21ST CENTURY MEDICINE:
A New Model for Medical Education and Practice

Preface

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Beginning a Journey of Discovery

The document you are about to read emerged from a systematic process of inquiry and intentionality about some of the most critical issues in health care today. While there are many vital structural factors to be addressed elsewhere (reimbursement practices, insurance coverage, electronic medical records, the medical home concept), our attention and expertise are here focused on the content and process of care. The path we followed to conceive of, research, and write this white paper on 21st century medicine can be traced back to 2006, when the Fountainhead Foundation approved a grant to The Institute for Functional Medicine to establish and manage a scholarship program for medical schools and residency programs to send selected faculty, students, and residents to learn about functional medicine. Over a two-year period, 57 scholarships were awarded, representing 27 medical schools and 6 residency programs. The impact and opportunities that have grown out of this seed funding have been significant, immediate, and wide-ranging across academic medicine, clinical programs, fellowships, and residency programs.

Our interviews, meetings, and follow-up discussions with scholarship recipients and their colleagues underscored the fact that IFM needed to provide a rationale and methodology for facilitating a more systematic and widespread introduction of functional medicine into these diverse institutions and programs. It is very arduous to modify both the process and content of medical education. There must be a compelling reason and a clear path toward the goal. Our journey therefore, involved documenting the urgent need for a major shift in medical education, and then describing a model of care that can be adapted to the teaching needs of medical (and other health professions) schools and residency programs. In so doing, we provide both the justification for, and a description of, the change that must occur to equip clinicians to adapt successfully to the health care demands of the 21st century.

We looked first at relevant major themes in health care today: the epidemic of chronic disease; the evolution of evidence-based medicine; the poor performance of the acute-care model in a chronic care environment; the emergence of new paradigms such as systems biology, integrative medicine, and personalized care; and the lack of consensus on how to address these issues in a systematic way.
This journey took us deep into the literature of costs vs. performance, science vs. art, research vs. clinical practice, and the many ideas about how to consolidate the gains of the 20th century without losing flexibility or constraining the promise of new information and new models of care for the future.

With this background in place, we began to explore how all of this looks and feels to the individual clinician who is immersed in the daily demands of clinical practice. This, of course, is where the rubber meets the road. We found that not only have we failed to materially assist most primary care practitioners in understanding how to make better use of evidence, or in translating new tools and ideas into their clinical practice, but we have left clinical medicine poorly equipped to address two critical elements: (1) managing the uncertainty that is inherent in clinical practice, and (2) creating a healing partnership with their patients. We found that clinicians are no longer taught how to integrate the science and the art of medicine—indeed, the art of medicine has all but disappeared as a subject of teaching. From the evidence-based medicine perspective, all you really need to do is gather data, focus the data toward securing the diagnosis, and then research the evidence about the best molecule (Rx) or procedure to treat that diagnosis. Doctors trained in the EBM, acute-care model have become technicians. Converging pressures have reinforced this model by forcing doctors to focus their office visits more and more narrowly, and to deliver care in less and less time (often for less and less money).

If this model worked, we wouldn’t have had grounds for writing this paper. Unfortunately, the model has failed spectacularly to help stem the rising tide of chronic disease. Fortunately, however, there is plenty of evidence that this is not the only way forward. Physicians and other practitioners can be taught to shift into a personalized, systems-medicine approach that is much better adapted to the complex demands of chronic disease. They can learn to gather and analyze patient data differently. They can twist the kaleidoscope and apply critical thinking to the use of evidence. And they can create healing partnerships that allow both patients and practitioners to achieve insight and then to evaluate that insight in the light of knowledge and experience.

Reintegrating the Science and Art of Medicine

There are always two deeply powered processes at work in any life-changing endeavor. Human beings require both denotative and connotative information for mastery—that is, we need both data and intuition, science and art. Brain scientists have made great progress in illuminating the deep creative processes by which our “minds” make use of the “matter” of our brains. Clinicians, particularly, need to bring to the therapeutic encounter the unique qualities of both right- and left-brain function that have been emerging from brain science research. In the last decade, wider use of functional imaging technology has delivered a much clearer picture of coordinated brain function—why and how it occurs. It is now possible to weave together the integrated functionality of the two sides of the brain in a way that can inform our understanding about a comprehensive patient care model that respects and integrates both the science and the art of medicine.

The Institute for Functional Medicine (IFM) has developed a model of comprehensive care and primary prevention for complex, chronic illness that is grounded in both the science (the Functional Medicine Matrix Model™) and the art (the healing partnership in the therapeutic encounter) of clinical medicine. We call this model functional medicine, and we have taught it for many years. It is not a separate discipline or specialty—it is an approach to clinical care that is both comprehensive and patient-centered. It can be
taught to and practiced by any health practitioner who has a background in the basic medical sciences and clinical practice, and it can adapt quickly and easily to emerging evidence. It can also provide a common language and shared principles, organizing tools, and analytic process to support and facilitate integrated health care.

Continuing the Journey

We find ourselves at the beginning of the 21st century faced with a health care system in disarray on many levels. We must reassemble the disparate pieces of this baffling puzzle into a new and more coherent pattern (a new operating system). The intention of this document is to establish the need for a new model of care, and to make conscious, transparent, and usable the functional medicine model and our methods of teaching. We will show how this integrated model can better meet the needs of a population afflicted with steadily increasing rates of chronic disease. We believe that these changes will also help physicians establish a more satisfying basis for clinical practice.

The diligent work and thinking of 20th century clinicians and scientists have brought us to this moment with many tools and key concepts, including:

- the art and science of clinical medicine
- systems biology and personalized, systems medicine
- prospective health care
- patient-centered health care
- the chronic-care model and the chronic-care team
- integrative medicine
- nutrigenomics, pharmacogenomics, proteomics, metabolomics
- evidence-based medicine (EBM)
- right and left brain functionality and the healing partnership
- the science and practice of creating insight as part of the therapeutic encounter
- the process of managing the uncertainty inherent in the clinical encounter

We will explore all of these topics in the following pages, and we will address the challenge of synthesizing a model of health care for the 21st century that cogently integrates the best components of both established and emerging knowledge and practices. We will describe a model for therapeutic relationships that enhances the emergence of a healing partnership, that engages all parts of the brain, and that strengthens the bodies, minds, and spirits of both physicians and patients as they share the path toward improved health.
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About the Institute for Functional Medicine

The Institute for Functional Medicine (IFM) is a nonprofit, tax-exempt 501(c)3 educational organization that educates physicians and other healthcare practitioners in improving the assessment and management of complex, chronic disease through the use of functional medicine. The Institute’s mission is threefold: to develop the functional medicine knowledge base as a bridge between research (both emerging and established) and clinical practice; to educate physicians and other healthcare providers in the basic science and clinical applications of functional medicine; and to communicate with policy makers, practitioners, educators, researchers, and the public to disseminate the functional medicine knowledge base more widely. IFM has developed a model of comprehensive care and primary prevention for complex, chronic illness that is grounded in both the science (the Functional Medicine Matrix Model™) and the art (the healing partnership in the therapeutic encounter) of clinical medicine that is now being implemented by functional medicine practitioners around the world.

The Institute for Functional Medicine is accredited by the Accreditation Council for Continuing Medical Education (ACCME) to provide continuing medical education for physicians. IFM offers educational publications and programs designed to raise the bar on clinicians’ standard of care. Programs such as IFM’s Functional Medicine Certification Program and Applying Functional Medicine in Clinical Practice (AFMCP) provide comprehensive clinical training for the assessment, treatment, prevention, and management of patients with complex, chronic disease. Other programs include IFM’s Advanced Practice Modules, online Webinars, and the annual International Symposia on functional medicine. The Institute publishes textbooks, monographs, and other educational materials available for CME credits and offers clinicians a Forum for the shared exploration of emerging research and clinical applications to improve patient care and outcomes. Detailed information about the Institute, its educational activities, and membership can be found at www.functionalmedicine.org.

Author David S. Jones, MD is the President of The Institute for Functional Medicine. He has practiced as a family physician with emphasis in functional and integrative medicine for over 25 years. He is a recognized expert in the areas of nutrition, lifestyle changes for optimal health, and managed care, as well as the daily professional functions consistent with the modern specialty of Family Practice. He is the Editor-in-Chief of the Textbook of Functional Medicine. Laurie Hofmann, MPH, is IFM’s Executive Director and an advisor and consultant to several public healthcare and health education initiatives across the country. Sheila Quinn is consulting author and editor of 21st Century Medicine: A New Model for Medical Education and Practice and many other IFM publications including the Textbook of Functional Medicine.

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