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Summit Overview and Background

INTRODUCTION

The last century witnessed dramatic changes in the practice of health care, and coming decades promise advances that were not imaginable even in the relatively recent past. Science and technology continue to offer new insights into disease pathways and treatments, as well as mechanisms of protecting health and preventing disease. Genomics and proteomics are bringing personalized risk assessment, prevention, and treatment options within reach; health information technology is expediting the collection and analysis of large amounts of data that can lead to improved care; and many disciplines are contributing to a broadening understanding of the complex interplay among biology, environment, behavior, and socioeconomic factors that shape health and wellness.

Although medical advances have saved and improved the lives of millions, much of medicine and health care have primarily focused on addressing immediate events of disease and injury, generally neglecting underlying socioeconomic factors, including employment, education, and income, and behavioral risk factors. These factors, and others, impact health status, accentuate disparities, and can lead to costly, preventable diseases (IOM, 2001b). Furthermore, the disease-driven approach to medicine and health care has resulted in a fragmented, specialized health system in which care is typically reactive and episodic, as well as often inefficient and impersonal (IOM, 2007b; Snyderman and Williams, 2003).

In health terms, the consequences of this fragmentation can be serious. Chronic conditions now represent the major challenge to the U.S. health care system. Five chronic conditions—diabetes, heart disease,
asthma, high blood pressure, and depression—account for more than half of all U.S. health expenditures (Druss et al., 2001). Among Medicare recipients, 20 percent live with five or more chronic conditions and their care accounts for two-thirds of all Medicare expenditures (Anderson, 2005). Many of these conditions are preventable, but only about 55 percent of the most recommended clinical preventive services are actually delivered (McGlynn et al., 2003).

Care coordination that emphasizes wellness and prevention, a hallmark of integrative medicine, is a major and growing need for people both with and without chronic diseases. Those with chronic diseases rarely receive the full support they need to achieve maximum benefit. A patient’s course of care may require contact with clinicians and caregivers and may require many transitions, for example from hospital to home care. However, these transitions often are poorly handled, leading to adverse events that result in rehospitalizations 20 percent of the time (Forster et al., 2003). The IOM report *To Err is Human* concluded that half of all adverse events are caused by preventable medical errors. Indeed, it estimated that medical errors are responsible for some 44,000 to 98,000 deaths per year, ranking errors among the nation’s leading causes of death (IOM, 1999).

Disconnected and uncoordinated care amplifies the economic burden of the health care system. The costs of U.S. health care are driven in large part by the inefficiencies, redundancies, and excesses of the current fragmented system and are considered by many economists and policymakers to be unsustainable, either for individuals or for the nation. In 2009, nearly $2.5 trillion will be spent in the United States in a health care system that is underperforming on many dimensions. The current trend will drive expenditures to $4.3 trillion by 2017 (Keehan et al., 2008) unless changes are made. Despite per capita expenditures that are at least twice as high as the average for other Western nations, the United States ranks far down the global list in the health of its citizens (Schoen et al., 2006). Estimates by various experts suggest that one-third to one-half of U.S. health expenditures do little to improve health (U.S. Congress, 2004; U.S. Congress, 2006).

Combined, economic challenges and dissatisfaction with the current system drive interest in health reforms that would offer lower-cost, more effective, holistic, evidence-based approaches. This interest is growing concurrent with, and fueled by, growth in the science base about the relationships among health, the pace of healing, and more intangible elements of the caring process, including empowerment of patients to play a
central role in their care. Evidence is accumulating about the variety of factors that have important effects on health care outcomes: the interaction between an individual’s social, economic, psychological, and physical environments, and his or her biological susceptibility to illness and responsiveness to treatment; the nature of the care process, as well as its content; and the often greater health benefit to be had from certain “lower tech” interventions, rather than more costly approaches.

In addition, the interest in unconventional approaches to prevention and treatment has grown. In 2007, nearly two of every five Americans over the age of 18 reported use of therapies such as yoga, massage, meditation, and natural products and supplements (Barnes et al., 2008). In total, such approaches accounted for $34 billion in out-of-pocket expenditures in 2007 (Nahin et al., 2009). And, more than half of all Americans over the age of 18 report regular use of dietary supplements, supporting a $23 billion industry (National Institutes of Health, 2006). Some of these practices are based on the experience of cultures over time, some are based on evolving scientific theories, and some are based on little more than belief. Each compels an assessment of what is lacking in conventional health care that causes so many people to turn elsewhere for help. Stakeholders must determine which models and approaches to health care, conventional or otherwise, might best integrate the science, caring, efficiency, and results that patients desire and that improve optimal health and well-being throughout the life span.

This is the background to the IOM’s Summit on Integrative Medicine and the Health of the Public. Integrative medicine may be described as orienting the health care process to create a seamless engagement by patients and caregivers of the full range of physical, psychological, social, preventive, and therapeutic factors known to be effective and necessary for the achievement of optimal health throughout the life span. The aim of the meeting was to explore opportunities, challenges, and models for a more integrative approach to health and medicine. This approach could shift the focus of the health care system toward efficient, evidence-based practice, prevention, wellness, and patient-centered care, creating a more personalized, predictive, and participatory health care experience.
THE SUMMIT ON INTEGRATIVE MEDICINE AND THE HEALTH OF THE PUBLIC

The IOM Summit on Integrative Medicine and the Health of the Public was sponsored by the Bravewell Collaborative and was planned by a 14-member planning committee, chaired by Dr. Ralph Snyderman. The summit was designed to consider integrative content to a number of initiatives for transforming the health care system, including

- patient-centered care;
- personalized, predictive, preventive, participatory medicine;
- mind–body relationships;
- the scientific basis of integrative medicine;
- health care financing reform;
- shared decision making;
- value-driven health care; and
- and team-based care processes.

The agenda was divided into five half-day sessions, each with a keynote speaker, a panel of expert presenters, and audience discussion. The plenary sessions covered overarching visions for integrative medicine, models of care, workforce and education needs, and economic and policy implications.

The planning committee worked to ensure sufficient time for discussion and active audience engagement, believing that the success of the summit would be measured by the quality of the presentations as well as the level of participant engagement. Panelists’ formal presentations were limited to 8 minutes, but each panel included ample time for further discussion among the panelists and with the audience. Eight lunch sessions served as open discussion forums for all summit participants and involved no structured presentations. Each lunch discussion was hosted by two or three discussion leaders, many of whom were summit panelists; the topics of discussion ranged from the health care reform agenda to evaluating the evidence base to enhancing wellness to mind–body and societal connections. A complete list of discussion topics and leaders is in Appendix C.

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1The role of the planning committee was limited to planning and preparation of the summit. This document was prepared by rapporteurs as a factual summary of what was presented and discussed at the summit.
SUMMIT OVERVIEW AND BACKGROUND

To further expand on the summit discussion and to begin identifying challenges and opportunities for the future of integrative medicine, the planning committee assembled five priority assessment groups. These groups’ topics reflected the five summit panels: health reform, models, science, workforce and education, and economic incentives. Assessment groups were asked to address the following questions:

- What are the three most important priorities in addressing this topic?
- Who are the key actors for implementation and their roles?
- What might be the achievable 3-year and 10-year goals?
- What are the next steps?

The assessment groups met during the lunch sessions to respond to these questions. Each group had a moderator, a rapporteur, and approximately 10 expert members holding a variety of views on the topic at hand. A list of priority assessment group participants is in Appendix C. Chapters 2 through 6 of this summary include the priority assessment group reports, which are based on the rapporteurs’ presentations to the plenary sessions and the ensuing discussion of summit participants. These reports reflect the priorities discussed and presented by the assessment group, not recommendations from the summit.

WELCOME AND CHARGE TO SUMMIT PARTICIPANTS

Harvey V. Fineberg, Institute of Medicine

Summit participants were welcomed by Dr. Harvey Fineberg, president of the IOM, who noted that the summit constituted the largest, most diverse, and quite possibly the most enthusiastic audience ever assembled by the IOM. He expressed appreciation to the Bravewell Collaborative for its support in making the summit possible.

In speaking to people about integrative medicine before the summit, Fineberg said he felt as if he were showing them a Rorschach blot and asking, “What do you see?” Integrative medicine, he said, means many different things to many different people and has at least five critical dimensions:

1. Broad definition of health: Integrative medicine offers the possibility to fulfill the longstanding World Health Organization defi-
nition of health as more than the absence of disease. It embraces the physical, mental, emotional, and spiritual factors, enabling a comprehensive understanding of what makes a person healthy.

2. Wide range of interventions: Integrative medicine encompasses a full spectrum of health interventions and all factors that contribute to health. It includes approaches to prevention, to treatment, to rehabilitation, and to recovery.

3. Coordination of care: Integrative medicine emphasizes coordination of care across an array of caregivers and institutions.

4. Patient-centered care: Integrative medicine integrates services around and within the individual patient, putting patients and their needs at the center. Patient-centered care is perhaps the most fundamental aspect of the six dimensions of high-quality care that were defined by Crossing the Quality Chasm: A New Health System for the 21st Century (IOM, 2001a).

5. Variety of modalities: Integrative medicine is open to multiple modalities of care, not just “usual care,” but also unconventional care that helps patients manage, maintain, and restore health.

Fineberg emphasized that these five dimensions must be supported by a strong foundation of sound evidence. Many scientists and traditionally trained allopathic physicians are skeptical of the benefits of integrative medicine. Fineberg noted that he, too, is skeptical, but that he is also skeptical of claims about what works in conventional medicine. He suggested that the same standard of evidence must be applied to any proposed idea about what will and will not work in health care, including conventional care.

Throughout the history of public health and medicine, Fineberg noted that there are examples of interventions that were known to be effective at the time, despite a lack of understanding of the mechanisms by which the interventions operated. In 19th-century Europe, when many people believed that disease was spread by miasmas, early sanitarians struggled to separate sewage and drinking water. Only later was the germ theory established, leading to the identification of the biological cause of these diseases. “They were right for the wrong reason,” Fineberg said of the sanitarians, adding that “Sometimes it is better to be right for the wrong reason than to be wrong for the right reason.”

Some commonly used treatments have evolved from traditional herbal remedies whose mechanisms were likewise unknown in earlier times. For example, the earliest effective treatment of malaria, quinine,
SUMMIT OVERVIEW AND BACKGROUND

was derived from the bark of the Amazon’s cinchona tree. Contemporary malaria treatment is based on artemisinin, an ingredient derived from Chinese herbal medicine. The dividing line for acceptance of a therapeutic method, therefore, is not about its origin or even the theory behind it; the dividing line must be the evidence, said Fineberg.

What unites the five dimensions of integrative medicine and the necessary reliance on evidence is a philosophy of health and health care. This philosophy embraces the patient at the center; it talks about prevention, as well as treatment; it integrates across institutions and caregivers; it is open to a variety of modalities, so long as they work; and it defines integrative medicine.

KEYNOTE ON INTEGRATING HEALTH AND HEALTH CARE

Ralph Snyderman, Duke University

_There is nothing more difficult to plan, more doubtful of success, nor more dangerous to manage than the creation of a new system. The initiator has the enmity of all who profit from the old institution and merely the lukewarm defenders in those who would gain the new ones._

—Machiavelli

Health is fundamental to virtually everything that people do and is perhaps one’s most important resource. As the World Health Organization has long avowed, health is more than absence of disease. Good health, Dr. Ralph Snyderman suggested, is a source of vigor, robustness, and well-being, and it generates the will and capacity to do things. Achieving good health is not a function of the health care system alone; to a large extent, individuals have control over the state of their own health. Many diseases can be prevented and, if they develop, be mitigated by actions people take on their own as well as through therapeutic and wellness plans in collaboration with and aided by their health care providers. Rational transformation of the current disconnected approach to health care, said Snyderman, will require a seamless integration of resources to empower individuals to improve their health, while providing the resources needed to prevent and treat disease.
Health vs. Health Care

As health care has grown to a $2.5 trillion a year industry in the United States, this rapid expansion has led to serious economic turmoil, said Snyderman. This turmoil affects all Americans, including the 47 million who do not have health insurance; employers, who cannot afford to offer insurance or whose businesses strain from insurance costs; providers, who see their own costs rising uncontrollably; and payers, especially government payers, with Medicare and Medicaid consuming larger and larger shares of public resources. Rising unemployment rates are likely to cause the number of uninsured and underinsured to grow substantially, further distorting the health care system, noted Snyderman.

If these large national expenditures produced a well-operating health care system and good health outcomes for patients, the expenditures might be considered worthwhile, despite the high cost. However, U.S. health statistics, the system’s poor safety record, and patient dissatisfaction indicate overall dysfunction and a lack of value, said Snyderman. Numerous frequently recognized problems in the U.S. health system directly hinder a focus on “health.” The current system, he said, is oriented toward treating disease events in an uncoordinated fashion, rather than toward prevention or coherent disease management. In addition, care is neither personalized nor standardized; it lacks coordination across providers and poses difficulties navigating among them; it does not engage patients in decision making; and, in many instances, it has proved unsafe.

Snyderman said that the health system should, first of all, focus on promoting and enhancing health and well-being, on identifying susceptibilities, and on reducing risks for chronic disease. When health problems arise, the system should intervene early, provide the best available care for acute events, deal effectively and holistically with chronic conditions, and ensure compassionate support at the end of life. The current health care system is now capable of this full range of services, he said, but it does few of them in a coordinated manner.

Health and the Individual

Fundamentally, integrative medicine brings individuals to the center of their own care over the course of their life. Health risks and strengths are unique to each person. Even though, as humans, we have 99 percent of our genes in common, we differ in terms of our susceptibility to
chronic diseases, in our exposure to environmental conditions, and in our access to and use of health-related services. However, Snyderman noted that the current U.S. system is ill equipped to provide personalized care that addresses each person’s unique circumstances, characteristics, and needs. The health care system has focused on developing new diagnostic and treatment capabilities—and the system has developed many remarkable ones. But, he says, little thought is given to applying these capabilities to a patient’s unique needs over a lifetime and delivering them effectively and systematically for each individual.

Even the best health care system, acting alone, cannot assure good health. Snyderman noted that many dimensions of a person’s life must also be considered and seamlessly engaged. These dimensions include the full range of factors that affect optimal health over a lifetime—physical, cognitive, psychological, social, and spiritual. For the health system to develop the services that will more effectively promote health and well-being, Snyderman said that it will need to take this broader range of factors into account, through a tighter integration of systems, more comprehensive therapeutic approaches, and development of a health care workforce with more diverse skills.

Bringing individuals into the center of their own care will require health practitioners to work with patients to create their own strategic personal health plans based on their personal health needs. Snyderman observed that while Americans plan for retirement or vacation, few develop plans for their most valuable resource—their health. Effective personal health planning requires individuals to better understand their role in protecting health and to assume more responsibility for it. It also requires that they work with their health providers to assess the factors—both internal (personal strengths and health risks) and external (what the health system and their social setting can provide)—affecting their health potential, noted Snyderman.
Current shortcomings in the U.S. health system call for a significant transformation, said Snyderman. The first transformation in U.S. medicine occurred in the early 1900s and was the culmination of many powerful scientific discoveries that emerged decades earlier. Development of the germ theory substantiated the role of microbial agents in the development of disease; discoveries in chemistry helped scientists go from concoctions of tree bark to specific chemical treatments; understanding of physiology and pathology increased markedly and better explained disease development and classification; and advances in physics enabled imaging and radiology. These remarkable scientific leaps, however, inadvertently fostered the reductionist idea that for every complex disease there is a single cause, and doctors should find it and fix it, said Snyderman. Thus, health care became set on the path to where we are today, with all the benefits and unforeseen consequences.

In business, the find-it-and-fix-it approach is called the root cause analysis of failure. In health care, these failures are events of disease. Snyderman noted that no business would plan or run its operations exclusively based on a successive series of failures. Successful businesses develop strategic plans to achieve success, improve performance, and avoid failures. Health care, likewise, should be based on strategic, systemic, and systematic plans to improve health and prevent as many failures as possible. To a great degree, he said, health care providers are increasingly capable of doing this.

While the focus on finding and fixing was vital to understanding disease and developing treatments in those early years, this focus is now too narrow and insufficient to work with complex chronic diseases. A second transformation in medicine, to deal with the complexity and dynamic nature of chronic diseases, is possible and overdue, noted Snyderman. This transformation, again, would be propelled by and greatly dependent on the power of science. Genomics, proteomics, metabolomics, and systems biology now lead the way in the biological sciences. The information sciences provide the ability to accumulate and analyze mass amounts of information. Microprocessing and nanoprocessing offer new analytic capabilities that were impossible even a decade ago. These advances in science and technology can allow clinicians to anticipate negative health events before they occur, personalize prevention and treatment, identify individuals highly susceptible to specific chronic diseases, and develop
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FIGURE 1-1 The inflection curve demonstrating the dynamic nature of chronic disease.

NOTES: The x-axis is time, so interventions further to the right occur later in the progress of a disease, and the y-axis represents the disease burden, cost of care, and reversibility. In this diagram, interventions that appear closer to the top cost more and are less likely to reverse disease progress. At present, interventions typically occur late along the x-axis, where the curve starts to pitch upward. These late interventions generate the high costs and low reversibility indicative of advancing chronic disease.

BOX 1-1
The Inflection Curve Case Study

Snyderman further illustrated the inflection curve concept by describing the case of a hypothetical, but all too typical, 55-year-old man who walks into an emergency room with crushing chest pain. He is given appropriate, but costly, treatment—thrombolytic therapy, stenting, bypass surgery, or medical therapy—and survives his heart attack. He may well go on to develop congestive heart failure in the following years. While this potentially catastrophic event occurred at age 55, he probably had fatty streaks in his aorta at age 25 and started developing atherosclerosis soon afterward. He may even have been born with a susceptibility to coronary artery disease; perhaps his parents died early due to the same condition. Although the health care system did not intervene until after a serious event, the opportunity to help him started far earlier along the inflection curve—when care would have been much less costly and more effective.

If our patient’s heart attack, despite therapy, leads to significant heart damage, he may enter a period of seriously declining health as a consequence of congestive heart failure. If so, the system still should be able to intervene in ways that benefit him more and cost less than high-tech rescue efforts that merely focus on disease events rather than coherent disease management. In short, the health system could and should anticipate the full spectrum of this man’s needs, across the life span: prevention, early intervention, more coherent and compassionate disease management, and excellent end-of-life care.
plans to mitigate them. In short, health care today can build on and improve what was developed a century ago, in order to become a personalized, predictive, and preventive care system that promotes health and well-being, as is illustrated in Figure 1-1 and Box 1-1.

Next Steps

Solutions to the current health system problems described will not be entirely high-tech. Indeed, Snyderman suggested that much of what is needed are low-tech solutions: efforts to improve individuals’ knowledge about their health and increase their understanding of their role in preserving and enhancing it, and strengthening and coordinating support systems. Central to this approach is personalized health planning and the support needed to carry out individualized plans.

Snyderman said that the process could begin with a shift in the usual patient–physician encounter, from the emphasis on find it and fix it to strategic health planning that integrates an assessment of current health status, risk for various diseases, tracking, and development of wellness plans, and, when needed, therapeutic plans. In general, Snyderman said, health care providers would serve as mentors, help promote changes in lifestyle, and provide specific needed clinical services—all aided by a patient navigator or health coach. Depending on circumstances, the coach may be the primary care provider, another health expert, or even an automated or online interactive service.

While the nation’s health system must continue to rest on a sound foundation of scientific evidence and must retain the benefits of new scientific knowledge and technological innovation, science and technology alone can resolve only a small fraction of the problems that patients experience and clinicians see daily, he said. The patient–provider encounter must also be characterized by care, compassion, understanding, and humility, in order to support the full range of patients’ health and wellness needs. In part, Snyderman noted, humility requires being open to evidence from a variety of sources, weighing it objectively, and using it where circumstances warrant.

Darwin did not say that the strongest members of a species survive, as commonly believed, but that the survivors are the ones most responsive to change. Change in a system that accounts for almost 20 percent of the U.S. economy and affects every person in the country, may seem impossible at times, said Snyderman, and many forces will try to block the
kind of transformation described. Nevertheless, in the current economic and political climate, health care reform seems possible, and perhaps even inevitable. “Either it will happen slowly, or it will happen more quickly,” Snyderman said. “What we want is to see that it happens quickly and rationally.”