certain medical-loss ratios.²¹⁶ Whatever the reason, premium prices have not gone down

²⁰⁹ Geyman, *supra* note 106, at 211 citing L.M. Nichols et al., *Are Market Forces Strong Enough to Deliver Efficient Health Care Systems? Confidence is Waning*. 23:2 HEALTH AFFAIRS 8 (2004), a study that demonstrates that providers have enough market power to set their own prices in negotiations with insurance companies.

²¹⁰ American Academy of Actuaries, *Drivers of 2018 Health Insurance Premium Changes*, Issue Brief (July 2017), http://actuary.org/files/publications/Premium_Drivers_2018_071017.pdf.

²¹¹ *Id.* at 5.

²¹² *Id.* at 5.

²¹³ Blake, *supra* note 194, at 88-96.

²¹⁴ Greaney, *supra* note 188, at 825, citing John Holahan & Linda Blumberg, URBAN INST., HEALTH POLICY CTR., *Can a Public Insurance Plan Increase Competition and Lower the Costs of Health Care Reform?* at 3 (2008) available at <https://www.urban.org/research/publication/can-public-insurance-plan-increase-competition-and-lower-costs-health-reform>.

²¹⁵ Fuse Brown, *supra* note 98, at 29-31.

²¹⁶ 42 U.S.C. §300gg-18.

since the inception of the PPACA. In fact, premiums have increased by an average of 25% for policies sold in the Marketplace for 2017.²¹⁷ Rate review requirements also fail to impact health insurance premiums.²¹⁸

Another major factor behind high health care costs are drug prices, and health insurers have not taken steps to bring these costs down, because in some cases they profit from the sale of these drugs. A recent study reveals that in many cases (almost 25% of the time), the co-payment that the consumer makes for a drug is more than the insurance company reimburses for that drug.²¹⁹ This means that the consumer, or patient, is overpaying for drugs, and that the cost-savings (the negotiated rate between the insurance company or the pharmacy benefit manager and the pharmaceutical company) is not being passed along to the consumer. Instead, the insurer or pharmacy benefit manager keeps this overpayment as profit.²²⁰ So while the “Affordable” Care Act was supposed to bring costs down, it may have actually contributed to rising health insurance prices. This is an example of how reductionist reform fails to improve a complex system.

Another consequence of reductionist reform and the failure of the PPACA to make insurance affordable, is the subsidies made available to individuals purchasing insurance in the Marketplace. The premium subsidy contributes to an individual’s premium payment,²²¹ and the cost-sharing subsidy contributes to a policyholder’s cost-sharing obligations.²²² Both of these subsidies are available on the basis of financial need. Also, while both subsidies make insurance more affordable for individuals, it also makes health insurers less sensitive to costs since they know that government subsidies are available. Finally, these subsidies increase the likelihood of moral hazard caused by individuals being less sensitive to costs. Moral hazard in health insurance

²¹⁷ National Conference of State Legislatures, *Health Insurance: Premiums and Increases*, available at <http://www.ncsl.org/research/health/health-insurance-premiums.aspx> (July 7, 2018).

²¹⁸ John Aloysius Cogan Jr., *Health Insurance Rate Review*, 88 TEMPLE L. REV. 411 (Spring, 2016).

²¹⁹ Karen Van Nuys, Geoffrey Joyce, Rocio Ribero & Dana Goldman, *Frequency and Magnitude of Co-Payments Exceeding Prescription Drug Costs*, WHITE PAPER (USC SCHAEFFER CENTER FOR HEALTH POLICY & ECONOMICS) (2018), https://healthpolicy.usc.edu/wp-content/uploads/2018/03/2018.03_Overpaying20for20Prescription20Drugs_White20Paper_v.1-2.pdf.

²²⁰ Van Nuys *supra* at 219, at 6, citing Jay Olstad and Steve Ekert, *Who's profiting from prescription overcharges?* KARE11, (Nov. 18, 2016), <http://www.kare11.com/news/investigations/whosprofiting-from-prescription-overcharges/347424661>; and *Buying generic medication? You might be paying too much*, WRAL INVESTIGATES, (Nov. 3, 2014), <http://www.wral.com/buying-generic-medication-youmight-be-paying-too-much/14142893/>.

²²¹ PPACA Section 1401(a), 26 USCA §36(B).

²²² PPACA Section 1402.

generally results in the overuse of health services, and also increases the likelihood that individuals will engage in risky activities, since their health care costs will be covered should they get injured.²²³ There is no cause-and-effect with this reform simply because the reform does not take into account the complexity of the system itself.

It is apparent that even though the PPACA was an incredibly large-scale reform effort, it was still reductionist in nature; it was intended to eliminate certain insurance industry abuses (rescission) and reform a particular sub-system without considering the larger system. Ultimately the PPACA resulted in higher health care costs, both from a premium perspective and from a charges perspective. However, while the focus of the PPACA has been on reforming subsystems rather than the system as a whole, this is still better than recent attempts to reform health care. The post-PPACA focus has been on simply dismantling previous reform, which is even more reckless and destructive. Recent reform efforts by the Trump Administration and the Republican-majority Congress and Senate have almost entirely consisted of attempts to repeal the PPACA, and in the absence of that, sabotaging the PPACA.

C. Post-ACA Reform

There are several examples of reductionist reform in the post-ACA reforms proposed by the Trump Administration. Instead of advancing any specific policy, the post-ACA reforms have been focused on dismantling and sabotaging the PPACA. Despite more than fifty attempts to repeal the PPACA, Congress remains unsuccessful in repealing the PPACA.²²⁴ There have been three primary types of health care “reform” that have been advanced. The first type of reform has been litigation to attack various aspects of the PPACA with the goal of destabilizing the insurance market. The second type of reform has been the discontinuance of key parts of the PPACA, and also decisions to defund various programs aimed to promote Marketplace insurance policies and assist people in enrolling. The third type of reform has been public pronouncements, made via executive order, that have the effect of introducing uncertainty into the health insurance industry. Many of these executive orders have resulted in proposed and final regulations that have

²²³ Allison K. Hoffman, *Three Models of Health Insurance: The Conceptual Pluralism of the Patient Protection and Affordable Care Act*, 159 U. PA. L. REV. 1873, 1892-93 (June 2011).

²²⁴ Tessa Berenson, *Reminder: The House Voted to Repeal Obamacare More Than 50 Times*, TIME, <http://time.com/4712725/ahca-house-repeal-votes-obamacare/> (March 24, 2017).

introduced programs that will undermine the PPACA. All three categories of reform being taken, if the challenges to the PPACA and the specific discontinuance of key parts and programs associated with the PPACA can truly be called “reform,” are reductionist in nature, that is, they are designed to address one specific aspect of the health care system.

i. Litigation Reform Efforts

Post-PPACA reform efforts have been sporadic and fragmented, being proposed without any clear strategy except to negatively impact the PPACA. Although several cases have been filed challenging various parts of the PPACA, including the individual mandate,²²⁵ contraception coverage as part of the Essential Health Benefits,²²⁶ and the tax credits,²²⁷ these legal challenges have arisen in the normal course of business and have been defended by the Executive Branch. However, in a lawsuit filed in Texas, *Texas et al. v. United States of America*,²²⁸ the Department of Justice took the unusual position of not defending a challenge to the provision in the PPACA that guarantees coverage for those with pre-existing conditions.²²⁹ Even though the District Court found the individual mandate to be unconstitutional, this decision is unlikely to be upheld and is likely to render the PPACA unconstitutional; however this lawsuit, and the decision rendered by the District Court, still introduces uncertainty into the health insurance market.

ii. Defunding of the PPACA

In addition to failing to defend the PPACA, the Trump Administration has also taken several approaches to negatively impact certain aspects of the PPACA. In October, 2017, the Acting Secretary of the Department of Health and Human Services issued a statement, supported by a

²²⁵ Including the well-publicized lawsuits, *Nat'l Fed Ind Bus v Sebelius*, 567 U.S. 519 (2012) (challenging the individual mandate requirement as an exercise of Congress's taxing power as well as the expansion of the Medicaid program).

²²⁶ *Burwell v. Hobby Lobby Stores, Inc.*, 134 S.Ct. 2751 (2014).

²²⁷ *King v. Burwell*, 135 S.Ct. 2480 (2015) (addressing claims that the tax-credits allowed for by the PPACA to allow for affordable coverage purchased on an Exchange were unconstitutional because they were being applied to Exchanges created and maintained by the federal government, rather than Exchanges established by the state. These tax-credits were found to apply to Exchanges created by the state as well as Exchanges created and maintained by the federal government).

²²⁸ *Texas et al. v. United States of America et al.*, Complaint for Declaratory and Injunctive Relief, U.S. Dist. Ct. of Tx., Fort Worth Div., Case No. 4:18-cv-00167-O.

²²⁹ Vann R. Newkirk II, *The Federal Government Abandons the Most Popular Part of the ACA*, THE ATLANTIC, <https://www.theatlantic.com/politics/archive/2018/06/aca-preexisting-conditions-doj/562442/> (June 8, 2018).

legal opinion issued by the Attorney General, discontinuing the cost-sharing reduction (CSR) subsidies that are paid to insurance companies under Section 1402 of the PPACA.²³⁰ The Attorney General opinion argues that the CSR payment program authorized by Section 1402 of the PPACA was not granted a permanent appropriation that would fund the program; absent this permanent appropriation, the CSR program would need to be funded by Congress, which did not include it in the last funding bill.²³¹ While the Obama administration defended the PPACA against these allegations in the past, the Trump administration has elected not to defend this position.²³² Although the CSR payments are owed to insurers from previous years, an issue still being litigated in the courts, the withdrawal of this funding injected uncertainty into a market that does not respond well to uncertainty (likely resulting in higher premiums to account for the potential that the CSR payments will not be made).

The Trump Administration also discontinued funding for enrollment assistance programs.²³³ Funding for the navigator programs, which provided assistance to lower income individuals, primarily through libraries and community centers, was reduced by 80%.²³⁴ Between cutting funding for the CSR program, which will result in higher premiums, and the navigator program, which will make it more difficult to enroll people in Marketplace insurance plans, the Trump Administration is creating a self-fulfilling prophecy.²³⁵ The belief that the PPACA is bad policy is being reinforced by actions that cause the PPACA to fail. These efforts to sabotage are examples of reductionist reform, trying to change the health care system by changing one aspect of it, in this case, trying to undo the PPACA.

²³⁰ Letter from Acting Secretary of HHS to Administrator of CMS, Payments to Issuers for Cost-Sharing Reductions (CSRs), file:///C:/Users/Gulick/Desktop/L%20Rev%20Paper/Systems%20Theory/csr-payment-memo.pdf (Oct. 12, 2017).

²³¹ *Id.* at 2.

²³² *Id.* at 1.

²³³ Dylan Scott, *The Trump Administration's Latest Steps to Undermine the Affordable Care Act, Explained*, VOX.COM (July 12, 2018), <https://www.vox.com/policy-and-politics/2018/7/12/17561214/obamacare-open-enrollment-2019-premiums-trump>; *See also* Carla K. Johnson, *Trump Administration Ends Affordable Care Act Assistance Contracts in 18 Cities*, PBS NEWSHOUR, (July 20, 2017), <https://www.pbs.org/newshour/health/trump-administration-ends-affordable-care-act-assistance-contracts-18-cities>.

²³⁴ *Id.*

²³⁵ Joachim Vogt Isaksen, *The Self-Fulfilling Prophecy*, POPULAR SOCIAL SCIENCE, (Dec. 27, 2012), <http://www.popularsocialscience.com/2012/12/27/the-self-fulfilling-prophecy/>.

iii. Administrative Reform Efforts

Having failed to repeal the PPACA, the Trump administration elected to use the Executive Order powers and the rule-making process to implement policies intended to destabilize and dismantle the PPACA (through a destabilization and dismantling of the individual and small group insurance market). Executive Order 13813, resulted in the Association Health Plan rule, which was intended to weaken the PPACA²³⁶ and Short-Term Limited-Duration health plans, which is designed to further dismantle the PPACA, and may actually destroy it.²³⁷ Finally, the Trump administration rescinded the penalty associated with the individual mandate, so while there is still a requirement in the PPACA that people obtain and maintain insurance coverage, they will not be penalized for not having insurance. Obviously, this increases the problem of adverse selection whereby only those that expect to have costs in excess of the premium and deductible will be inclined to purchase insurance, which will drive the insurance industry into a death spiral.²³⁸ These regulations and their impact on the health care system, will be discussed below.

In a complex health care system in which health insurance plays the primary role in health care financing, it is crucial to consider the system as a whole when implementing reform. Unfortunately, the Association Health Plan and the Short-Term Limited-Duration Rule further fragment an already fragmented insurance system. This is extremely damaging to the insurance system because the risk pools, which are already segmented between multiple insurance companies, and then segmented by Large Group, Small Group, and Individual, are being further segmented by Association Health Plans and Short-Term Limited-Duration plans.

1. Association Health Plans Rule

The Association Health Plan (AHP) Rule was finalized in response to an Executive Order titled “Promoting Healthcare Choice and Competition Across the United States.”²³⁹ The stated intent of this Rule is to promote affordable insurance coverage and allow for the sale of health insurance to

²³⁶ Robert Pear, *Trump To Issue Rule That Weakens Affordable Care Act*, NYT, (June 18, 2018), <https://www.nytimes.com/2018/06/18/us/politics/trump-health-care-association-plans.html>.

²³⁷ Dylan Scott, *Trump’s New Plan to Poke Holes in the Obamacare Markets, Explained*, Vox, (Feb. 20, 2018), <https://www.vox.com/policy-and-politics/2018/2/20/17031640/short-term-insurance-trump-obamacare>

²³⁸ Mwachofi, *supra* note 149, at 332.

²³⁹ Definition of “Employer” under Section 3(5) of ERISA - Association Health Plans, 83 Fed. Reg. 28,912 (June 21, 2018).

be done across state lines.²⁴⁰ These goals would be pursued by promoting the creation of AHPs, which would allow small groups and individuals (as “sole proprietors”) to band together under the auspices of an “Association” to purchase health insurance rated as large group insurance, rather than the small group of individual coverage they otherwise would have access to. To facilitate the classification of an Association as a large group, the definition of “Employer” in ERISA had to be modified.²⁴¹ To form an Association which can qualify as an AHP, the Association must have a nexus with its membership. That is, although the primary purpose of the Association may be to offer a health plan to its membership, the Association must also have at least one substantial business purpose unrelated to offering health insurance.²⁴² The Association must also meet certain organizational and structural requirements as well.²⁴³

Although Association Health Plans have long been considered a solution to the problem of high-cost insurance for small businesses and sole proprietors, the AHP rule recently passed was widely criticized by the very groups calling for it, including the National Federation of Independent Business (NFIB).²⁴⁴ The primary criticism of the AHP rule is that it is “unworkable” and too narrowly construed to allow for the forming of national associations (that groups like the NFIB wanted to form).²⁴⁵ The AHP rule was also designed to further dismantle and sabotage the PPACA by pulling small groups and individuals away from PPACA-coverage and putting them into large group coverage, which is exempt from many of the PPACA requirements. The fewer people in the PPACA small group and/or individual risk pool, the higher the prices (which perpetuates higher prices and eventually a death spiral for these policies).²⁴⁶

²⁴⁰ *Id.*

²⁴¹ *Id.*

²⁴² *Id.* at 28962. The question to be asked in this case is would the association be in existence even if it did not offer health insurance. However, the commentary in the final rule an association to have a “substantial business purpose,” although this could include simply educating people about the purpose of the association. Needless to say, this is not a difficult standard to meet.

²⁴³ *Id.* The Association must have a commonality of interest, although this just requires the members of the association to be in the same line of business or the same geographic area. Associations must also have an organizational structure, and be controlled, directly or indirectly, by the members of the association. The association must also have a governing body, bylaws, and must meet other general organizational requirements.

²⁴⁴ Adam Cancryn, *Trump Promised Them Better, Cheaper Health Care. It's Not Happening.*, POLITICO, (July 19, 2018), <https://www.politico.com/story/2018/07/19/trump-health-care-better-cheaper-693362>.

²⁴⁵ *Id.*

²⁴⁶ A death spiral occurs when premium prices rise, forcing people whose medical needs will not exceed the benefits offered by the policy out of the market/risk pool. As the premium price rises, only those that need the coverage remain, which continues to drive the prices upward.

The AHP rule is an example of reductionist reform because it is designed to address one particular problem associated with the health insurance market; the problem is high-prices of small group and individual health insurance. However, even the setting of insurance premiums is a complex exercise. As discussed *supra* in Section II.B, the composition of the risk pool is one factor that influences insurance premiums. As the insurance market becomes more and more fragmented, this will impact the composition of the risk pools, and will also introduce even more uncertainty into the health insurance market. The Association Health Plan rule, by further fragmenting the insurance risk pools, will only serve to facilitate rising costs in the insurance market (specifically the individual and small group markets where these people will be pulled from) and result in the Marketplace plans looking more expensive (allowing for the political claim that “Obamacare is a disaster”).²⁴⁷

2. Short-Term Limited-Duration Insurance Rule

Short-Term Limited-Duration (STLD) insurance plans are even better designed to further fragment and negatively impact the health insurance market. Short-term limited-duration (STLD) plans are specifically-designed to avoid falling under the PPACA rules by having a coverage period of less than 12-months (STLD plans are effective for 364-days and can be renewed three times, up to 36 months).²⁴⁸ STLD plans are exempt from the PPACA, so rules prohibiting pre-existing conditions, requiring guaranteed renewal, inclusion of particular benefits, and other consumer protections required by the PPACA are not applicable to STLD plans.²⁴⁹ STLD plans are subject to state regulation, so state laws will apply (although the Department of Health and Human Services rejected a request by commenters to delay the effective date of these regulations, so they are effective 60-days from publication in the Federal Register).²⁵⁰

Since STLD plans are not subject to PPACA rules and are not regulated by many states, they are free to use any methods, tools, and techniques to set premium rates. This includes methods utilized by the insurance industry prior to the enactment of the PPACA, such as medical underwriting and

²⁴⁷ Donald J. Trump (@realdonaldtrump), Twitter (October 20, 2016, 1:43 PM), <https://twitter.com/realdonaldtrump/status/791017424426504192?lang=en>.

²⁴⁸ Short-Term Limited-Duration Insurance, 83 Fed. Reg. 38, 213-15 (Aug. 3, 2018).

²⁴⁹ *Id.* at 38215-20.

²⁵⁰ *Id.* at 38226.

the imposition of pre-existing condition limitations, as well as new methods, such as the use of data sets containing all sorts of information about prospective insureds, including race, education level, television habits, marital status, and net-worth.²⁵¹ Given the unregulated nature of STLD plans, it is difficult to consider how this information will be used by these health insurers.

STLD plans are clearly reductionist reform because they seek to combat “high premium costs” by offering plans with far fewer benefits to people who have healthy risk profiles. Much like Association Health Plans, this causes even further fragmentation in an industry that benefits from larger risk pools, not smaller ones. STLD plans also create risk for people who rely on them for coverage; since these plans do not cover many benefits, insureds may find themselves relying on personal funds to cover their unexpected health care costs or may end-up receiving care in emergency rooms, with the accompanying high-costs. Nearly all of the health care groups that commented on the proposed STLD rule criticized or opposed the proposed rule.²⁵²

In this section, health care reforms have been viewed as reductionist reforms in the context of the health care financing system as a complex adaptive subsystem. The next section will consider how Systems Thinking can be applied to reduce the incidence of reductionist reform.

III. Reforming Health Care Reform by Applying Systems Thinking

Complex adaptive systems are nothing new. The challenge has been, and will continue to be, influencing these systems in a manner that delivers the intended results. This type of reform requires a holistic view of the entire system rather than a reductionist, myopic perspective. The challenges of working with complex adaptive systems have been experienced in the physical and social sciences and has even been experienced in the legal system with scholars arguing that the legal system itself is a complex adaptive system.²⁵³ This section first considers Systems Thinking,

²⁵¹ Marshall Allen, *Health Insurers are Vacuuming Up Details About You – and It Could Raise Your Rate*, 89.3 KPCC, (July 17, 2018), <http://www.scpr.org/news/2018/07/17/84784/health-insurers-are-vacuuming-up-details-about-you/>.

²⁵² Noam N. Levey, *Trump’s New Insurance Rules are Panned by Nearly Every Healthcare Group that Submitted Formal Comments*, LOS ANGELES TIMES, (May 30, 2018), <http://www.latimes.com/politics/la-na-pol-trump-insurance-opposition-20180530-story.html>.

²⁵³ J.B. Ruhl, Daniel Mrtin Katz & Michael J. Bommarito II, *Harnessing Legal Complexity: Bring Tools of Complexity Science to Bear on Improving Law*, Vol. 355, Issue 6332 SCIENCE 1377 (March 31, 2017); *see also* Havighurst, *supra* note 133 and Elhauge, *supra* note 12 for arguments supporting the premise that the various laws

and then considers the one aspect of the health care system that is perpetually ignored (from a reform perspective) despite all of the evidence pointing at this as a primary driver of our dysfunctional health care system, the cost of care. This section concludes by examining how Systems Thinking can be applied to reforming the health care system.

A. Systems Thinking Generally

Like General System Theory, Systems Thinking was developed to explain and solve problems occurring in complex, non-linear systems or organizations. The origin of Systems Thinking is generally attributed to Jay Forrester stemming from his work in system dynamics.²⁵⁴ System dynamics “arise spontaneously from internal structure” and focus on the dynamic interaction of all the elements of the system rather than any one individual agent.²⁵⁵ Barry Richmond (the originator of the term ‘systems thinking’) defines “Systems Thinking” as “the art and science of making reliable inferences about behavior by developing an increasingly deep understanding of underlying structure.”²⁵⁶ He emphasizes that people embracing Systems Thinking “position themselves such that they can see both the forest and the trees; one eye on each.”²⁵⁷ Systems Thinking has been otherwise defined as “a discipline for seeing wholes and a framework for seeing interrelationships rather than things, for seeing patterns of change rather than static snapshots.”²⁵⁸ Since the health care system, and the legal system that regulates it and provides feedback to the system are complex adaptive systems, this requires us to also consider how to reform the system in a manner that positively impacts the iron triangle of cost, access, and quality. Systems Thinking provides a conceptual framework and some tools that can be applied to these discussions. As Peter Hammer and Charla Burill stated “[e]ven the most well-intentioned intervention is likely to fail

that impact the health care industry are so specific and responsive to that particular industry that the field of Health Law should be a recognized legal discipline and that health care reform efforts would benefit by having an advisory committee of health law experts to assist in reforming the industry.

²⁵⁴ Jay W. Forrester, *Some Basic Concepts in System Dynamics*, Sloan School of Mgmt., MIT, Paper D-4894 (Jan. 29, 2009), https://www.cc.gatech.edu/classes/AY2013/cs7601_spring/papers/Forrester-SystemDynamics.pdf

²⁵⁵ WHO, *supra* note 10.

²⁵⁶ Barry Richmond, *Systems Dynamics/Systems Thinking: Let's Just Get on With It* (1994) available at, <https://www.iseesystems.com/resources/articles/download/lets-just-get-on-with-it.pdf>.

²⁵⁷ *Id.*

²⁵⁸ Raymond Caldwell, *Systems Thinking, Organizational Change and Agency: A Practice Theory Critique of Senge's Learning Organization*, JOURNAL OF CHANGE MGMT., (Mar. 23, 2012), <https://pdfs.semanticscholar.org/1508/59f57111ee34874fc91e3049841272eaabc0.pdf>; Peter Senge, THE FIFTH DISCIPLINE, THE ART AND PRACTICE OF THE LEARNING ORGANIZATION 23 (1990).

unless broader systemic implications are taken into account in the design and implementation of the undertaking.”²⁵⁹

Systems Thinking has been applied to other complex systems, such as the U.S. food system,²⁶⁰ the public health system,²⁶¹ the educational system,²⁶² understanding Canada’s health care system,²⁶³ analyzing the PPACA,²⁶⁴ and analyzing global health initiatives,²⁶⁵ to name a few. The levers identified to influence the Canadian health care system are similar to the building blocks of health care systems identified by the World Health Organization; the structure of the health care organization, human resources, incentives, and information and decision support.²⁶⁶ The U.S. health care system is massively entangled, which is why reductionist reforms, like those examined in Section II have only served to negatively impact the health care system. Systems Thinking is a method of considering the whole picture and consists of three elements of inquiry: the function or purpose of the agents within the system and the system itself; the characteristics of the agents within the system; and the interconnections and feedback loops between the agents within the system.²⁶⁷ Other organizations describe these elements differently,²⁶⁸ but they align closely with these three. These elements can be summarized as Understand, Influence, and Assess.

²⁵⁹ Peter J. Hammer & Charla M. Burill, *Global Health Initiatives and Health System Development: The Historic Quest for Positive Synergies*, 9 IND. HEALTH L. REV. 567, 597 (2012); citing Alliance for Health Policy & Systems Research & World Health Org., *Systems Thinking for Health Systems Strengthening*, World Health Organization (2009).

²⁶⁰ Sarah J. Morath, *The Farm Bill: A Wicked Problem Seeking a Systematic Solution*, 25 DUKE ENVTL. L. & POL’Y F. 389, 390 (Spring, 2015).

²⁶¹ OECD Global Science Forum, *supra* note 57; *see also* Scott J. Leischow, *Systems Thinking to Improve the Public’s Health*, 35:2S AM. J. PREV. MED. S196 (Aug. 2008).

²⁶² Sean Snyder, *The Simple, the Complicated, and the Complex: Educational Reform Through the Lens of Complexity Theory*, OECD Education Working Papers No. 96 (Dec. 12, 2013).

²⁶³ Brian R. Golden & Roger L. Martin, *Aligning the Stars: Using Systems Thinking to (Re)Design Canadian Healthcare*, 7:4 HEALTHCARE QUARTERLY 34 (2004).

²⁶⁴ John C. Williams, *A Systems Thinking Approach to Analysis of the Patient Protection and Affordable Care Act*, 21:1 J. PUBLIC HEALTH MGMT. PRAC. 6 (2015).

²⁶⁵ Hammer and Burill, *supra* note 18, at 24.

²⁶⁶ Golden and Martin, *supra* note 164, at 34.

²⁶⁷ Ross D. Arnold and Jon P. Wade, *A Definition of Systems Thinking: A Systems Approach*, 44 PROCEDIA COMPUTER SCI. 669, 670 (2015).

²⁶⁸ WHO, *supra* note 10, at 45. The World Health Organization identifies four elements of Systems Thinking, which include systems organizing, system networks, system dynamics and systems knowledge. System organizing involves taking a “big-picture” approach to considering how a system is organized. The types of rules that govern the system and set direction also need to be analyzed. System networks is the second element of Systems Thinking and involves understanding the agents within the system and each subsystem and the relationships and interdependencies within each agent. System dynamics is the third element of Systems Thinking and this involves understanding the hierarchy of the system and how behavior, decisions, and change between and among the agents occurs. Finally, the systems

Understand

The World Health Organization describes a health system as “the sum total of all the organizations, institutions, and resources whose primary purpose is to improve health.”²⁶⁹ The U.S. health care system is not designed to meet the goal of “improving health.” Instead, the purpose of the U.S. health care system is to increase profits by exploiting monopoly power, maintaining opaque pricing strategies, and creating a culture of overutilization. While some of the agents within the health care system may promote lofty mission statements promoting “compassion,” “charity care,” and “community outreach,”²⁷⁰ both for-profit and not-for-profit hospitals, insurers, and pharmaceutical companies are more focused on profit rather than improving health. The purpose and goals of the agents within the health care system also have misaligned goals, focusing on competition and maximizing profit over improving health. The history and evolution of the U.S. health care system is to blame for this misalignment of purpose; however, it is crucial to understand the true motives of these agents in order to understand the entire system, and how to ultimately reform it.

Mapping is an important aspect of Systems Thinking as it is important to understand the various agents within the system as well as the interrelationships between these agents. Different tools can be deployed to map these agents, systems, subsystems, and relationships. Tools such as systemigrams, network mapping, causal loop diagrams, sociographs, and other agent-based or multi-agent models, tools, and techniques can be deployed to map these relationships.²⁷¹ Any map of the system should include subsystems, agents within each subsystem, the interrelationships, and feedback loops between the subsystems and agents. This map should also include the health care legal system, including the regulatory agencies, applicable statutes, regulations and rules, on both the federal and state-level, as well as case law that implicates and impacts the health care system.

knowledge stage focuses on how information flows throughout the system, including feedback loops and other chains of data. This stage also highlights the importance of anticipating change rather than simply reacting to it. This is important in the context of reforming the system.

²⁶⁹ James A. Johnson, Carleen Stoskopf & Leiyu Shi, *COMPARATIVE HEALTH SYSTEMS: A GLOBAL PERSPECTIVE* (2d Jones & Bartlett)(2018) at 1.

²⁷⁰ Cory E. Cronin & Douglas S. Bolon, *Comparing Hospital Mission Statement Content in a Changing Health Care Field*, 96:1 *HOSPITAL TOPICS* 28 (2018).

²⁷¹ WHO, *supra* note 10, at 45.

Influence

Since it can be difficult, or even impossible, to control a complex adaptive system, strategies that aim to influence the system must be deployed. In order to influence a complex adaptive system, it is essential to understand the agents within the system, as well as the interactions and interfaces between and among these agents within the system. Systems Thinking can be deployed to reform a system by identifying leverage points to effectuate change.²⁷² Leverage points are parts of a system where small shifts, changes, or intervention can lead to fundamental changes to the system as a whole.²⁷³ As discussed *infra*, complex adaptive systems are dynamic, continuously learning, and constantly adapting to inputs or changes to the system. Thus, it is necessary to consider the system, and the impact of any changes to it, as patterns that develop over time rather than looking at static snapshots of the system.²⁷⁴

It is essential to understand the interconnections and feedback loops between the agents in the U.S. health care system in order to influence it and ultimately reform it. Systems Thinking requires changing the normal approach to addressing challenges in a complex adaptive system. Instead of focusing on particular events, subsystems or agents, it is necessary to employ a dynamic systems approach and to frame the “problem in terms of a pattern of behavior over time,” rather than trying to correct a particular inefficiency at one particular time.²⁷⁵ In addition, it is important to consider the behavior of the internal agents of the system who manage its policies rather than considering the outcomes of the system itself.²⁷⁶ Systems Thinking focuses on the relationships between the agents in the systems rather than just focusing on the details within the system. This can be summarized by referring to the old adage seeing the forest rather than just the trees.²⁷⁷ Operational thinking, which is understanding the causality of behavior within the system and how behavior is generated, rather than factors thinking, which is “listing factors that influence or correlate with some result, is also an important skill of Systems Thinking.²⁷⁸ Finally, loop thinking, rather than

²⁷² Johnson, Stoskopf & Shi, *supra* note 269, at 2.

²⁷³ David J. Abson et al., *Leverage Points for Sustainability Transformation*, 46 *AMBIO* 30 (2017).

²⁷⁴ Divya Vohra Behl & Susan Ferreira, *Systems Thinking: An Analysis of Key Factors and Relationships*, 36 *PROCEDIA COMPUTER SCI.* 104, 105; *see also* Johnson, *supra* note 273, at 23-24.

²⁷⁵ WHO, *supra* note 10, at 43.

²⁷⁶ *Id.*

²⁷⁷ *Id.*

²⁷⁸ *Id.*

straight-line thinking, is an important Systems Thinking skill. Loop thinking is a consideration of feedback loops and the view that causality is an on-going process rather than a one-time event while straight-line thinking views causality as running in one direction and minimizes the “interdependence and interaction between and among the [agents].”²⁷⁹

Assessment

If there is not a clear goal in enacting change, and if this goal is not measurable, it will be difficult to determine if the change or reform is having the intended effect. Predictive modeling and other tools can be deployed to anticipate any unforeseen consequences that may arise from the proposed change. The design phase of any potential reform is the most crucial because of the importance of the collective brainstorming that is inherent in Systems Thinking but also because of the planning for evaluations that is a crucial component of any reform.²⁸⁰ If a proposed reform does not have a specified goal that is measurable, it will be impossible to assess whether the reformed system is working as intended.

Once the system is mapped and understood, it is then important to consider how changes will impact the system. Systems Thinking recommends asking three questions when considering making changes to any complex adaptive system:

- (1) How can we anticipate potential effects?;
- (2) How can we conceptualize the actual behavior of the intervention?; and
- (3) How can we design a more sophisticated intervention that accounts for those potential effects?²⁸¹

Systems Thinking should be applied to any discussion about reforming the U.S. health care system. Deploying Systems Thinking when considering a complex adaptive system, such as the U.S. health care system, will allow policymakers to see the critical elements of the system, including the leverage points, and identify, and possibly anticipate, the unintended consequences that the change may create in the system.²⁸² As discussed previously, Systems Thinking calls for a “holistic”

²⁷⁹ *Id.*

²⁸⁰ *Id.* at 601.

²⁸¹ Hammer and Burill, *supra* at 151 citing Alliance for Health Policy & Systems Research & World Health Org., *Systems Thinking for Health Systems Strengthening*, World Health Organization (2009) at 51.

²⁸² Johnson, *supra* 269, at 38.

approach to understanding or changing a complex system in order to avoid reductionist reform. A holistic approach to health care reform can take several forms, but all of them involve reforming more than one aspect of the health care system either simultaneously or over a brief period of time. Systems Thinking is not a solution to all that ails the health care system, nor is it a “promise of easy answers.”²⁸³ Instead, it is a method of framing the discussion to consider reform that may actually impact cost, access, and quality within the health care system. However, there is one particular issue that has loomed over the health care system, but has not been directly addressed (through reform); the cost of services (or, more precisely, the prices charged for those services). As one public health professor notes, “[a]ll the evidence is that we haven't paid enough attention to prices.”²⁸⁴

B. The Cost (Price!) Conundrum

As notable health economist Uwe Reinhardt and his colleagues once wrote, “it’s the prices, stupid.”²⁸⁵ While many reports point to health care costs as the root cause of our failing health care system, in reality we should focus on prices. Health care costs are the expenses that go into offering health care services; those expenses associated with health care technology, with training and maintaining health care professionals, and with maintaining hospitals, such as electricity, and specialized equipment.²⁸⁶ Health care costs also take into account the expenses associated with caring for a sicker population. About 40% of the U.S. population is considered obese,²⁸⁷ which leads to high incidence of chronic conditions such as diabetes and cardiovascular disease.²⁸⁸ These costs certainly contribute to the failures associated with our health care system. However, these costs only tell part of the story.

²⁸³ Hammer and Burill, *supra* 151, at 600.

²⁸⁴ Richard Knox, *Why are U.S. Health Costs the World’s Highest? Study Affirms ‘It’s the Prices, Stupid,’* WBUR 90.9 COMMONHEALTH, <http://www.wbur.org/commonhealth/2018/03/13/us-health-costs-high-jha> (March 13, 2018) quoting Dr. Ashish Jha of the Harvard T.H. Chan School of Public Health.

²⁸⁵ Gerard F. Anderson, Uwe E. Reinhardt, Peter S. Hussey & Varduh Petrosyan, *It’s the Prices, Stupid: Why the United States is so Different from Other Countries*, Vol. 22, No. 3 HEALTH AFFAIRS 89 (May/June 2003).

²⁸⁶ See, generally Christopher Moriates, Vineet Arora & Neel Shah, UNDERSTANDING VALUE-BASED HEALTHCARE, Lange Publishing (2015), Chapter 3. In health care, the amount set by the provider or hospital is generally referred to as the charge and the amount actually paid by the patient is referred to as the price. However, in the section, the terms cost and price will be used to simplify the discussion.

²⁸⁷ *Adult Obesity Facts*, CENTERS FOR DISEASE CONTROL, <https://www.cdc.gov/obesity/data/adult.html> (last updated August 13, 2018).

²⁸⁸ HEALTHYPEOPLE.GOV, *HealthyPeople 2020*, <https://www.healthypeople.gov/2020/about/foundation-health-measures/General-Health-Status#chronic>.

A price is the amount of money charged by the seller in exchange for goods or services.²⁸⁹ Many different factors go into setting the price and many of these factors have special application in the health care industry. In a normal free-market industry, these factors typically include: market power (and competition within the market), uniqueness of the product or service, quality (or perceived quality) of the product or service, the cost associated with producing the product or service, the price of substitute products, and the price charged by competitors, to name a few.²⁹⁰ However, pricing in the health care industry is quite different, which is to be expected given the different type of economics that govern health care markets.²⁹¹ The factors that go into health care pricing include the hospital's market position, mission, ability to estimate costs, and their overall financial performance but the relationship between price and actual cost of services is rather tenuous. In fact, most hospitals do not have a system in place to adjust prices as equipment ages, so once a high price for a piece of equipment is set, it tends to stay in place.²⁹² In this case, any reform effort that is undertaken needs to address the abusive profiteering rampant in the U.S. health care system. Adam Smith's invisible hand has been handcuffed by unrestrained market power, self-perpetuating demand, and third-party payment of health care costs, which shield consumers from actual costs, and insurance companies that deliver value to shareholders not consumers.²⁹³ The market-failures in the health care market are well-documented and well-known,²⁹⁴ and all signs point to health care prices being the primary culprit behind the failing health care system in the U.S.

Although a thorough review of the cost/price-conundrum in the U.S. health care system is outside the scope of the Article, a brief review of the issue is useful. Hospital pricing has long been based upon the hospital's Chargemaster, which is a listing of what the hospital charges.²⁹⁵ There is great

²⁸⁹ Moriates, *supra* note 286, at Chapter 3.

²⁹⁰ Abbot J. Haron, *Factors Influencing Pricing Decisions*, 5:1 INT'L J. ECON. & MGMT. SCI. 1 (2016).

²⁹¹ Thomas Rice & Lynn Unruh, *THE ECONOMICS OF HEALTH RECONSIDERED* (4d Health Administration Press)(2016); *see also* Erin C. Fuse Brown, *Resurrecting Health Care Rate Regulation*, 67 HASTINGS L.J. 85 (Dec. 2015).

²⁹² The Lewin Group, *A STUDY OF HOSPITAL CHARGE SETTING PRICES*, Report for the Medicare Payment Advisory Commission, No. 05-4 at 2-4 (Dec. 2005).

²⁹³ Silver, *supra* note 24.

²⁹⁴ Rice, *supra* note 291.

²⁹⁵ George A. Nation III, *Hospital Chargemaster Insanity: Healing the Healers*, 43 PEPP. L. REV. 745 (2016); *see also* McLean, *supra* note 100.

mystery regarding how these charges are established and bear little, if any, relationship to the actual cost of the service being provided. Instead, they appear to be a hyperactive form of price discrimination (charging what the market will bear within a unique market where the supplier can induce demand).²⁹⁶ A study of hospital charge setting prices summarized comments from hospital executives responsible for setting prices as stating “[t]here is no rationality to the charge master and costs still do not have much relevance.”²⁹⁷ Although cost does not seem to be a major factor in setting prices, most hospitals reported that market information plays a major role, with some hospitals setting prices close to other hospitals in their market, except for services not available elsewhere, in which case prices were greatly inflated.²⁹⁸

In most cases, consumers are shielded from the actual charges by insurance since the insurer negotiates discounts on the charges. This creates a separate issue of moral hazard where people are incentivized to over-utilize when they are not bearing the brunt of the expense. However, these charges, or whatever discount on the charges that have been negotiated, still impact insurance premiums, as well as significant out-of-pocket expenses in the form of co-payments and deductibles that the insured is responsible for paying. As discussed *infra*, there is great variation between charges for various services, which highlights the irrationality of health care pricing by hospitals.²⁹⁹ The unilateral setting of prices by hospitals causes ripple-effects throughout the health care industry, which is to be expected in a complex adaptive system.³⁰⁰

In any other industry, this type of fictitious pricing would be subject to consumer protection laws, but most attempts to hold hospitals accountable under state consumer protection laws prove unsuccessful.³⁰¹ Fictitious pricing encompasses a wide-range of misleading pricing practices, such as “fictitious former-price comparisons, false retail-price comparisons... and bargains based on the purchase of other articles.”³⁰² The type of fictitious pricing that most closely resembles how

²⁹⁶ McLean, *supra* note 100, at 4. See also Brown, *supra* note 98 and Nation III, *supra* note 295, at 753.

²⁹⁷ The Lewin Group, *supra* note 292, at 7.

²⁹⁸ *Id.* at 14-15 and 21.

²⁹⁹ Brown, *supra* note 80.

³⁰⁰ Nation III, *supra* note 295.

³⁰¹ Huffman, *supra* note 188. See also Leah Snyder Batchis, Comment, *Can Lawsuits Help the Uninsured Access Affordable Hospital Care? Potential Theories for Uninsured Patients*, 78 TEMP. L. REV. 493 (Summer 2005).

³⁰² David Adam Friedman, *Reconsidering Fictitious Pricing*, 100 MINN. L. REV. 921 (Feb. 2016); see also Nation III, *supra* note 295.

hospitals price health care services is “improper discounting” where retailers post an “anchor” price that they then discount from, creating the illusion of a discount.³⁰³ Federal Trade Commission guidance requires discount-pricing to be truthful in representing the former price.³⁰⁴ However, in the health care industry, since the anchor price or the proposed discounting is not presented directly to the consumer, it is not within the enforcement of the FTC. Hospitals routinely inflate the prices listed in their Chargemasters to serve as an anchor price in negotiations with insurance companies, which they then discount.³⁰⁵ Therefore, a 100% mark-up with a 50% discount still nets a 50% profit.

Even not-for-profit hospitals, which have the tax status of a charitable organization, do not bring affordability to the health care system, in part because they have to compete with for-profit organizations.³⁰⁶ However, not-for-profit hospitals are just as profitable, sometimes more so, as their for-profit counterparts,³⁰⁷ although profits are down in the past few years.³⁰⁸ Of the 4,840 community hospitals in the U.S., approximately 59% are not-for-profit organizations and 21% are for-profit (investor owned) corporations.³⁰⁹ Not-for-profit hospitals are not subject to state and federal taxes in exchange for offering a community benefit. This is a change from previous IRS guidance which required not-for-profits to deliver charitable care.³¹⁰ The change to “community benefit” has been beneficial for not-for-profits since the standard for community benefit is a much broader term allowing for many different ways to meet the standard.³¹¹ There is considerable

³⁰³ *Id.* at 928.

³⁰⁴ *Id.* at 928-29

³⁰⁵ Ge Bai and Gerard F. Anderson, *US Hospitals Are Still Using Chargemaster Markups to Maximize Revenues*, 35:9 HEALTH AFFAIRS 1658 (2016); *see also* Nation III, *supra* note 295, at 748 (chargemaster prices have been found to be ten times the amount hospitals routinely accept from insurers as payment in full).

³⁰⁶ George A. Nation III, *Non-Profit Charitable Tax-Exempt Hospitals - Wolves in Sheep's Clothing: To Increase Fairness and Enhance Competition in Health Care All Hospitals Should Be For-Profit and Taxable*, 42 RUTGERS L.J. 141, 182-185 (Fall, 2010).

³⁰⁷ John Commins, *7 of 10 Most Profitable Hospitals are NFPs*, HEALTHLEADERS (May 4, 2016), <https://www.healthleadersmedia.com/finance/7-10-most-profitable-hospitals-are-nfps>.

³⁰⁸ Rich Daly, *NFP Hospital Outlook Negative for 2018: Rating Agencies*, HFMA (Dec. 13, 2017), <http://www.hfma.org/Content.aspx?id=57297>.

³⁰⁹ *Fast Facts on U.S. Hospitals*, AMERICAN HOSPITAL ASSOCIATION (2018), <https://www.aha.org/system/files/2018-02/2018-aha-hospital-fast-facts.pdf>.

³¹⁰ Nation III, *supra* note 306.

³¹¹ *Id.*

debate over the granting of this status given the current state of competition in the industry and the behavior of the profit-seeking “commercial nonprofits.”³¹²

One of the arguments in support of inflated health care prices is cost-shifting. Cost-shifting occurs when hospitals raise the prices they charge private insurance companies (and the un-insured) to make-up for short-falls caused by insufficient payments from government programs, specifically Medicare and Medicaid, that supposedly do not cover the costs associated with delivering the services.³¹³ Health delivery systems point to cost-shifting as a major reason for high health care costs, but there is debate over the implications of (or need for) cost-shifting.³¹⁴ Cost-shifting, whether actual or perceived, is an example of how change to one part of the health care financing subsystem, in this case Medicare reimbursement rates, changes a different part of the subsystem, like the rates charged to private insurance companies.

The problem with pricing in the U.S. health care market is largely attributed to the market power of providers.³¹⁵ The ability to set prices is consistent with market power, and in the health care system is exacerbated by several different market failures, including information asymmetries, non-competitive markets with monopoly pricing, and moral hazard associated with third-party payers, to name a few.³¹⁶ Several different approaches have been proposed to address these market failures, including promoting consumerism and transparency in pricing, increasing antitrust enforcement, shifting from fee-for-service to value-based payment and bundled payment methodologies, and improving consumer protections. But the most successful solution has been rate regulation.³¹⁷ However, rate regulation has been a political hot-potato and has lacked staying power.³¹⁸

³¹² Thomas L. Greaney and Kathleen M. Boozang, *Mission, Margin, and Trust in the Nonprofit Health Care Enterprise*, 5 YALE J. HEALTH POL'Y & ETHICS 1, 6 (Winter 2005).

³¹³ Austin B. Frakt, *How Much Do Hospitals Cost Shift? A Review of the Evidence*, 89:1 THE MILBANK QUARTERLY 90 (2011).

³¹⁴ See, generally Austin B. Frakt, *How Much Do Hospitals Cost Shift? A Review of the Evidence*, 89:1 THE MILBANK QUARTERLY 90 (2011).

³¹⁵ Fuse Brown, *supra* 108 at 44.

³¹⁶ Fuse Brown, *supra* note 80.

³¹⁷ *Id.* at 89.

³¹⁸ Fuse Brown, *supra* 108 at 110.

Like many other health care reform efforts, rate regulation has been attempted repeatedly in the United States.³¹⁹ Since the 1960's, at least nine states have implemented some form of rate regulation, with Maryland being the only state standing.³²⁰ Maryland's success can be attributed to several factors,³²¹ although its Medicare waiver, which allows for Medicare rates to be included in its rate setting formula, is the most likely success factor. This waiver, even though it set a ceiling for hospital rates, also had the benefit of raising Medicare rates.³²² Maryland's adoption of rate regulation and subsequent transition to a global budget revenue model for hospitals, has successfully kept health care costs down in Maryland, while high utilization rates remain an issue.³²³ Though rate regulation remains a promising method of managing health care charges, and subsequently costs, other proposals, such as placing a cap on the amount providers are permitted to charge, is also an option.³²⁴ Other aspects of cost control, like targeting pharmaceutical pricing, also need to be considered. Presently, CMS is prohibited from negotiating with the pharmaceutical industry for the Medicare Part D program, and this needs to be addressed in conjunction with any cost reform.³²⁵ A full review of the absurdity of pharmaceutical process is beyond the scope of this Article, but the issue is being studied by the Federal government;³²⁶ although it does not appear that simply "studying" the issue will have any effect on the industry when their executives believe they have a "moral requirement" to raise the price of an important antibiotic by 400%.³²⁷

³¹⁹ John E. McDonough, *Tracking the Demise of State Hospital Rate Setting*, 16:1 HEALTH AFFAIRS 142 (Jan/Feb 1997).

³²⁰ *Id.* Connecticut, Maine, Massachusetts, Minnesota, New Jersey, New York, Washington and Wisconsin have all implemented rate setting schemes and ultimately deregulated these schemes due to various factors including pressures by payers to negotiate rates, the complexity of the rate setting regulations, and political pressures.

³²¹ *Id.*

³²² Fuse Brown, *supra* note 80.

³²³ Nelson Sabatini, Joseph P. Antos, Howard Haft, and Donna Kinzer, *Maryland's All-Payer Model – Achievements, Challenges, and Next Steps*, HEALTH AFFAIRS BLOG (Jan. 31, 2017).

³²⁴ Fuse Brown, *supra* note 80 at 133.

³²⁵ John B. Kirkwood, *Buyer Power and Healthcare Prices*, 91 WASH. L. REV. 253, 262 (March, 2016).

³²⁶ S. Rep. No. 114-429 (2016), SPECIAL REPORT OF THE U.S. SENATE SPECIAL COMMITTEE ON AGING ON THE SUDDEN PRICE SPIKES IN OFF-PATIENT PRESCRIPTION DRUGS: THE MONOPOLY BUSINESS MODEL THAT HARMS PATIENTS, TAXPAYERS, AND THE U.S. HEALTH CARE SYSTEM.

³²⁷ Wayne Drash, *Report: Pharma Exec says he had 'moral requirement' to Raise Drug Price 400%*, CNN (Sept. 12, 2018) <https://www.cnn.com/2018/09/11/health/drug-price-hike-moral-requirement-bn/index.html>.

C. A Systems Thinking Approach to Health Care Reform

Although it may be counterintuitive, the optimal way to influence a complex adaptive system is to reduce the amount of regulation imposed on the system, in essence, deregulate the system. “As more regulations are created to control the behavior of the complex system, the more the system may deviate from the desired outcome.”³²⁸ However, this does not necessarily mean that simply getting rid of the rules and regulations in the health care system will result in the optimal delivery of cost-effective health care services. Recall, the U.S. health care system evolved from a relatively simple free-market system and the market evolved and adapted to the various feedback loops and behaviors of the other agents, as well as the external controls provided by the legal system. Attempts to constrain or control the system through regulation, whether it was the expansion of managed care, ERISA, the PPACA or the Association Health Plan and Short-Term Limited-Duration Health Plan rules, simply made the system worse; the agents adapted to the changes to become even more profitable. Deregulation in the other direction, that is, universal coverage, may be a more sensible solution.

“Universal coverage” is a generic term and does not necessarily mean “government-sponsored health care” or “socialized medicine.” “Universal Coverage” simply means that all individuals in that country have access to health care. This access to care can be direct, assuming the care is affordable, through insurance coverage, or through some other means of financing. Access to care can also be accomplished by requiring people to have insurance, which provides access to care through the insurance coverage. Universal coverage should be the goal of all health systems rather than simply a description of a system. There are different ways of achieving universal coverage that have been adopted by different countries.

Although the term is used generally and pejoratively, true “socialized medicine” is health care that is both financed and administered by a government agency.³²⁹ An example of this type of system

³²⁸ Lipsitz, *supra* note 129 at 243-244, citing Plsek, P. CROSSING THE QUALITY CHASM: A NEW HEALTH SYSTEM FOR THE 21ST CENTURY. Washington DC: The National Academies Press; 2001 at 13. Redesigning health care with insights from the science of complex adaptive systems.

³²⁹ Andre Hampton, *Markets, Myths, and a Man on the Moon: Aiding and Abetting America's Flight from Health Insurance*, 52 RUTGERS L. REV. 987, 992-993 (Summer 2000).

is the National Health Service (NHS) in the United Kingdom where hospitals and providers are employed by the NHS, and services delivered by the NHS are financed by the British government.³³⁰ By way of comparison, “socialized insurance,” also known as a “single-payer system,” is government financed coverage delivered through a private subsystem of providers.³³¹ Given that the government has monopsony power, it sets prices in the health care market. Canada adopted this single-payer model and utilizes pre-set global budgets to compensate hospitals.³³² The single-payer model is also similar to the Medicare program in the U.S. A third-type of system, which is a form of socialized insurance, is a tightly-regulated mandatory insurance market where insurance is subsidized by the government, but offered through an insurance market comprised of public and private insurers.³³³ In this system, which Germany adopted and is sometimes referred to as the Bismarck system, the government maintains tight-control over the insurance market.³³⁴ The German government does not finance or pay for the provision of services; instead, insurance is funded by contribution to “sickness funds” based on income.³³⁵ The German government still maintains a centralized risk-pooling function for the sickness funds, allowing it to negotiate with hospitals and providers (establishing a fee code for doctors), similar to the Medicare Fee Schedule.³³⁶ Although the term “universal coverage” and the more pejorative term “socialized medicine” are considered un-American,³³⁷ many of these national health systems still have competitive marketplaces and provide coverage for all of their citizens. Fewer opportunities for profiteering is the biggest difference.

Systems Thinking instructs us to consider holistic reform and focus on particular “leverage points” that can be targeted to effectuate more systemic change.³³⁸ Complexity arises from the structure of the system, so it is important to understand the structure to identify potential leverage points.³³⁹

³³⁰ Johnson, *supra* 269, at 38.

³³¹ Hampton, *supra* note 329; *see also* Johnson, *supra* 269, at 38.

³³² Uwe E. Reinhardt, *Reforming the Health Care System: The Universal Dilemma*, 19 AM. J.L. AND MED. 21, 25 (1993).

³³³ Hampton, *supra* note 329; *see also* Johnson & Anderson, *supra* note 2.

³³⁴ Johnson & Anderson, *supra* note 2.

³³⁵ *Id.* at 11010.

³³⁶ *Id.* at 11528.

³³⁷ Reinhardt, *supra* note 190.

³³⁸ Johnson & Anderson, *supra* note 2, at 2.

³³⁹ Martinez-Garcia, *supra* note 56, at 114.

Complexity science suggests that it is often better to try multiple approaches and let direction arise by gradually shifting time and attention towards those that work best.³⁴⁰ To that end, health care reform has to be implemented at several different leverage points to best reform and influence the system. Specific goals and measures also have to be adopted to determine what is working and what is not, allowing for adjustments to be made. A Systems Thinking approach to health care reform will involve a holistic approach, considering all three vertices of the iron triangle, access, quality, and cost. The leverage points considered below draw from this iron triangle and focus on access, quality, and cost. The conclusion is that a coordinated effort must be made to influence several or all leverage points in order to reform the system.

This multi-pronged reform effort will involve adopting a Medicare Advantage-type system for all Americans where the government is the single-payer using the private health insurance market to maintain competition in the market. By adopting the Medicare fee schedule among all providers (adjusting the Medicare fee schedule to expand value-based payments and adjusting reimbursement by 125-150%), providers will no longer be able to unilaterally set prices. Instead, providers will have to compete in quality and innovation to improve efficiencies and their bottom line. Reforms will also be necessary to remove incentives to over-utilize services. Medical malpractice tort reform and payment reform must also be considered. Value-based pricing will also reduce over-utilization. Finally, a level playing field will be necessary; so, addressing not-for-profit status among providers and insurers should also be considered.

Access

Although access to the health care system should involve issues such as health provider shortages and other issues related to accommodating the health care needs of all people, discussions about access to care generally involve the financing of health care; how can we get more people covered by health insurance? Since health insurance plays an oversized role in the U.S. for health care financing, this is a natural inclination. However, cramming more people into the private health insurance market does not have to be the only solution, especially since the insurance system is too fragmented and incapable of keeping costs and prices down. In fact, the private health

³⁴⁰ Plsek, *supra* note 73, at 62.

insurance industry has not been shown to be an effective manager of health care funds.³⁴¹ Thus, one leverage point to target is the health insurance system, specifically the employer-based health insurance system.

Premiums for employer-based health insurance has increased 19% since 2012 and 55% since 2007.³⁴² The average worker contributes 18% of the cost of the premium for an individual plan, 31% for a family plan, and 81% of these plans have a deductible, which rises every year.³⁴³ The size of the company impacts whether health benefits are offered, with 96% of large companies (over 100 employees) offering coverage to at least some of their workers and 53% of small companies (under 25 employees) offering some coverage.³⁴⁴ Sixty percent of all companies are self-funded.³⁴⁵ Self-funded plans are regulated by the Department of Labor which enforces ERISA, and are exempt from most state-laws.³⁴⁶ Employer-based insurance also segments risk pools into self-funded plans, large group, and small group. Health insurers have not demonstrated an ability to effectively manage health care costs, nor have they been able to improve health.³⁴⁷ Employer-based health insurance is one of the leading, if not the single most, contributor to health care costs in the U.S. because employers “are the sloppiest purchasers of health care anywhere in the world.”³⁴⁸ Various reductionist reforms have targeted the health insurance industry, including parts of the PPACA such as medical-loss ratios and rate reviews, but they have been not been shown to address rising premiums.³⁴⁹ Although there is some evidence that access to health insurance improves overall health,³⁵⁰ it is possible that a free-market health insurance industry may not be the best way to deliver this insurance. Thus, reforming the system to simply increase access to health insurance, while an important part of reform, is insufficient by itself.

³⁴¹ Uwe E. Reinhardt, *The Culprit Behind High U.S. Health Care Prices*, NYT ECONOMIX (June 7, 2013).

³⁴² Gary Claxton et al., EMPLOYER HEALTH BENEFITS: 2017 ANNUAL SURVEY, The Kaiser Family Foundation and Health Research & Educational Trust 4 (2017).

³⁴³ *Id.* at 5-8.

³⁴⁴ *Id.* at 40.

³⁴⁵ *Id.* at 164.

³⁴⁶ Monahan, *supra* note 82.

³⁴⁷ *Id.*

³⁴⁸ Reinhardt, *supra* note 332.

³⁴⁹ Cogan Jr., *supra* note 218.

³⁵⁰ Benjamin D. Sommers, Atul A. Gawande, & Katherine Baicker, *Health Insurance Coverage and Health – What the Recent Evidence Tells Us*, 377 NEJM 586 (Aug. 10, 2017).

Although the suggestion to eliminate employer-based health insurance has been made many times before, it generally has not been part of a broader reform effort.³⁵¹ In some cases, there were suggestions to eliminate the tax credit associated with purchasing employer-based insurance, in others, simply eliminating this altogether. Indeed, the elimination of the employer-based health insurance tax was discussed at length in the debates leading up to the enactment of the PPACA.³⁵² Employer-based health insurance serves to segment the risk pool, creating a special class of insureds subject to special rules (or a different set of rules in the case of self-insured employers). By eliminating employer-based insurance and moving everyone into one single risk pool (subject to the rules set forth in the ACA, such as no rescission, medical underwriting, or pre-existing conditions), the government could use the \$150.1 billion that was not collected because of the tax credit on employer-based health insurance, and use that to support subsidies similar to those found in the PPACA.³⁵³

If access through the insurance market is the goal, eliminating employer-based health insurance in favor of a mandatory enrollment in the individual market may be a better solution. It would be important to maintain the reforms, such as a minimum benefit package and prohibitions on excluding pre-existing conditions or using medical underwriting. This reform would also allow the insurance market to become more competitive by standardizing all coverage and expanding the risk pools. However, this alone would not drive premiums or health care costs down, generally. Indeed, this would likely not have much more of an effect than the PPACA. Although this system resembles the Bismarck system, it is doubtful that insurance companies would have any more leverage in negotiations with insurance companies than they already have. Additional reforms are also necessary.

³⁵¹ David A. Hyman & Mark Hall, *Two Cheers for Employment-Based Health Insurance*, 2 YALE J. HEALTH POL'Y & ETHICS 23 (2001). Although this article provides a background on some of the proposals to eliminate or modify the employer-based health insurance benefit, as the title indicates, the authors certainly do not favor this approach.

³⁵² Sean Lowry, *The Excise Tax on High-Cost Employer Sponsored Health Coverage: Background and Economic Analysis*, CONGRESSIONAL RESEARCH SERVICE (August 20, 2015).

³⁵³ *Id.* at 5.

Quality

The U.S. health care system is beset with over-utilization problems negatively impacting the quality of care.³⁵⁴ The specter of malpractice plaintiff attorneys encourages defensive medicine, which drives over-utilization.³⁵⁵ The fee-for-service payment methodology rewards this defensive behavior by reimbursing every additional procedure and test. Reforms targeting fee-for-service and medical malpractice liability need to be considered as part of a holistic reform.

The practice of “defensive medicine” impacts quality and cost, specifically the overutilization associated with defensive medicine. Defensive medicine is the idea that providers over-prescribe services in order to protect themselves from potential malpractice liability should the patient have an adverse outcome.³⁵⁶ Although it is highly debated what impact defensive medicine has on health care costs, especially since it is difficult to quantify the effects, costs associated with defensive medicine could be in the billions of dollars.³⁵⁷ It has been stated that “[d]efensive medicine enhances revenue without adding value.”³⁵⁸ Tort reform is a more difficult matter because each state is responsible for policing its own providers and administering its own medical standard. At the federal level, the comparative effectiveness research promoted by the PPACA could be applied to medical malpractice to create a minimum standard of care from which a provider could be insulated from malpractice claims.³⁵⁹ Other tort reforms, like caps on non-economic damages, safe-harbors for doctors who practice within guidelines established by

³⁵⁴ Wendy Netter Epstein, *The Health Insurer Nudge*, 91 S. CAL. L. REV. 593 (May 2018).

³⁵⁵ James F. Blumstein, *Medical Malpractice Standard-Setting: Developing Malpractice “Safe Harbors” as a New Role for QIOs?*, 59 VAND. L. REV. 1017, 1038-39 (May 2006).

³⁵⁶ Nelson III, *supra* note 41 at 471. This is known as positive defensive medicine. Another type of defensive medicine, referred to as negative defensive medicine, involves avoiding certain types of patients or procedures for fear of malpractice liability. See also Ronen Avraham, *President Obama’s First Two Years: A Legal Reflection: Private Regulation*, 34 HARV. J.L. & PUB. POL’Y 543 (Spring, 2011).

³⁵⁷ *Id.* at 472-73. Studies of defensive medicine tend to involve surveys of physicians, who have incentives to overinflate the problem of defensive medicine with the hope that it will led to tort reform. See also Steven E. Raper, *Announcing Remedies for Medical Injury: A Proposal for Medical Liability Reform Based on the Patient Protection and Affordable Care Act*, 16 J. HEALTH CARE L & POL’Y 309, 319-26 (2013).

³⁵⁸ Sage, *supra* note 35, at 565.

³⁵⁹ Ronen Avraham, *Overlooked and Underused: Clinical Practice Guidelines and Malpractice Liability for Independent Physicians*, 20 CONN. INS. L.J. 273, 286-88 (2013-2014); See also Ronen Avraham, *President Obama’s First Two Years: A Legal Reflection: Private Regulation*, 34 HARV. J.L. & PUB. POL’Y 543, 549-50 (Spring, 2011), suggesting that “[a]s articulated in several reform proposals, doctors should be immune from medical malpractice lawsuits if they comply with evidence-based medical guidelines.”

Professional Standard Review Organizations (now known as Quality Improvement Organizations),³⁶⁰ and malpractice screening panels need to be considered.³⁶¹

While the impact of fee-for-service reimbursement is better understood than the impact of defensive medicine, both practices very likely result in increased utilization in the health care system, which leads to higher costs. Over-utilization is also driven by the fee-for-service payment methodology, which rewards providers each time they deliver a service.³⁶² Movement towards value-based payment models, such as bundled payments, have shown some promise and these initiatives should be considered. The Medicare program, with its use of Diagnosis Related Groups (DRGs) in paying providers allows for a global payment based upon data that incentivizes providers to be more efficient in their care.

Cost/Pricing

Finally, perhaps the most important step, address health care pricing and health care costs. Most reform efforts to date, at least on the federal level, have not addressed cost or pricing. Even the PPACA, which was the most comprehensive reform effort in over 50-years, did not directly address the cost of health care. In fairness, the idea behind the PPACA was the competition in the insurance market, along with an influx of people to the insurance market and less cost-shifting from hospitals (due to the expansion of the Medicaid program) would give insurers more negotiating power to negotiate better rates with health care providers to lower insurance premiums, and ultimately health care costs. This cascade of cause-and-effect did not happen, much like the Wile-e-Coyote's elaborate schemes always failed to net the Roadrunner. Unilateral cause-and-effect is not a characteristic of complex adaptive systems.

There are two different levers that can be pulled to address health care costs. The first is to address fictitious pricing by imposing a rate cap using the Medicare Fee Schedule as the starting point (since there is actually some data analysis that goes into the development of this schedule). If the U.S. moves away from employer-based health insurance, people could purchase policies in the

³⁶⁰ Blumstein, *supra* note 355.

³⁶¹ Nelson III, *supra* 41, at 456.

³⁶² *Id.*

individual market from private insurers, who administer a version of Medicare-for-all (the same model as Medicare Advantage). The Medicare Fee Schedule, plus a certain percentage to account for the larger population and the reduction in profiteering, can be adopted. Capping 125% of the Medicare Fee Schedule has been proposed,³⁶³ as has larger percentages, such as 150% to 175%,³⁶⁴ but studies suggest that the maximum cap on rates may have to be higher than 175%.³⁶⁵ In addition, fee-for-service would be phased out in favor of value-based pricing and the use of Diagnosis-Related Groups (DRGs) to encourage an environment of continuous process improvement. The second lever would be to put all hospitals on the same competitive playing field by converting them all to either not-for-profit status or for-profit status. Although scholars have advocated for for-profit status,³⁶⁶ it should not matter as long as they are uniform. By imposing a uniform fee schedule (taking into account the factors that Medicare currently considers, like geography), competition shifts away from consolidation and market power to a focus on efficiencies. Antitrust laws would have to be reconsidered to ensure that the new wave of competition in the health care industry is recognized.

Legal System

The U.S. legal system is ill-equipped to address issues in the health care system for several reasons. The complex characteristics of the health care system renders traditional areas of law ineffective in regulating the system. For example, the system of antitrust law is ill-equipped to regulate competition in the health care system. One reason is that antitrust law is premised on a neoclassical economic model and the perfect competition ideal. The neoclassical economic model and perfect competition does not exist in the U.S. health care system.³⁶⁷ Another reason is that a merger that does not impact competition in a traditional market has significant impact on competition in the

³⁶³ Jonathan Skinner, Elliott Fisher & James Weinstein, *The 125 Percent Solution: Fixing Variations in Health Care Prices*, HEALTH AFFAIRS BLOG, <https://www.healthaffairs.org/doi/10.1377/hblog20140826.041002/full/>.

³⁶⁴ Fuse Brown, *supra* note 108, at 102, citing Robert Murray, *The Case for a Coordinated System of Provider Payments in the United States*, 37 J. HEALTH POL. POL'Y & L. 679, 689 (2012).

³⁶⁵ *Id.*, citing Thomas M. Selden, Zeynal Karaca, Patricia Keenen, Chapin White & Richard Kronick, *The Growing Difference Between Public and Private Payment Rates for Inpatient Hospital Care*, 34 HEALTH AFF. 2147, 2148-49 (2015).

³⁶⁶ Nelson III, *supra* note 41.

³⁶⁷ Rice, *supra* note 291.

health care market.³⁶⁸ Geographic cross-market mergers, which involve mergers between entities in different geographic markets, are not considered to be competitive in a traditional market because the entities do not compete.³⁶⁹ However, geographic cross-market mergers can be anti-competitive under certain conditions in health care markets, especially if there are insurance companies that do business in both of the markets.³⁷⁰ Any proposed health care reform must consider reform of the legal system that regulates the health care system. One proposal is to create a consortium of health care law experts to advise the various parts of the legal system that regulate the health care system.³⁷¹ A full analysis of the inadequacies of the legal system as applied to health care is outside the scope of this Article, and has been documented elsewhere,³⁷² but any Systems Thinking approach must consider this aspect of the health care system. This holistic approach, focusing on the levers that impact access, quality, and cost, will hopefully influence the health care market to move towards a more affordable system with the best of both worlds, guaranteed access and competition. Eventually, the cost of medical education and other obstacles to these discussions will also be addressed.

Conclusion

It is clear that the current structure of the U.S. health care system is not working (no matter how you define “working”). A major reason for this is the way that the health care system evolved through the years without any guiding principles or planning. Changes to the health care system have been unsuccessful because there is a fundamental misunderstanding of how the system works. The U.S. health care system is not a linear system which can be broken down, fixed, then reassembled. Indeed, this type of reductionist reform has failed, whether it was the rise of managed care, the PPACA, or recent efforts to sabotage and destroy the PPACA.

The U.S. health care system, and the legal system and economic systems that influence the health care system, are complex adaptive systems, which require a different approach. It is difficult to

³⁶⁸ Jaime S. King & Erin C. Fuse Brown, *The Anti-Competitive Potential of Cross-Market Mergers in Health Care*, 11 ST. LOUIS U. J. HEALTH L. & POL’Y 43, 45-46 (2017).

³⁶⁹ *Id.*

³⁷⁰ *Id.* at 46.

³⁷¹ Havighurst, *supra* note 133, at 18-19.

³⁷² Bloche, *supra* note 84; *see also* Elhauge, *supra* note 12.

change a complex adaptive system, it is best to try and understand it and find ways to influence it to meet intended objectives. Systems Thinking provides a methodology that can be used to understand the system, learn how and where to influence it, and then assess whether the changes provide the intended effect. Systems Thinking encourages a holistic approach to reforming a system.

As applied to the U.S. health care system, a holistic approach involves reforming different aspects of the system, in this case access, quality, and cost, to see what works and what does not. Moving towards a Medicare-for-all system, administered by private insurance (similar to the Medicare Advantage program), coupled with quality reforms, such as movement away from fee-for-service and reforms to address defensive medicine, will greatly impact the health care system. However, any reform effort undertaken must address the cost of care. To this point, the adoption of the Medicare fee schedule (at a particular percentage of the current fee schedule) will have a positive impact. Finally, the legal system must be better adapted to the health care system and policymakers must better understand the economics of the health care system. Only through holistic reform can the U.S. move forward with a health care system that better meets the needs of its citizens.

It is also clear that the U.S. needs to come to terms with managing the complexities of the health care system and the question of whether Americans have a right to health care. Whether the right to health care is rooted in property law,³⁷³ the law of public goods,³⁷⁴ or it exists as a fundamental human right,³⁷⁵ it is clear that Americans deserve better from their health care system.

³⁷³ Mark Earnest & Dayna Bowen Matthew, *A Property Right to Medical Care*, 29 J. LEGAL MED. 65 (2008).

³⁷⁴ Nicholas Bagley, *Medicine As a Public Calling*, 114 MICH. L. REV. 57 (Oct. 2015).

³⁷⁵ Jean Connolly Carmalt, *Holding the U.S. Accountable: How American Health Care Fails to Meet International Human Rights Standards*, 11 N.Y. CITY L. REV. 359 (2008).