MANAGING INTEGRATED HEALTH SYSTEMS

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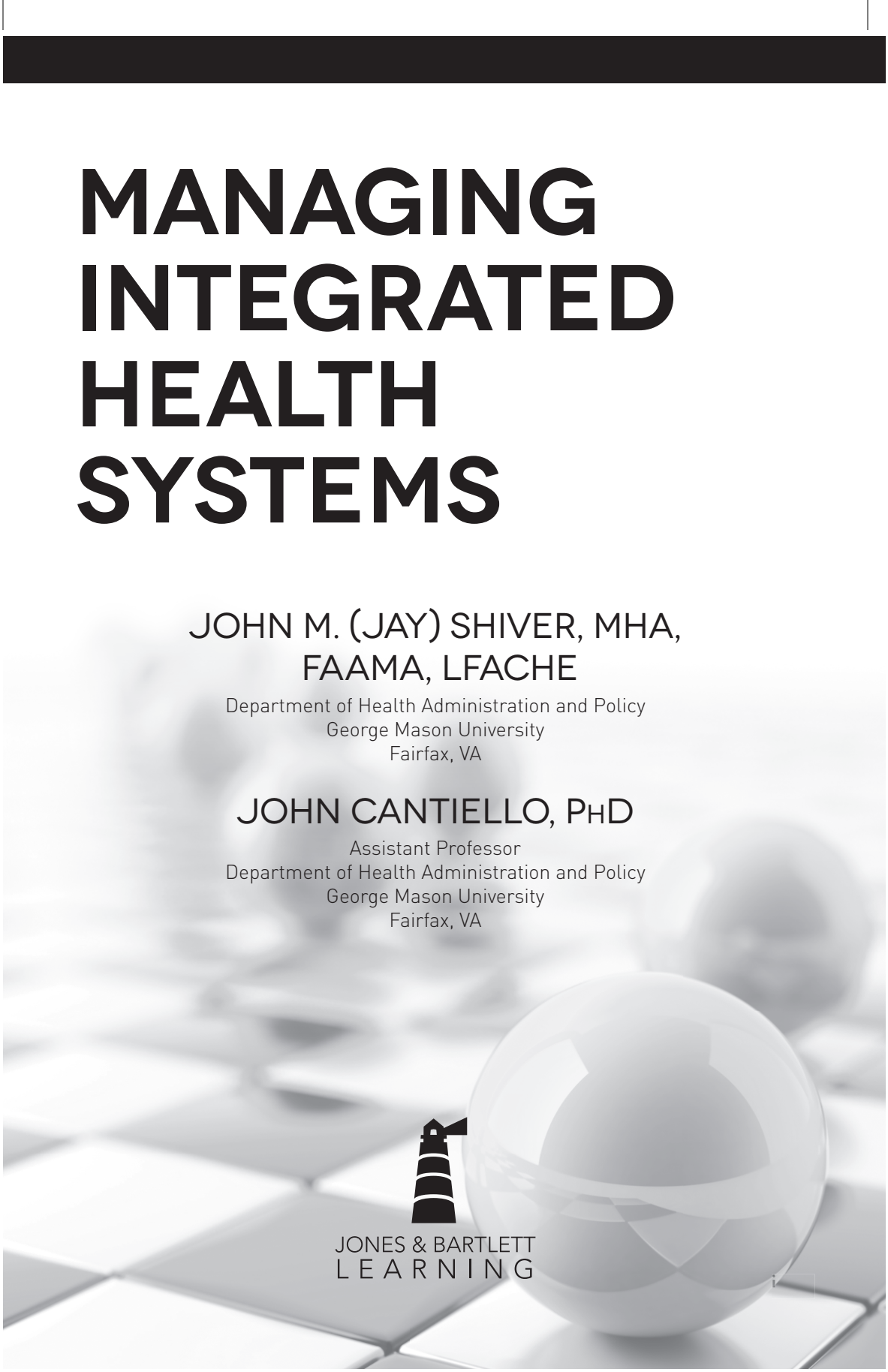

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Dedication

Jay

This effort is dedicated to my wife, Debbie, who gave me the inspiration and latitude, and to my parents, Art and Lucy, who gave me the focus and discipline. And, of course, to the wonderful students who taught me so much.

John

This book is dedicated to my parents, Gail and Jonathon. Thank you for your encouragement, support, and inspiration.

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Introduction

It can be hard to comprehend in concrete terms how quickly medical advances have been made in healthcare delivery. Consider this story: A middle-aged son accompanies his elderly mother to an ophthalmology appointment. After listening to the ophthalmologist explain that his mother needs cataract surgery, the son turns to his mother to explain in clearer terms what will be happening: "Mom, the doc is saying you need cataract surgery. That means you need to be in the hospital the night before the procedure for tests. You can't eat anything the night before. The next morning…."

Twenty years later, the same son is no longer middle aged. After a recent visit to his own ophthalmologist, he tells his wife, "I'm headed to the doctor's office for cataract surgery. Should be home in time for tonight's game!"

The evolution of the healthcare industry in recent years has brought profound and rapid changes to the industry itself and the requisite professional skills, knowledge, and expertise necessary to manage this very complex business. This text provides those engaged in and studying health care the understanding and knowledge required to succeed in this dynamic industry.

The primary intent of this text is to provide accessible, practical, and applied knowledge and guidance to the every day management and operations of these multifaceted organizations. To this end the authors selected to contribute their expertise to this work have been chosen on the basis of their real-world skills. Authors have experience in the field and in academia. Of particular note and of unique pertinence to this text, you'll find insightful, revealing interviews with highly recognized, innovative, and successful experts from the field who offer practical expertise and wisdom on pertinent topics. Their keen knowledge of these evolving systems and their critical impact on the effectiveness and efficiency of the U.S healthcare system overall, is invaluable.

WHY A NEW APPROACH?

Prior to World War II, the healthcare industry was a cottage industry consisting of a limited range of professionals with relatively little formal education.

In the decades following the war, health care in the United States transitioned from physicians practicing out of home offices to a mega-industry representing a significant portion of the country's gross domestic product (GDP) (**Figure P–1**). Today, the ever-increasing cost of health care has become an issue of national importance; it is talked about at the family dinner table, argued about in the boardrooms of *Fortune* 500 companies, and debated in the chambers of Congress. Health care is no longer a small business with only personal importance, but rather a national concern that impacts everyone.

Readers may note that the traditional term "healthcare delivery system" is less prominent in this text than the term "health system." Health care is now transforming into an industry that is held accountable and compensated not just for restoring the health of individual patients, but for managing the ongoing health of society as well—that is, the overall health of the population and the management of the resources consumed to maintain community health. Managers in this industry are no longer just healthcare delivery system managers; rather, they have evolved into managers who are accountable for the health of the people they serve. Caring for the ill and the injured is no longer sufficient. The successful healthcare system of the future will positively impact the health of an entire community.

Why does this matter? Until recently, the focus and incentives were on fixing problems and curing illness. Looking forward, for future healthcare managers, the focus and incentives will be more on the improvement of population health, so that there is less injury and illness and a reduced need for medical care. This utopian ideal will not be realized quickly or easily. In the interim, changing incentives will focus on improvements in the quality

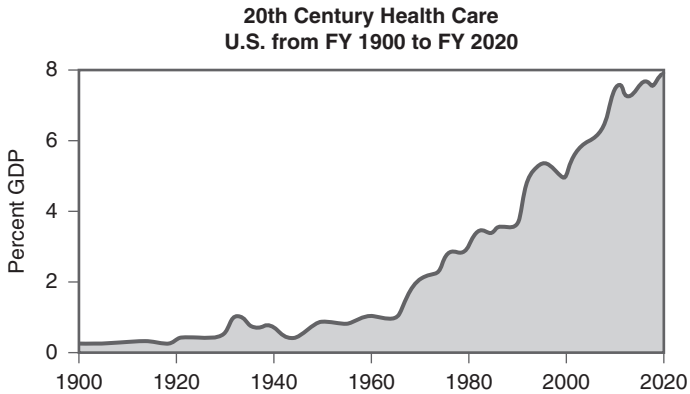

Figure P–1 20th Century Health Care U.S. from FY 1900 to FY 2020
Courtesy of www.usgovernmentspending.com.

of the delivery of care, society, and the marketplace, motivating healthcare industry participants to reduce costs and redundancy in their systems.

The accomplishment of successful integration and management of the overall health of a defined population will require an understanding of how to manage the efforts of exceptionally complex organizations that have inherently conflicting internal incentives. Examples of the conflicting but ultimately necessary components of the system that must be juggled can be found in the effort to maximize a balance between quality, service, efficiency, and cost. It is our hope that readers will better understand and appreciate these dynamic interests and will take away the skills that prepare them to ensure the best health possible for a population, while simultaneously managing available resources in a responsible manner.

Resistance to change is always the challenge to management in any industry, yet the ability to overcome and manage change is the hallmark of a successful leader. Comprehending the enormity of the ongoing changes in health care requires a contextual framework to illustrate four important components of this evolution: the rapidity of change, the fiscal scope of the changes, the place for changes in public policy, and the overall social impact.

LEGISLATIVE HISTORY

It has only been since World War II that an industry built around healthcare delivery truly took hold on a national scale. Prior to this era, health care was decidedly local and of limited capability. Outside major metropolitan areas, hospitals were rare. Physicians practiced alone and mostly from home offices; many traveled to their patients' homes. Nursing care was rudimentary and typically provided by family members and neighbors. The average life expectancy was approximately 69.5years (**Figure P–2**) and healthcare expenditures accounted for less than 2% of the GDP.

In 1946, Congress passed the Hill-Burton Act, which provided federal assistance for building and expanding hospitals across the United States. In just the first six months after its launch, the program approved grants for 347 new hospitals, and in the end provided for the spending of $3.7 billion in new construction and facility modernization new hospitals across the country (Clark, 1980).

This rapid expansion of hospital beds shifted the focus of health care away from the traditional solo-practice physician and care delivered by community members to a more institution-centric delivery model. Supply of healthcare services increased exponentially, with the increased access being quickly followed by a comparable rise in utilization. In a few short years, Americans began to consider world-class treatment and accessibility as "de

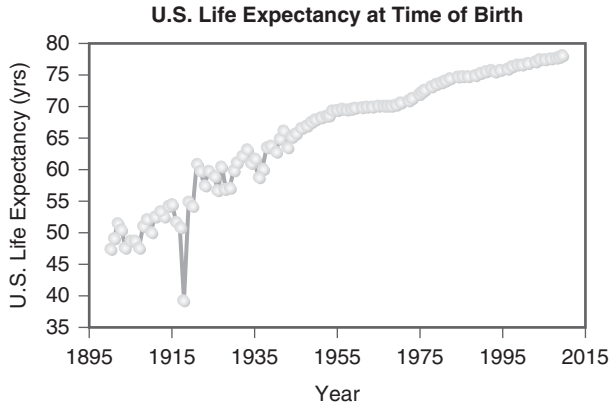

Figure P–2 U.S. Life Expectancy at Time of Birth

Data from Arias E. United States life tables, 2006. National vital statistics reports; vol 58 no 21. Hyattsville, MD: National Center for Health Statistics. 2010.

rigueur" and the days of dying early from common communicable diseases began to fade from the collective memory. During this same period, healthcare insurance became a significant benefit provided by employers. Prior to World War II, health insurance had been a relatively insignificant benefit. During the war years, however, employers began offering health insurance as a way to recruit workers despite federally imposed wage restrictions; by the end of the war, health insurance had become an expected employee benefit. The poor and the elderly, who were not part of the workforce, still bore the cost of care without access to affordable health insurance.

Providing financial access to healthcare services for the poor and elderly was a key initiative of President John Kennedy's administration in the early 1960s. It was not until after Kennedy's assassination that his successor, Lyndon Johnson, signed into law the first truly significant fiscal expansion to healthcare coverage. In 1965, healthcare coverage expanded under the Medicare and Medicaid programs. Following the passage of Medicare and Medicaid it took until 1970 for healthcare expenditures to reach 2% of the U.S. GDP (U.S. Government Spending, n.d.) (**Figure P–3**).

In the following years, healthcare costs continued to increase, although Medicare and Medicaid costs did not rise as high as the private-sector spending. Readers can refer to **Figure P–4** and the following website for detailed statistics regarding healthcare growth in the United States: http://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/Downloads/tables.pdf.

The health industry wasted little time in expanding to serve the newly insured elderly and poor. Within just a decade of the implementation of

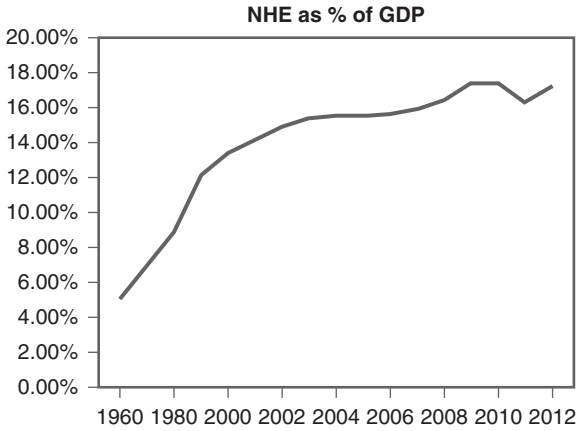

Figure P–3 NHE as % of GDP

Data from Martin AB, Lassman D, Washington B, Catlin A, and the National Health Expenditure Accounts Team. Growth In US Health Spending Remained Slow In 2010; Health Share Of Gross Domestic Product Was Unchanged From 2009. Health Affairs, vol 31, no 1. (2012):208–219.

Medicaid and Medicare, the growing costs and expansion of healthcare services became a major topic of legislative concern. Two especially notable pieces of legislation were passed during the first half of the 1970s in an

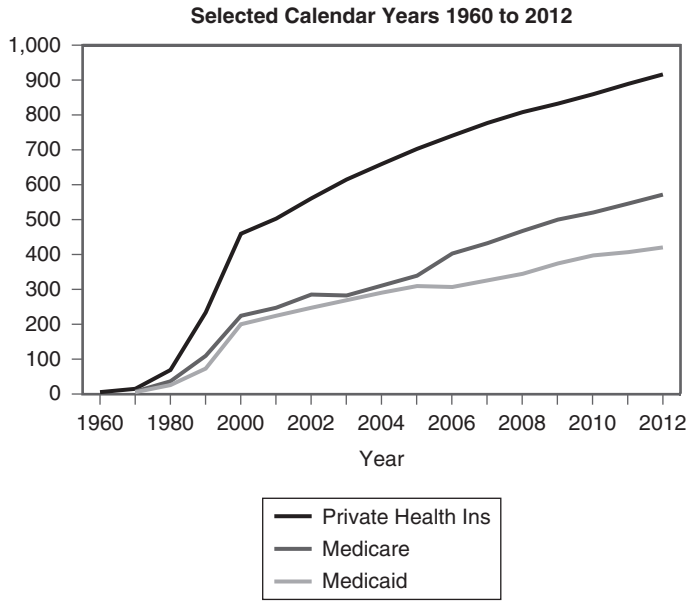

Figure P–4 NHE by Source Selected Calendar Years 1960 to 2012

Data from CMS, Office of the Acturary, NHSG.

effort to constrain the continually increasing costs: the Health Maintenance Organization Act of 1973 and the Health Planning and Resources Development Act of 1974. The former was designed to introduce greater competition and cost controls into the then fee-for-service reimbursement methodology. The latter placed restrictions on capital expenditures for new services. Other significant legislative efforts have since been implemented as further attempts to gain control of escalating medical inflation, such as the Prospective Payment Act and the Health Insurance Portability and Accountability Act. Nevertheless, these laws have had only a limited impact in slowing medical inflation.

In early 2010, President Barack Obama signed into law the Patient Protection and Affordable Care Act (ACA). This bill represents the federal government's most ambitious effort to create structural changes in the financing and delivery of health care. The ACA continues to be implemented, but its impact has already been felt throughout the United States. Nowhere are the effects of the law felt more acutely than within the healthcare delivery system. Every component of the current U.S. healthcare system is directly impacted by the ACA, which also directly impacts every citizen, every healthcare provider, every insurer, and the basic structure of our entire national health system. The only element of the health system not explicitly addressed by this law is the information technology arena—though that area was covered in the HITECH Act signed into law in March 2009. Readers will be provided with an in-depth examination of both of these laws and their impact in this text.

MARKET PRESSURES

Legislated change is not the only challenge for emerging health systems; the overall healthcare market has also evolved and its impact on the healthcare industry cannot be underestimated.

From a financial perspective, healthcare costs currently represent about 18% of the U.S. GDP and have increased steadily for the past 60 years with modest decrease in growth over the past few years. For private employers, 55% of which offer health insurance to employees (Kaiser Family Foundation, 2014), medical inflation is exemplified by the increased costs to purchase health insurance plans for their employees. This important employee benefit has increased by 26% over the past five years (Kaiser Family Foundation, 2014).

As a reaction to the rising costs of health insurance, employers have increased pressure on providers and legislators. The burden of the growing costs is ultimately borne by employees. Employers are transferring the

increased costs to their employees through means such as cost shifting, increased deductibles, and copayments. Health insurance benefit costs are shifting to employees or have been eliminated or reduced as an employment benefit. Increasingly, many employers are offering only defined contribution plans in which employers contribute a predetermined amount of money toward the purchase of health insurance, not unlike the trend to eliminate defined benefit retirement plans in lieu of programs such as the 401(k) defined contribution plans.

The shifting of risk and costs to employees for health insurance protection has had a profound impact on individuals and their families. Purchasers of healthcare services today bear more of the first dollar expense, and consequently consumers are becoming increasingly aware of and sensitive to the cost of services. This new consumer awareness has placed growing pressure on providers to justify costs and deliver results—a new dynamic for providers who have historically determined which services to deliver without having had to explain those choices to the consumer.

CHALLENGES

Managers working within the health industry must meet the challenge of dealing with the multifaceted impact of new laws and a complex changing private insurance market. The knowledge, skills, and abilities required to be a successful leader in the evolving healthcare systems include those related to healthcare services delivery, population health, health information technology, and sophisticated financial management. Many of these knowledge arenas may be familiar to the traditional healthcare system manager, but much is new. For example, many individuals who work in the delivery system are not versed in the health insurance business model or familiar with the scope and depth of population health management. Moreover, healthcare information technology—traditionally a discipline unto itself—must now be managed as an integral component of any current health system.

The new healthcare enterprise is growing into a broad, diverse, and multidisciplinary industry. Today's healthcare leader is required to understand and meld essentially conflicting agendas of intrinsically unbalanced organizations. Not unlike the modern fighter aircraft, the new healthcare organization has built into its very structure a certain degree of dynamic instability; without the active engagement of computers, new fighter aircrafts are unable to fly. Today's health system executives must navigate business enterprises encompassing often conflicting interests—a balancing act that requires sophisticated management skills, leadership, vision, and an understanding of the appropriate application technology to manage successfully.

The dynamic tensions among the various components of the new healthcare system require a level of knowledge and skills heretofore not experienced in the profession. Balancing these conflicting interests requires managers to have an intimate understanding of all the diverse components, while also creating a culture that allows the various pieces to maximize their performance for the overall benefit of the organization and the population served. This text provides the reader with an understanding of the many—often moving—components of the healthcare system and a foundation of knowledge required to overcome the system challenges. The reader will explore facets of healthcare finance, delivery, knowledge integration, community and population health, and change management. In each arena, the focus is on the future needs of the emerging business model.

We open with an overview of the concept of integrated health systems and the history of their evolution. The role of such existential factors as public policy, finance, technology, globalization, and both quality and safety requirements are discussed in the context of leadership and change management. With a baseline understanding of the future state of health care, the authors provide an applied and theoretical framework for creating a culture characterized by responsible leadership. Through these chapters and interviews with luminary leaders in the field, the reader will discover that today is truly an exciting time to study health administration.

Included in this study are the existential forces of the market, politics, and economics, all of which are shaping the current changes in the industry. As previously mentioned, the historically consistent trend of rising healthcare costs has put significant financial pressure on all purchasers, including employers and government. These pressures have been felt throughout the economy, but in particular they are being experienced by individual beneficiaries through increased out-of-pocket expenses and cost shifting. These trends have created changes in consumer behavior as well as in the care delivery systems.

One of the most visible changes is the appearance of retail medicine outlets in pharmacies and "big box" stores across the United States. With consumers bearing more of the cost of health care directly, new, innovative, lower-cost, and more-convenient delivery systems have appeared in communities. Retail healthcare delivery systems such as urgent care kiosks staffed by nurse practitioners, telemedicine practices, and others have become commonplace. Tied closely to the changes in the delivery of allopathic medicine are the growing interest in and influence of complementary and integrative medicine, as well as other services. These new and creative ways of bringing lower costs and convenience to the market are forcing the health system to

rethink its current business model, which is quickly becoming outmoded and unsustainable.

One of the more unique aspects of health care is reflected in the many ways in which people do not respond in accordance with classical economic theory. The traditional economist would posit that people make choices regarding health care in much the same way that they would make a consumer appliance purchase. However, a growing number of studies have demonstrated that healthcare decisions do not follow the traditional economic decision-making theory. This deviation from much of the classic economic model has puzzled health system managers for decades. This text offers insights into why the health system does not always act in the ways predicted by the classic economic models and suggests how healthcare managers might better invest capital resources so as to achieve the greatest value and benefit for the population served. The discussion will also consider how this economic irrationality might be applied to structure healthcare services in ways that more closely match the needs and behavior of consumers.

As previously mentioned, the Patient Protection and Affordable Care Act (Public Law 111-148), signed into law by President Obama on March 23, 2010, is perhaps the most visible and widely known legislative force impacting modern health care in the United States. The role of government policy and law in the health affairs of the citizenry has increased immensely over the past few decades. The Patient Protection and Affordable Care Act is simply the most recent example of this trend, though perhaps the most impactful. Legislative acts can be game changing for those who are concerned each day with delivering care and maintaining health at a local level. Unless the health industry takes a proactive role in the legislative process, it will find itself overrun by more politically active players such as the pharmaceutical industry, employers, and payers. The role of healthcare system leaders in the political process has always been a sensitive one and must be handled with care. Historically, hospital executives and physicians have not played significant roles in the political process. At this point in time, however, the stakes are too high to ignore: Health system leaders can no longer simply abdicate responsibility for the legislative process. For the sake of their communities, they must be active participants in the process. In this text, readers will learn how the legislative process works and how healthcare leaders can serve as advocates and sources of expertise in the political process. The authors show how health leaders can create real impact and provide knowledge to other members of the government.

Central to the federal government's model of healthcare reform, as outlined by the ACA, is an understanding of the need for payment reform. The accountable care organization (ACO) is a payment reform model that is

described in some detail within the ACA, though considerable discretion is allowed regarding the actual governance, organization, and operation of these organizations. This text examines a number of ACOs and reviews their performance. The effectiveness of the various ACO models is examined relative to the impact of the incentives—in particular, the impact on reducing costs of healthcare delivery and improving outcomes and satisfaction of both the consumer and the provider.

Integral to the reform of health care and healthcare financing is the concept of population health, which recognizes that a healthy population consumes fewer resources. Attaining this lofty goal is easier said than done, as society has scant experience in creating a healthy population. Health care and medicine in the United States have traditionally centered on curing the sick and repairing the injured. Indeed, the health insurance industry is built around paying for such services. This text explores in some detail, strategies for achieving the goal of improving the overall health of the population. Readers will examine state-of-the-art techniques for addressing population health.

The potential of large-scale data analytics, machine learning, and artificial intelligence for transforming health care is enormous, beyond current comprehension. Prior to passage of the HITECH Act of 2009, health industry participants had very limited access to large statistically significant data sets for creating new knowledge and examining best practices across entire populations. That is, providers were essentially small businesses with only limited local information. Until recently, each component of the healthcare delivery system kept only the records it needed to operate its individual business; these records were maintained within the enterprise, and information was shared only when providers were required to do so. Consequently, every encounter, every test, every therapeutic procedure, and every surgery engendered a new, discrete written record, which was maintained and available only at the physical site where the service occurred. Within the past decade, however, healthcare providers have started to move away from handwritten notes and toward adoption of fully integrated open architecture data platforms that are available anywhere, anytime. Health systems are now in the midst of a transition from paper-based, unconnected data sets to a fully integrated nationwide information system. Today's information technology revolution is having a major impact on the delivery of care and everything else in the healthcare industry: It is not only creating better care and service, but also engendering changes in the organization and structure of healthcare delivery systems.

It is impossible to envision all of the opportunities for improving health that might be realized through the use of the data now being assembled and analyzed. Contained within these data is information that will allow

us to improve the health of generations to come. The data will be used to create the evidential basis for making important changes in health care and in the way in which it is provided. New data mining and machine learning technologies will be used to ascertain new knowledge to guide even more research. The health insurance industry has traditionally maintained significantly larger data sets than the providers of care, but this information has been proprietary and, within the larger scheme of things, relatively small and skewed by the individual business models of the insurance industry organizations. Federal data sets, while large, have focused on tracking government-insured populations—an approach that also skewed the information tracked. Recent advances in the science of machine learning and data mining will become increasingly important as larger and more valid data sets created by integration across the healthcare industry become available. Past experience from other industries tells us that these larger data sets have the potential to generate information that is unimagined today. The reader will be asked to imagine how this massive set of data, accessible anywhere and capable of being mined for new information, can help improve health and the quality of health care.

Telemetry and its various iterations now allow health services to be obtained in heretofore inaccessible environments and places. The ability to access healthcare expertise virtually anywhere, including below the surface of the globe and in outer space, is allowing for medical care to be provided to millions of previously unreachable populations. Even robotic technology has moved into the healthcare realm. Robots are found both in clinical settings and in more mundane logistical services. Today it is possible to perform surgery by combining the technology of robotics and telemetry. Physicians can use surgical robotics to perform surgery while they are located thousands of miles away from their patients; they can consult with patients at small regional hospitals via telemetry and robots. Moreover, supplies, medicine, meals, and laundry are routinely delivered throughout health facilities by robots. The military is currently testing robots for use in combat to retrieve wounded soldiers. Such technology continues to be developed and will one day expand the capabilities of—or replace—people who have traditionally performed certain roles.

CONCLUSION

It was George Santayana who famously said, "Those who do not learn from the past are condemned to repeat it." The history of health care in the United States is marked by many efforts to create change. Some have succeeded; some have failed. Progress forward should always be the objective.

The exciting thing about modern health care is that every day we are moving forward at an unusually fast pace.

There is no way to accurately predict how much progress we can achieve, but we *can* be certain that this field of endeavor will provide everyone who participates in it the opportunity to contribute to its improvement. The future of healthcare management has never been brighter. As individuals, we live healthier, longer lives than those who came before us. As leaders in the health industry, we have the opportunity—rather, the obligation—to create a positive legacy for the generations who follow us.

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