

PART I

INTRODUCTION TO HEALTH CARE MANAGEMENT

Part I provides an overview of the management issues facing the U.S. health care system. The premarket approval process for medical products is described in Chapter 2.

Chapter 1 Processes for Thinking About the U.S. Health Care System

Chapter 2 Introduction to Health Law



CHAPTER 1



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Processes for Thinking About the U.S. Health Care System

“How strange is the lot of us mortals? Each of us is here for a brief sojourn; for what purpose he knows not, though he sometimes thinks he senses it. But without deeper reflection one knows from daily life that one exists for other people—first of all for those upon whose smiles and well-being our own happiness is wholly dependent, and then for the many, unknown to us, to whose destinies we are bound by the ties of sympathy. A hundred times every day I remind myself that my inner and outer life are based on the labors of other men, living and dead, and that I must exert myself in order to give in the same measure as I have received and am still receiving...”

— **Albert Einstein** (1879–1955), Theoretical Physicist, From *The World As I See It*

IN BRIEF^{LNI}

This chapter describes how the greatest obstacle to transforming the U.S. health care system may be the nation’s collective thinking. A simple idea in theory—that what is seen and acted upon is more a product of what is inside our heads than what is out in the world—has far-reaching implications for the nation’s approach to health care. The nation’s mental models may both create and limit opportunities.

LEARNING OBJECTIVES

Upon completion of this chapter readers should be able to:

1. Explain how the nation’s collective thinking may be the greatest obstacle to transforming the U.S. health care system.
2. Understand the fallacy of imputing internal mental models to correspond with external sensory stimuli.
3. Begin to cultivate how best to see things differently in the health care industry.
4. Consider new ideas while retaining the best of the old and current ideas.
5. Uncover sources for new ideas to transform the U.S. health care system.
6. Establish and evaluate various perspectives from which to understand the U.S. health care system.

KEY TERMS

Adaptive disconnects
Affordable Care Act of 2010
Cognitive neuroscience
Coinsurance

Compliance overhead
Co-payments
Cost limits
Cost-shifting

Deductible
Electronic health records
End-users
Evidence-based medicine

Fairness
Federal tax code
Genomics
Health care delivery systems
Health information network
Health Information Technology and Economic and Clinical Health Act of 2009

Health status
High-deductible health insurance plans
Incentives
Internal models
Mental models
Micro-trends
Minimum coverage provision

National Organization for Rare Disorders
Neuroscience of mental models
Orphan Drug Act of 1983
Precision medicine
Private health insurance premiums
Reprocessed medical devices
Right to health care

FACT OR FICTION

Gorillas in Our Field of Vision

When thinking of the U.S. health care system, the question to keep in mind is: are we failing to see the gorillas moving through our field of vision?

Human memory and perception are very malleable and can be much more so than we think. For instance, in one research study, subjects were asked to watch a video and count the number of times players with white shirts passed a basketball. Most of the subjects achieved a fairly accurate account of the passes, but less than half saw something more important: a person in a black gorilla costume walking right into the center of the action and then moving off. More than half the subjects were so involved in the counting task that they could not see the gorilla, an entire gorilla, right in front of their eyes!

It is sobering to consider. Mental models and attention create blinders that limit what our human brain sees. We should be asking ourselves, what is it that makes mental models (relationships and concepts) of the U.S. health care system so difficult to recognize and change?

— See Law Fact at the end of this chapter for the answer.

Data from: Chabris, C. F., & Simons, D. (2010). *The invisible gorilla: And other ways our intuitions deceive us*. New York, NY: Crown Publishing Group; Wind, J. R., & Crook, C. (2007). *The power of impossible thinking: Transform the business of your life and the life of your business*. Philadelphia, PA: Pearson Prentice Hall-Wharton School Publishing.

Principles and Applications

The gorillas that we see (or fail to see) in our field of vision are determined by our **mental models**, or the hypotheses in our minds as to what exists (subjects in shirts passing a basketball or something more). This text defines mental models in terms of **cognitive neuroscience**. Mental models are internal patterns in the brain evoked by neural activity. Sensory stimuli flow into the cortex and evoke internal patterns, which the brain uses to represent the external situation. We think we see the real world, but we actually see the neural patterns or mental models (or structured relationships and concepts) already in our minds. We do not see the sensory stimuli we take in; we see the mental models evoked by our neural activity (*See generally* Freeman, 2001 and 1995).^{LN2}

The focus of this chapter and, indeed, this text, is how we can best cultivate an ability to see health care differently, without casting aside all new ideas as preposterous, and without losing all perspective on the past and present. The goal is to embark on a journey toward discovering a better U.S. health care system by considering new ideas while retaining the best of the old and present ideas. For instance, we should be asking:

- What fresh perspectives can be discovered by exploring new medical technologies, new medical products, and new and different systems of delivering health care to different consumer segments?
- What wisdom and opportunities can be found in seemingly out-of-the-ordinary ideas?
- Where should these new ideas come from?
- Which perspectives should be retained in order to make sense of new ones?

The nation's collective thinking may be the obstacle to the impossible concept of an effective, efficient, high-quality health care system that is accessible to every member of society. To transform the nation's health care

organizations to achieve this quality health care for everyone will require a transformation of our idea of what constitutes health (Keith, 2015).

New Approach to Health Care

Changing the nation's thinking about health care creates powerful opportunities for action. The health care industry plays a major role in the U.S. economy and by almost any objective account, a highly positive role. The health care industry employs over 12 million Americans and accounts for 1 out of 8 jobs in the United States (BLS, 2014). Admitting blindness in completely understanding such a complex system could be the beginning of newfound wisdom; in other words, any reform of the U.S. health care system will first require acknowledging the gorilla in the room.

The debate about the **right to health care**, access, **fairness**, efficiency, and quality are the players in the white shirts. The gorilla is the \$2.6 trillion in health care spending each year (CMS, 2015). The total effective cost for health care is funded from the following:

- Federal budget
- Out-of-pocket costs covered by consumers
- Private, third-party health insurers
- State budgets

The federal budget funds nearly three-quarters of the total health care spending, up from over half ten years ago (CBO, 2016). Clearly, health care costs are being shifted to the federal government. While **private health insurance premiums** have increased to \$849 billion (CMS, 2015), health care costs are increasingly being shifted to individuals. As **high-deductible health insurance plans** are taking more of the market share, out-of-pocket spending for health care increased to \$311 billion (CMS, 2015).

Health care costs are obfuscated by **cost-shifting** from the government programs (Medicare, Medicaid, and the Children's Health Insurance Program) and the subsidizing of employer-provided health insurance under the **federal tax code**. These two hidden sources of funds hide the true costs of health care (Pasquale, 2014). Health care costs were 18% of the gross domestic product when the gross domestic product was \$17.4 trillion in 2014 (CMS, 2015; World Bank, 2016). Obviously, this percentage for health care spending could not have continued to grow indefinitely without comprehensive reforms; the danger was that the U.S. health care system, if left as it was before the **Affordable Care Act of 2010**, would have resolved this cost problem by gradually denying basic coverage to more and more people (*See 42 U.S.C.A. §§ 18001 et seq.*).

Nevertheless, questions about funding and the increased shifting of costs to consumers indicate the U.S. health care system is still not sustainable in its current form (Altman, 2015). Much of the escalating costs are attributable to the development of new treatments and other medical technologies (Krause & Saver, 2014). Today, people get joints replaced and have laparoscopic surgery to repair damage that past generations simply learned to live with; health care costs are increasing because there are now more expensive medical products and ways of using old products. On a per-capita basis, the United States spends about twice as much as most other industrialized economies without garnering any tangible benefits on health, infant mortality, or longevity.

How do insured consumers make sense of data like this when:

- 20% of American households face problems paying their insurance **copays, deductibles, or coinsurance**
- 43% postpone needed medical care
- 41% do not fill their prescriptions
- 62% procrastinate about dental care

(Kaiser, 2015).

Is the U.S. health care system working as well as it could or do the mental models about what is going on need to be modified?

Data Driven

We often think the world is how we see it and that the facts are the facts as we know them. Each of the data-driven facts in this chapter is explained in the remaining chapters of this text, along with citations to their sources of authority. The management principles and the laws surrounding these facts are also described.

Hypothesis Driven

Although we are data driven, we are also driven by hypotheses, or our mental models. Consider what you think about once you read these facts. Are there any underlying hypotheses behind these facts?

FEATURE BOX 1-1

What is in our Nation's Collective Mind?

1. *What is the meaning of these data-driven facts?*
 - About one-tenth of the U.S. population has no health insurance, and most of them are earning middle-class incomes; this lack of basic coverage causes two deaths every hour.
 - Although **evidence-based medicine** can help pinpoint which treatments are best for which conditions, patients often still do not receive the best available treatment because physicians are not aware of the best treatment or have their own reasons for not using it.
 - Estimates indicate 90 million people in the United States live with a preventable chronic disease, the ongoing care for which amounts to 75% of the annual \$2.6 trillion health care budget.
 - From the estimated \$1.9 trillion employers spend on health care costs each year, over 60% of the costs go toward treating tobacco-related illnesses.
 - **Reprocessed medical devices** are a cause for concern, as the FDA standards are not always strictly adhered to, patients are not necessarily informed they are receiving a reprocessed device, and such devices are often obtained from unregulated sources, such as the Internet.
 - Top executives at the U.S. health care systems are compensated with multimillion-dollar salaries and lavish benefits, seemingly without regard to performance, while top-performing lower wage employees are often not paid living wages.
 - While tax-exempt hospitals receive over \$12.6 billion in tax exemptions each year, they are not necessarily required to offer free or reduced-cost care to the uninsured or underinsured in return for their tax exemption.
 - Almost one-third of the surgeries performed on Medicare patients are unnecessary.
 - One-third of medical spending is devoted to services that do not improve health or the quality of care, much of which may actually make things worse for patients?
 - Reproductive health needs are not adequately met in the United States, as evidenced by the high rate of teen pregnancies, unintended pregnancies, abortions of unwanted pregnancies, and the lack of access to birth control.
 - The largest portion of hospital expenses are incurred in the last few weeks of life.
 - The recent increase in weight-related chronic illnesses in the United States coincides with the change in American eating habits, with dietary intake consisting mostly of highly processed, prepackaged, and ready-made meals high in carbohydrates and sodium content; fully one-third of the daily Calories Americans eat are from outside the home at fast-food and chain restaurants.
 - While the biggest burdens to the U.S. health care system are depression and gun violence, they receive scant attention in the health care reform debates; yet the cost of gun violence in the United States exceeds to the cost of illnesses from smoking and obesity combined.
2. *What is the explanation underlying these facts and what needs further investigation?*
 - The United States spends more on health care than any other country in the world, yet ranks 28th in life expectancy: is this because we are the only industrialized nation in the world that does not provide medically needed care for everyone, or could it be the open immigration and economic policies of the United States?
 - Should the United States bear the highest burden in the world for research and development of prescription drugs because it has one of the world's highest incomes per capita?
3. *Should the nation's leaders examine the hypotheses underlying some of these facts as they undertake reform of the U.S. health care system, or would they simply be reinventing the wheel based on prior reform efforts and the Affordable Care Act?*

FEATURE BOX 1-1 (CONTINUED)

- If the nation's health laws and regulations are complex, exceedingly nuanced, and incomplete, does this regulatory complexity drive up health care costs and **compliance overhead**? If so, is this one reason why at least one-third of the U.S. health care costs are the result of management and administrative overhead expenses, or is this one-third ratio the norm for U.S. service industries in general?
 - Should the United States spend \$770 billion every year to administer a heavily regulated, mostly private entity-based health care system, where the government covers almost three-fourths of the costs?
4. *Is there a single, coherent hypothesis that makes sense of all these assorted facts?*
 - Should the nation grant hospitals over \$13 billion in tax exemptions each year, while their executives are paid multimillion dollar salaries and granted lavish benefits, regardless of performance?
 - Or are hospital administrators at the nation's leading tax-exempt health care systems being paid a rate comparable to executives in other sectors of the economy, and if so, is health care different?
 5. *Is the United States being mindful of the process of transforming its health care system?*
 - The United States has one of the highest infant mortality rates in the world; is this because reproductive services are not available to many women or because more babies survive high-risk pregnancies?
 - If evidence-based medicine is not being used by most health care providers, is this why one-third of the nation's medical spending is devoted to services that do not improve health or the quality of care, and may make things worse, or is this a faulty association?
 6. *Should the United States rush to implement health care reforms given the rapidly escalating costs of a stressed health care system?*
 - When the United States decided to provide medical coverage to every member of society, what happened when tens of millions of people were suddenly added to the health care system?
 - Did such a change greatly increase the need for primary care physicians, physician assistants, nurse practitioners, and advance practice nurses?
 - Can the nation's staffing needs continue to be met, even with imports of foreign health care professionals?

E.g., Gregory et al., 2014; Johnson & Stukel, 2016; NBGH, 2012; Surgeon General, 2010.

Data from: Gregory, E. C. W., et al. (2014). NCHS data brief: Trends in infant mortality in the United States, 2006–2012. Hyattsville, MD: Centers for Disease Control and Prevention, National Center for Health Statistics (NCHS); Johnson, A., & Stukel, T. A. (2016). Medical practice variations. New York, NY: Springer; NBGH (National Business Group on Health). (2012). Strategies for driving employee engagement in wellness, health care and job performance. Washington, DC: NBGH; Surgeon General, U.S. (2010). The Surgeon General's vision for a healthy and fit nation. Washington, DC: U.S. Surgeon General.

Mind Barriers

There is a need to continually examine the mental models that shape thinking on health care reform (*Cf.* Wind & Crook, 2007). We may think the barriers to reform are too complex or that established interests are too entrenched to change, but often these barriers to creating the health care system this nation should have are simply in the nation's collective mind (*See* Wharton, 2005). For instance, consider rare diseases. Abbey Meyers' son suffered from Tourette syndrome but was being helped by an experimental medication manufactured by McNeil Consumer Healthcare, a division of Johnson & Johnson. When McNeil dropped the medication because the patient population was too small to be profitable, Abbey Meyers became a consumer advocate. Her crusade: change the law to create incentives for the pharmaceutical industry to develop brand-name drugs for rare diseases. She founded the **National Organization for Rare Disorders**, and, within two years, the FDA approved a medication for her son's Tourette syndrome. But Abbey Meyers did not stop crusading once her son's health needs were met. She continued to pull together other consumers with rare diseases, and, together, they made their voices heard. Congress responded to the group's call for new treatments with the **Orphan Drug Act of 1983**, giving the pharmaceutical industry a seven-year monopoly for bringing new products for rare diseases to market (Thomas, 2015). *See* Orphan Drug Act of 1983, 21 U.S.C.A. §§ 301 *et seq.*

MANAGEMENT AND LAW ISSUES

1. What is inside people's heads when it comes to the health care industry that differs from reality in the health care industry?
2. What is it that makes mental models of the U.S. health care system so difficult to recognize and change?

The mental model of a modest sideline envisioned for the pharmaceutical industry has instead become a multibillion-dollar business. What changed? The impossible: the medical products industry discovered they could profit in small markets. The Orphan Drug Act became a powerful boost to the emerging biotechnology industry.

Today, more than half of the biopharmaceutical products manufactured by the biotechnology industry are for rare diseases. Amgen and Genentech, two of the largest biotechnology firms in the world, were built on orphan drugs for rare diseases. What changed? The impossible: collective thinking about how to provide incentives to the medical products industry worked to motivate the industry to develop new drugs.

New mental models were created and orphan drugs to treat rare diseases suddenly became profitable. Abbey Meyers never envisioned such monumental changes would arise from her simple efforts to obtain the right medication for her son's Tourette syndrome (Lee, 2014). Meyers proved the impossible was possible. The only barriers to achieving her goal were in McNeil's corporate mind. Consider:

- How can the nation challenge the forces that block health care reforms?
- What are the challenges and risks of adopting new mental models of health care, and is the nation ready for them?
- What are the potential blind spots in the U.S. health care system?
- What is holding back implementation of U.S. health care reforms?
- What possibilities would be revealed if barriers to reform no longer existed?
- How can the nation rid itself of obstacles and barriers to change?

Testing Reality

Instead of accepting the U.S. health care system as it is, extensive testing must be conducted continuously to find out what the system really consists of, which parts of it are working, and which parts of it can be improved. Areas that are being explored today include:

- How can the health care system motivate individuals to adopt behaviors that prevent most chronic diseases and illnesses?
- What incentives can be created to insure the uninsured and provide access to affordable health insurance to every member of society?
- What will induce health care providers to use evidence-based medicine?

It is not impossible to create the right insurance incentives; the nation simply needs to change its thinking, like Abbey Meyers did when she needed a medication for her son. Perhaps new hypotheses and new mental models should be developed to achieve universal medical coverage with:

- A **minimum coverage provision**
- Management of risks that can prove profitable
- Mechanisms to ensure insurance availability
- Subsidies to ensure affordability

Neurology of Internal Patterns

Neurology has shown that we do not take in what we really see. You likely did not really see the data-driven facts at the start of this chapter. As stimulation flows into the brain, it evokes an internal pattern the brain uses to represent the external situation, so we are not aware that what we are purportedly seeing and thinking is what is actually already in our own minds (Wind & Crook, 2007).

Walter Freeman, a biologist, theoretical neuroscientist, and philosopher at the University of California at Berkeley, has conducted pioneering research on how brains generate meaning (Freeman, 1975). Freeman discovered that the neural activity due to sensory stimuli disappears in the cortex. It disappears! Humans do not really take in what they actually see (Wharton, 2005). We do not always see the gorilla in the room. When stimulation flows into the brain, it evokes in its place an internal pattern, which the brain uses to represent the external situation. We think we see the real world, but we actually see what is already in our minds (*See generally* Freeman, 2001 and 2000). We should ask ourselves:

- Does this text cause indigestion from too much data or does it cause hunger because it does not provide enough information, and what needs to be done to respond to both sets of feelings?
- How can this text be used to come up with different ways of viewing health care?
- What chapters are limited by an overly broad perspective, and is it possible to zoom in to examine the details more closely?
- What chapters are overwhelming with information, and is it possible to zoom out to look at the broader context?

Power of Internal Models

If we are not aware of the power of our **internal models**, we may just accept what we think we see as reality. This misunderstanding of reality can be limiting, and sometimes even dangerous (Wharton, 2005). We tend to be comfortable and dependent upon our current mental models (Wind & Crook, 2007). Comprehensive changes to the U.S. health care system opened everyone up to uncertainty and risk, along with perhaps your job, or your provider's or employer's way of doing business.

Most people and organizations are risk averse, staying within their comfort zones, even if it causes increasing problems (Wind & Crook, 2007). For instance, Merck stayed with its blockbuster drug marketing model, even when patients died from Vioxx. The biotechnology industry continues to sell its orphan drugs at exorbitantly high prices even as Congress debates changing the laws that enabled biotechnology to evolve into a multibillion-dollar business, using the same mental models the pharmaceutical industry used when the generic drug industry arose to challenge its pricing of brand-name drugs.

Filtered Thinking

Once we know our view of health care is shaped and filtered by our own thinking, we recognize the need to constantly test our mental models against the health care system this nation *should* have (*See* Wharton, 2005). We need to examine our collective thinking and ask:

- Do the medical services most Americans think they have meet the expectations of what Americans want and need in health care?^{LN3}
- Does the U.S. health care system meet the needs of most Americans, and do most Americans think it will continue to do so?
- How can the current health care system design new experiments to test the limits of mental models or gain new insights that might suggest new models for implementing reforms of the U.S. health care system?
- Is the U.S. health care system worth the costs, and how might the health care system look without this cost limitation?

Test Mental Models

Individuals and organizations must constantly test their mental models instead of simply accepting what they think things are. This testing and retesting will help determine what the facts are and what works. We may take two steps forward and one rational step back.

Medical Experimentation and Innovation

The unmet medical needs facing the U.S. health care system are considerable. For instance:

- About 1,600 people die every day from cancer.
- An estimated 5.3 million Americans have Alzheimer's disease, a number that is projected to double by 2025.

- There are approximately 27 million heart disease patients and about 70 people die every hour with the disease as their primary diagnosis.
- About 770,000 people are injured every year because of adverse drug events.
- Thousands of patients today suffer from rare genetic disorders; most people have never even heard of these diseases, but they traumatize patients, and leave behind a trail of broken, frustrated families.

(Alzheimer's Association, 2016; Deyette, 2015; NCHS, 2015 and 2015a).

Yet, the system attributes the growth in health care costs to the development of new treatments and other medical technologies (CBO, 2016). How should the U.S. health care system reconcile the need for medical innovation to treat cancer, Alzheimer's disease, heart disease, and rare genetic disorders with the need to reduce or slow cost growth? The unspoken hypothesis—that rationing or controlling spending on medical innovation is one way to control health care costs—shows the need to consider whether the nation's current mental models, which focus on spending, still fit in a world of rapid medical innovation.

Ideally, American medical innovation should not be limited because of costs. There has to be a way to remove this restraint. What possibilities might be obtainable if health care costs were no longer a limitation? U.S. consumers will not stand for a decrease in the pace of adoption of new medical treatments or procedures or limiting the breadth of their application (Lechleiter, 2016). In all likelihood, the United States is not going to ration medical care as has been done in Europe. The United States will always allow Americans to buy what they want; however, they may only be allowed to buy the most innovative treatments with their own money, especially care for preventable health conditions.

Preventable Health Conditions Versus Treatable Conditions

What if the U.S. health care system focused on where the \$2.6 trillion in health care costs are being spent? According to the World Health Organization's Commission on the Social Determinants of Health, 50% of health status, or what makes individuals ill or well, is determined by health behavior (Davidson, 2015; CSDH, 2008). This supports the research findings that most chronic illnesses are preventable (Fleck, 2014; Sage & McIlhattan, 2014).

As shown in **FIGURE 1-1**, of the \$2.6 trillion spent annually on health care, 80% is devoted to the 10% that determines individuals' **health status**; less than 4% is devoted to improving health behavior and preventive medicine (Schoen et al., 2015). At issue is whether the nation's priorities should be realigned so that 80% of the spending is

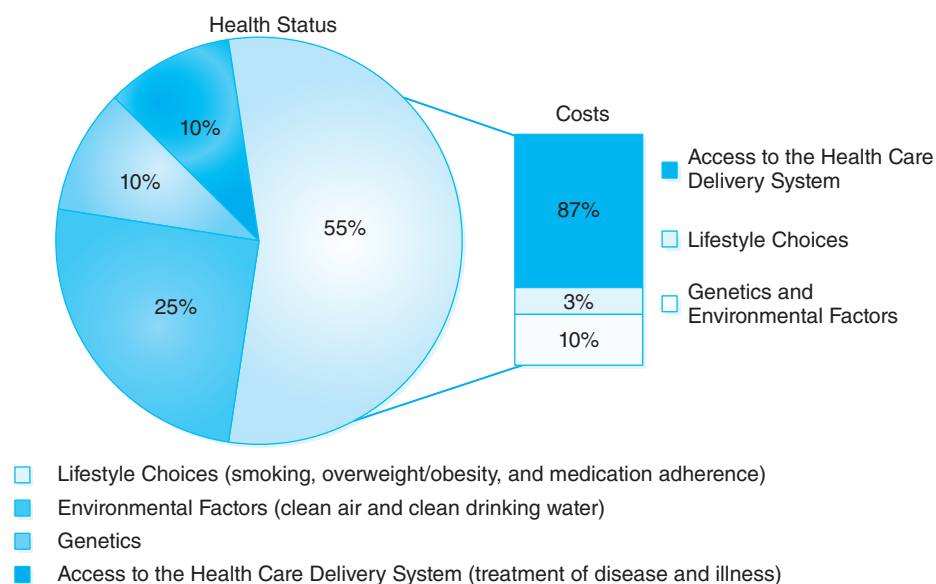


FIGURE 1-1 Attributes of Individual Health Status Compared to Health Care Costs

Data from: Schoen, C., et al. (2015). State trends in the cost of employer health insurance coverage. New York, NY: The Commonwealth Fund; Solar, O., & Irwin, A. (2010). A conceptual framework for analysis and action on the social determinants of health. Geneva, Switzerland: World Health Organization, Commission on Social Determinants of Health. Authors Note: Change Title of Figure, All else the same.

directed to the 50% that determines health status. If the focus of health care were to change, some issues to consider might become:

- What health conditions are preventable?
- What level of health care will be provided for preventable health conditions, so as to provide a financial incentive for people to change their behaviors to prevent chronic disease and illness in the first place?
- When are health conditions preventable

The hypotheses to modify health behaviors and prevent health conditions from ever occurring are different from the mental model to access the health care delivery system to treat these same conditions only after they have developed.

World of Constant Change and Evolution

Debates in neuroscience focus on the brain as a computer versus an evolutionary-based biological system, and the influence of nature versus nurture in shaping thinking (Wind & Crook, 2007). The human brain constantly changes and evolves over time. Over one billion neurons continually die and regenerate. Several trillion synapses are continually destroyed and re-created. The human brain selects and reinforces or weakens certain synapses to forge the complex neural structures that determine thinking (Wind & Crook, 2007). Individuals reshape their neural models every day through their day-to-day experiences and thinking.

Individual Micro-Trends

This idea of reshaping the brain's neural models day-by-day brings the issue of **micro-trends** to the forefront. Forget about huge, sweeping universal changes in health care (mega-trends); the biggest trends today are micro: small, under-the-radar patterns of individual behaviors that take on real power when propelled by modern communications and an increasingly independently-minded population (Penn & Zalesne, 2009). In the United States, intense identity groups (micro-trends) can:

- Create new markets for risk management of health care costs
- Produce political change to bring about universal health care or more evidence-based medicine or financial incentives for observing healthy diet and exercise
- Spark a social movement that focuses on behavioral change and preventive medicine

The chapters in this text attempt to identify important health care trends in the law as they are happening. Small patterns of change and reform can be detected in state legislatures and in the appellate federal and state courts (Helveston, 2015), and even sometimes in Congress.

Power of Impossible Thinking

Practical steps to understand, and perhaps change, thinking about the U.S. health care system, include:

- Becoming explicitly aware of why people see the U.S. health care system the way they do and what that implies
- Testing the relevance of current mental models against the rapidly changing health care space and seeing if they still fit or whether the models need to change and new ones need to be generated
- Developing a portfolio of mental models, which:
 - Minimizes the risk of switching models entirely
 - Allows the use of models that work best for particular situations
 - Prevents new models from becoming dogma, an absolute transformation, or revolution
- Overcoming the inhibitors to change and reform by reshaping the infrastructure that supports the old mental models and changing the thinking of others
- Quickly generating and acting upon new mental models by experimenting and continuing to assess and strengthen hypotheses and models

(See generally, Wind & Crook, 2007).

MANAGEMENT AND LAW ISSUES

3. What is holding back acceptance of U.S. health care reforms?

Adaptive Disconnects

Adaptive disconnects in the U.S. health care system occur when *everyone* adapts their thinking at different rates. This is shown by:

- Differences in facts and opinions as to what health care reforms are needed or not needed
- Differences in perspectives between health insurers and the insured
- Different perceptions of what should be done from varying disciplines in the medical products industry, such as product development, finance, operations, and marketing
- Distinction between the goals and priorities of regulators and the regulated
- Divergence of views within **health care delivery systems** between administrative and clinical staff, and among health care professionals and consumers
- Variations between what is considered ethical and unethical, right and wrong, legal and illegal

To arrive at acceptance of real reform of the U.S. health care system, perhaps someone should seek out the most complex and sophisticated minds and put them in a room together, and have them ask each other the questions they are asking themselves. For instance, directing more than a billion dollars in federal funds for comparative effectiveness research to help determine whether medical treatments and devices are worth the money is much easier than coming up with new thinking about the need for these treatments in the first place.

Support of Old Mental Models

The practical infrastructures and routines that support *old* mental models must be addressed. It is significantly more difficult to shift the nation's emphasis upstream from managing diseases to preventing them; this is not how the U.S. health care system is currently structured. It is not enough to simply change one's thinking about health care, we also need to ask:

- How does the choice of mental models shape each health care sector's position on issues and their decisions about them?
- What mental models does the U.S. health care system currently use?
- What other mental models could each of the health care sectors use?

(See generally Wind & Crook, 2007).

Misaligned Incentives

Similarly, **incentives** in place in the U.S. health care system are sometimes misaligned, making it difficult for new medical products and technologies to gain acceptance. While a new medical product or technology might produce better outcomes than an existing treatment, there can be resistance to its adoption. An example of this misalignment is the introduction of Gleevec, a drug produced by Novartis Pharmaceuticals, to fight chronic myeloid leukemia. While Gleevec is expensive (at about \$76,000 per year), it can obviate the need for a \$360,000 bone marrow transplant. The drug is potentially beneficial to patients, but economic calculations as to how much money a medication saves are not always made when it prevents patients from having surgery (McClellan, 2016). The health care system does not always reflect economic benefits to individual patients and we need to ask:

- What mental models underlie the decisions and actions of Novartis and hospital transplant centers or insurers and leukemia patients?
- What are some varied mental models for diagnosing chronic myeloid leukemia, and how do they change the treatment options available?
- Will there be a market for \$360,000 bone marrow transplants in the foreseeable future?

Zooming In and Zooming Out

In light of the immense complexity of the nation's health care industry, leaders must learn to both zoom in and zoom out. When examined in detail, parts of a complex system, like almost any phenomenon, will seem to be unstable, even fluctuating wildly. For instance, it is important for the biotechnology industry to develop the ability to zoom in and zoom out in its thinking. Zooming in focuses on details underlying core medical technologies. Zooming out is a sense of how those technologies will play out in the larger health care space, such as how society will pay for the advanced medical technologies being developed.

Process of Making Sense of Things

Cognitive neuroscience studies how the brain works. We must focus on what to do with the facts and data we receive and understand the process of making sense of things. While genetics provides the basis of whom we are as individuals, experience strengthens and weakens genetic capabilities.

Understanding the Forces

Health care systems, like individuals, can focus on the forces that shape and reshape the mental models of their space. For instance, \$35 billion is being directed to health information technology by the federal government for implementation of a national health information network (See **Health Information Technology and Economic and Clinical Health Act of 2009**, 42 U.S.C.A. §§ 17931 *et seq.*). Yet there is no evidence that this investment is achieving its goals of increasing efficiency, reducing costs, or improving the quality of health care (Deyette, 2015). To ensure success, focus should be directed to:

- Developing rewards and incentives for implementation
- Education on how **electronic health records** have been shown to reduce medical errors and costs to counterbalance forces claiming turmoil from this effort to modernize the nation's inefficient, paper-clogged health care system
- Influencing others (the **end-users**: primary care physicians, physician assistants, nurse practitioners, advance practice nurses, and nurses; the providers: hospitals and medical products industries)

Studies by the National Center for Policy Analysis indicate that when electronic health records are combined with the emerging field of **genomics**, a force will be unleashed that will throw open the door to **precision medicine**, new medical treatments, and ultimately, more affordable health care (NCPA, 2015). However, this advancement in technology is by no means the hoped-for fix for rising health care spending. Moreover, electronic health records and a national **health information network** could be powerfully disruptive for some lucrative sectors in the medical products industry, such as affecting so-called blockbuster drugs. A national health information network would include electronic health records that would allow health providers and others to track outcomes for medical products, eventually resulting in the pharmaceutical, biotechnology, and medical device industries making fewer decisions about treatments. Much of the information physicians now use comes from studies paid for by the medical products industry. The more information is independently generated, analyzed, and distributed, the more the blockbuster model for drugs is in doubt. The medical products industry will have to decide:

- What are the implications of these forces for drug development, and will the new model that emerges be sustainable?
- What impact will these changes have on the current commercial models for the pharmaceutical, biotechnology, and medical device industries?
- Will there be a market for blockbuster drugs in the future?

Information is a dual-edged sword in health care. Better information might blow apart some of the blockbuster markets in the medical products industry. It might also increase demand for other products in smaller, more focused markets. If so, will there be a future market for stand-alone firms in the medical products industry?

New Approach to Decision-Making

There are several ways to change the nation's approach to decision-making about health care, including:

- Recognizing the difficulties in setting **cost limits** and seeing things differently
- Implicitly understanding the neurology of internal patterns
- Understanding, in terms of mental models, the process for making sense of the U.S. health care system

Only then can the national framework for decision making be transformed by:

- Evaluating alternative actions from various perspectives
- Gathering the relevant facts
- Making decisions
- Putting *all* the mental models on the table
- Recognizing issues
- Repeating the process all over again
- Testing *every* mental model
- Testing the results of those decisions

(See Wind & Crook, 2007).

Practical Implications of the New Neuroscience

The practical implications are limitless for the *new neuroscience of mental models*. There is great risk in changing old views of the U.S. health care system, with its focus on models of managed cost. At the same time, there are great possibilities in the unprecedented opportunities to blend the best of the old and the new (Wind & Crook, 2007).

As you read the following chapters, always ask the following questions:

- How do the mental models change the options available?
- What are some different mental models for looking at the same situations outlined in each chapter?
- What mental models underlie the court decisions and health care actions reported?

Pay particular attention to how different mental models often define the battle lines on issues.

LAW FACT

Gorillas in Our Field of Vision

When thinking of the U.S. health care system, the question to keep in mind is: are we failing to see the gorillas moving through our field of vision?

Yes. The gorillas in our nation's collective field of vision can be seen in cognitive neuroscience. Neural activity due to sensory stimuli disappears in the cortex. The sensory stimuli cease to exist. We do not really take in what we see. Stimulation flows into our brains, evoking an internal pattern, which our brains use to represent the external situation. We think we see and understand the "real" world of medical care in the United States, but we actually see what is already in our own minds: we see pre-existing mental models (relationships and concepts) of the U.S. health care system.

— Chabris & Simons (2010); Wind & Crook (2007).

Data from: Chabris, C. F., & Simons, D. (2010). *The invisible gorilla: And other ways our intuitions deceive us*. New York, NY: Crown Publishing Group; Wind, J. R., & Crook, C. (2007). *The power of impossible thinking: Transform the business of your life and the life of your business*. Philadelphia, PA: Pearson Prentice Hall-Wharton School Publishing.

CHAPTER SUMMARY

- Ideally, the development of a better U.S. health care system would be accomplished by considering new ideas, while retaining the best of the old and present ideas.
- The obstacle to an effective, efficient, high-quality health care system accessible to all U.S. residents may be the nation's collective thinking.
- The United States spends about twice as much on health care as most other industrialized economies without garnering any tangible benefits on health, infant mortality, or longevity.

- Americans may think the barriers to reform are too complex, or that established interests are too entrenched to change, but often these barriers to creating an ideal health care system are simply in the nation's collective mind.
- People are not aware that what they are actually seeing and thinking is what is already in their own minds, due to the way the brain interprets new information.
- Many readers may not have fully absorbed the arguably shocking facts presented in this chapter because we tend to be unwilling to change our mental models.
- In order to improve health care in the United States, individuals and organizations must constantly test their mental models instead of simply accepting what they think things are.
- The United States must find a way to reconcile the cost of health care with what consumers actually need; for instance, it may not make sense to spend the most money on developing new and innovative medical technology when consumers cannot access existing technology.
- Instead of rationing health care across the board, Americans would likely prefer to ration it for preventable conditions or for highly innovative and overly expensive medical treatments.
- Another possible way to control costs would be to focus more heavily on preventive care and consumers' lifestyle behaviors, particularly smoking, weight control, medication adherence, and gun ownership.
- Adaptive disconnects in the U.S. health care system occur when everyone adapts their thinking at different rates.
- In light of the immense complexity of the nation's health care industry, participants must learn to see and understand both the minute details and the broader context in order to effect change.
- Neuroscience can be helpful in understanding how the brain works to create and preserve mental models and how to change the framework for decision-making in order to develop new mental models.

LAW NOTES

1. The theoretical perspective of this chapter was developed by two Nobel laureates in experimental psychology and cognitive science, Daniel Simons, professor in the Department of Psychology and the Beckman Institute for Advanced Science and Technology at the University of Illinois, and Christopher Chabris, visiting scholar at the MIT Center for Collective Intelligence and adjunct professor of neurology at Albany Medical College (Chabris & Simons, 2010; Simons & Chabris, 1999). Wharton marketing professor Yoram ("Jerry") Wind and Colin Crook applied the brain theory developed by Chabris and Simons to business settings (*See generally* Wind & Crook, 2007; Wharton, 2005).
2. Mental models of the U.S. health care system are the images, assumptions, and stories people carry in their minds of themselves, other people in the health care industry, and every aspect of the U.S. health care system. The nature of the mind exerts a significant effect on our perceptions of the U.S. health care system. People's view of health care is dependent both on the way the health care system is and on the way they are (Wicks & Keevil, 2014).
3. There is a sharp distinction between the mental model Americans have of the U.S. health care system and the model of how the system is serving their own personal medical needs. Americans believe the U.S. health care system needs reform, particularly when it comes to health insurance coverage and costs (Rasmussen, 2016). At the same time, they are generally pleased with the quality of medical treatment, and are generally satisfied with the quality of their current health care and health insurance coverage; they like its choices and its intensive, high technology approach to curing their ailments. On balance, Americans still favor maintaining their current mental models of health care, 50% to 44% (Newport, 2015). In a word, the American public seems to be calling for surgery on the current mental model of the U.S. health care system (essentially reforms to expand medical coverage to those who need it and actions to rein in costs), rather than an entire transplant operation to uproot the current system.

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