David S. Jones, MD, is the president and director of medical education for The Institute for Functional Medicine (IFM), Gig Harbor, Washington. He has practiced as a family physician with emphasis in functional and integrative medicine for more than 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. Dr Jones is the recipient of the 1997 Linus Pauling Award in Functional Medicine. He is the immediate past president of PrimeCare, the Independent Physician Association of Southern Oregon (IPASO), where he served for 7 years representing the majority of physicians in the Southern Oregon area.

Laurie Hofmann, MPH, is executive director of The Institute for Functional Medicine. She recently interviewed David Jones, MD, on behalf of Alternative Therapies in Health and Medicine.

Ms Hofmann: You certainly exemplify someone who has taken the road less traveled. Tell us about your journey as a family physician and what led you to search for a new model of clinical practice.

Dr Jones: I want to go back a little further than my clinical practice experiences to answer your question. Before I graduated from high school, the counseling department tested me regarding my most promising career areas. The tests suggested that I should pursue training in the sciences. However, I chose the humanities; my original undergraduate college degree is actually in English literature and linguistics. Looking back now, I think that I understood at a young age that I was not only passionate about wanting to know how things worked—and that was probably why the testing showed that I should go into engineering or some aspect of science—but I also wanted to be able to communicate my evolving understanding about how things worked.

Going into medicine was also very much framed by the number of chronic illnesses that my relatives and immediate family experienced when I was a child and their individual difficulties getting meaningful, comprehensive care. Even back then, some 50 years ago, the medical care model was broken; it was built on the flawed foundation of better living through chemistry. My family’s experiences showed me in very real, visceral terms the consequences, both helpful and illusionary, of that chemistry jingle and its underlying assumptions.

Originally, I planned to become an English professor, but the tug of wanting to know the deeper secrets of “how things work” pulled me back into the sciences. I completed 2 extra years of undergraduate work in the basic sciences and mathematics and soon thereafter started medical school. I assumed, naively, that medical school would help me integrate that understanding of how things work with an understanding of how people work. My journey in the humanities—the stuff of fiction and poetry—actually prepared me better in many ways for this integration.

It wasn’t long after graduating from medical school and finishing my postgraduate clinical training that I had an epiphany: having the medical model that I had been trained in was woefully inadequate for resolving the complex issues that I was seeing each day. I realized that a number of the people on that day’s list would probably have been better off not seeing me at all because of the side effects from the treatments that I had prescribed for them. I then looked at the list of people that I would be seeing the next day and realized that I didn’t know which individuals on that list of patients I should call and suggest that they stay home. That marked my professional life thereafter.

I started the journey down the road less taken that you mentioned, looking for another model that would better serve the needs of my patients. To answer the question you asked about what led me to my search for another model, it was being observant about the ineffectiveness of the conventional approach with chronic complex problems and noticing how much mischief we create by trying to handle them like an unconnected series of acute problems—each problem out of context with the others. I had been trained for clinical situations that simply rarely pertained.

Ms Hofmann: So you saw what was working and what was not working. What came next?

Dr Jones: In medical school and then in clinical training, I had taken an interest in traditional Chinese medicine because I realized during my schooling that one of the deficits of conventional medicine was the absence of any philosophy or explanatory set of...
underlying principles that, taken together, could provide answers to the question, “What are the origins of illness?” My training basically expressed—by its clinical protocols—the philosophy, “Come see me when you’re broken, and I will make a diagnosis and give you a drug.” I had already started down the path of traditional Chinese medicine while looking for a whole-system philosophy. By the time of the epiphanal experience that I described, I realized that the next step for me was to find a way to integrate those traditional principles with the scientific information that was beginning to emerge after Watson and Crick’s discoveries about the human genome (and, of course, much, much more during a truly remarkable expansion of scientific knowledge about underlying mechanisms in human biology). The second half of the 20th century was characterized by a cornucopia of breakthroughs in the biological and molecular sciences.

I was lucky early on in my search to meet Jeff Bland. He was, at that time, a professor at the University of Puget Sound and had started his basic research studies in nutritional biochemistry. I invited him to come to southern Oregon. I decided to form a group of professionals, and we started to study, with Jeff’s help, McGilvery’s textbook, *Biochemistry: A Functional Approach* (1983). In his professional life, Jeff had begun to address the importance of biochemistry as one of the fundamental principles of modern scientific medicine. Over the years, we wrestled with how the discoveries in molecular and cellular science meshed with the values and practices of traditional, whole-system medicines. We began, with his guidance, to integrate the evolving information on genetics, biochemistry, and molecular sciences into a changed clinical paradigm. These meetings engendered a very long friendship, which included not only Jeff but a group of very thoughtful people in the healing arts. Mentors such as Leo Galland and Sidney Baker were key contributors, as well as many other intelligent and thoughtful clinicians, researchers, and lab scientists who eventually added important components to the model that we now call functional medicine.

At the beginning, we simply postulated, “Recent findings in modern science suggest that each person is a unique unit, and this unique unit is moving through a unique environment.” Information from the large registries in the Scandinavian socialized medical system was appearing during those years. Their identical-twin studies showed that by the time middle age occurs, the illnesses experienced by identical twins are similar only about 30% of the time. The other 70% of illnesses track back to the unique interactions between environment and genes that turn out to be very different, even for identical twins. We were deeply affected by the potential for a significant clinical impact if we could better understand that—even though the genetics are the same for each twin—the environmental and lifestyle differences shaped unique health outcomes. We realized that lifestyle effects on health and disease generated critical information for achieving significantly better clinical outcomes.

We began very early to look at developing a model that could accommodate not only the uniqueness of each person but also the uniqueness of his or her environment. This became—and still is—one of the foundational principles of functional medicine. We began trying to stitch together a more modern, systems-medicine type of clinical architecture from these early concepts. We realized that the model must be able to accommodate principles as diverse as those of traditional Chinese medicine, Ayurveda (traditional Indian medicine), and other traditional systems.

**Ms Hofmann:** How did you and others evolve and develop this functional medicine model from the seed ideas of that study group?

**Dr Jones:** Much work had already been done by scientists on the functions of the different organ systems—the silos of information specific to modern specialization. But even back then, we realized that the model had to be responsive to what was coming from the work in systems biology. We knew that the new model in biology was going to be based on networks, the n-dimensionality
of information from what had been stand-alone silos of organ-system research. We felt that the collision of reductionist, organ-system medicine with the principles and practices of the traditional, whole-systems medicines would create demand for a systems medicine, similar to the systems biology transition in the basic biological sciences.

A cornerstone for these new models would be the notion that everything is connected. I was beginning to see in clinical practice the harm that is done when you don’t take this web-like network of effects into consideration—for example, when you don’t consider that drugs with potentially very positive effects on one system can be harmful to other systems. Some of the early cardiovascular drugs had a very positive effect on the contractile components of the heart muscle and yet could destroy the patient’s liver or cause cognitive dysfunction and neurological side effects.

The challenge during the early decades was to craft a methodology for integrating the emerging science into a network frame of reference that recognizes that when the human organism is broken down into its component parts, you lose critical information. The model had to encompass both assessment and treatment of the patient from this 21st-century systems perspective. That process of building the model has gone on for 4 decades, and it’s still going on. Not a year goes by at IFM that breakthroughs in science don’t inform our thinking and teaching in a more robust way.

Ms Hofmann: You mentioned Sidney Baker and Leo Galland as two mentors who made contributions to your and other people’s thinking and to the evolution of the functional medicine model. What were their major contributions? Who else has been a mentor, and what specifically has he or she contributed?

Dr Jones: First, there’s Jeff Bland, who possesses an unparalleled ability to recognize key patterns in the emerging science and describe how the concepts tie together into a recognizable tapestry that is applicable to human health. Sidney Baker, who takes those patterns and makes them clinically relevant, was the mentor who came up with the fundamental questions we use in our clinical inquiry: What do you have too much of that is causing trouble in your system, and what do you need that you don’t have enough of to make the system work appropriately? His basic formalism runs like a central thread through the tapestry of functional medicine.

The practice of functional medicine inevitably comes back to the patient’s story. To address the question of how the basic mechanisms of human function become a useful part of that story, Leo Galland developed what we call the “antecedents, triggers, and mediator model.” A series of clinical questions frames the functional medicine patient encounter and captures an important sequence in the patient’s life: (1) When is the last time you felt really well for more than a few days at a time? (2) After that, did you experience any illness or major stress, change your use of medication or dietary supplements, or make any significant life changes? (3) Does your family history suggest that there are significant genetic susceptibilities that affect how your body processes its unique environmental stresses? From this inquiry, we begin to understand when the problems arose, what changes in the patient’s life may have acted as triggers for initiating the downhill slide from wellness toward an actual definable disease, and what ongoing influences mediate this process of continued dysfunction.

Gerald Reaven, another major contributor, added to the robustness of the functional medicine matrix the very important issue of insulin resistance, how it affects the basic metabolism of energy and how energy moves through a system. We now know that the downstream effects of insulin resistance form a major component of the chronic illnesses we see across the industrial world. His contribution to our understanding of the network of lifestyle and social issues flowing through genetic susceptibility—and communicated through the network of nodes in the neuroendocrine system—helped frame the functional medicine matrix model.

The implications of Dean Ornish’s early work, illustrating the profound importance of lifestyle in the development and treatment of coronary artery disease, has definitely influenced the course of functional medicine. His more recent research with prostate cancer, demonstrating the fundamental gene-modifying
effects of clinical interventions based on lifestyle modification, is foundational to our model.

A long series of mentors and originators, too legion for me to mention here, have set the bar high by the quality of their thinking and their willingness to look at what the underlying research could mean in terms of clinical applications.

**Ms Hofmann:** How have your professional experiences and positions prepared you for the role of president and director of medical education at IFM?

**Dr Jones:** My experiences as a clinician have been instrumental in helping guide and create a vision for IFM. I have worked as a family doctor all this time, helping people throughout their lives—with pregnancy and childbirth, with illnesses of childhood and adolescence, and then with the systemic chronic illnesses that appear in later life. This fundamental experience of decades of working in primary care, and trying to understand how to keep wellness a part of what we do as physicians, drives me to analyze, hopefully with greater and greater accuracy, what the mechanisms are that help keep the human system functional. And when that system starts to fall apart, I want to know what mechanisms underlie that downward spiral of disease. How does the system get out of balance, start to wobble, and pretty soon stumble toward a serious dysfunction that qualifies for an ICD-10 diagnosis? The most important question for me always is how far upstream can we go to identify the antecedents to susceptibility and the pathways toward (and away from) diagnosable illness?

When I sit with a patient, I am always considering two primary questions: Is this person experiencing the early and unsuspected antecedents or triggers for a downstream, more serious illness? And is something happening in this patient’s life that, if I fail to understand it, will result in finding the patient at the bottom of the waterfall, already in a seriously broken state? I don’t want to wonder later on whether we could have changed the outcome if we had focused our attention more upstream!

The development of functional medicine—and the brilliance of the people who have been involved in its development—contributes daily to my understanding about how you actually stratify that risk, what antecedents are at play in that risk, and what mediators are continuing to take that patient in the wrong direction. Fortunately, with these tools, there is always the potential to understand which steps can be taken to change the direction, the angle of those vectors, so that the patient enjoys a healthier life.

**Ms Hofmann:** As a follow-up to that, can you describe specifically how you apply the functional medicine model in your clinical practice? What do you find to be most useful about the model, and what still needs work?

**Dr Jones:** What I find exciting is that the job is not to make a conventional diagnosis and figure out what drug or what test is associated with that diagnosis. Before I walk into my exam rooms, I pause for a minute to adjust myself to the potential for unique experiences that can happen in this next encounter. I set the intention that we’re going to create together the patient’s narrative story and end up with answers that are relevant to them. I go in with an empty form that we call the functional medicine matrix model form. I sit down with the patient and explain that we’re going to be looking at the chief problems he or she has and we’re going to develop a partnership to find answers to those problems. And then we begin our journey together populating the form in such a way that the full story emerges.

We start the process of history taking (a history that involves all aspects of the patient’s life) with childhood health issues. As we proceed, I am also looking for family history hints both from the forms the patient has filled out and from their recounting of family stories. I am constantly surveying how the narrative informs my understanding of the salient issues that have brought this person to our clinic. Eventually, I tell the story as I understand it back to the patient, based on all the information he or she has supplied. I ask patients to stop me if my narrative of their story does not resonate for them.
The patient tells me where I have it right and where I have it wrong, and then we begin the process of what I call “the probes”: either we do further evaluation because we need more information, or we start an intervention. I insist that regardless of whether we’re doing further investigation or we’re doing therapy, it is essential that they help me understand how these probes affect them. From this entire process come answers that can profoundly change the vector of dysfunction that has brought the client to my office.

The functional medicine model works because it sits on a foundation of both science and traditional principles of wholeness and balance, and it includes a comprehensive methodology for assessing where the human system has started to wobble. The model can enfold all aspects of the client’s life and offers methods for inserting the elegant tools of science into the narrative to more comprehensively serve the client’s needs and use the more traditional medical treatments in a coherent way.

Ms Hofmann: What kind of response do you get from patients who are not accustomed to having their doctor talk with them about being a partner in searching for answers to their problems?

Dr Jones: I often see patients who have come to Ashland from quite far away and who have commonly seen a number of professionals already. When I explain to them that we’re going to come up with answers together, create a partnership, they say, “That’s really great. That’s why I’m here—I’ve heard that’s true.” After we’ve had a couple of meetings together, they usually stop the conversation at some point and confide to me, “A number of the clinicians that I have seen told me we’re going to work together, but then I pretty much get from them whatever therapy they’re known for. What has happened here has been unique for me because you actually seem to believe that you can’t do it without me—that you have to do it with me—this gives me a sense that I have a lot to do with helping us come up with answers. I have to be the one to begin that search inside myself for those answers—with your help, with your questioning. It’s a great pleasure to have a doctor say that you can’t do this without me and that I’m essential.”

And we do have a partnership because I don’t make decisions without the patient saying whether the narrative of the story we develop resonates with him or her. I am thrilled when the patient finally realizes that his or her efforts are essential to a meaningful, comprehensive answer to his or her problems. I do actually believe that most medical problems are not issues of clinical computation—that you cannot take an extensive history with a careful examination and then compute what the root dysfunction is. That’s why the different diagnostic software programs, by themselves, have never been that successful. We know now that there is so much interplay between the emotional life of a patient, his or her belief system, and his or her unique metabolism that there are no general answers for any specific patient, regardless of the diagnosis. When you address the job of the clinician from a computational point of view, you often get answers that don’t work as well, and the therapy doesn’t work as well because the lever is probably placed at the wrong fulcrum point for that specific person.

Ms Hofmann: Last year, you were the primary author of a white paper called Twenty-First Century Medicine, a New Model for Medical Education and Practice [available at: http://www.functionalmedicine.org/ifm_ecommerce/FileTracker.aspx?FileID=2], and in it you discussed the clinician’s dilemma and the issue of uncertainty in medical practice. How would you describe the clinician’s dilemma?

Dr Jones: The production of the white paper was a culmination of 40 years of practicing medicine and trying to be mindful of the whole process. Writing the document was one of the greatest pleasures that I have had. IFM has a benefactor, the Fountainhead Foundation, that provided the financial resources for me to have an excellent coauthor and managing editor, Sheila Quinn, and you, our other coauthor, whose vision for the paper was our starting point and whose leadership guided us always in executing on that vision. Together, we stitched the information together into its final form. I had the opportunity to do two solo retreats during which I reviewed the whole project and focused on the last couple of chapters.
Chapter 4, “The Clinician’s Dilemma,” is at the heart of what we teach at IFM. The clinician’s everyday dilemma is that we work in a clinical decision-making environment that is afloat in a sea of uncertainty—there’s never enough information to say much of anything with absolute certainty. This central and often unspoken dilemma led me to investigate what the research is about decision making in the context of uncertainty. It turns out that there is robust research about how we make decisions when we are given incomplete information. This is true for everything from the financial environment to the medical environment—the financial sector has paid for most of this research. These questions then led me to the rich literature in the area of how the brain works both for computational functions and for pattern recognition when processing difficult questions. Central questions being investigated include “How does what we experience as the mind—the integration of the entire nervous system—sum its input in such a way that we have a feeling that the mind is working?”

For example, I am sitting here with you, Laurie, putting together emerging thoughts in such a way that I create sentences, and I’m able to communicate these thoughts with you as we converse. How does oral input over a phone connection get processed into this experience of coherent conversation?

I found that when you put together the research about decision making in a context of uncertainty with how the brain seems to actually deal with the need to develop potential answers, there is a reproducible process of brain activity that can illuminate the clinical conundrum that I labeled in the white paper as the clinician’s dilemma. Let’s take a step back and try to identify the process as we sit with our patients: “Here’s a unique biological unit—the patient—moving through a unique environment, and we’re using both our own clinical experiences and the client’s own unique life experiences to conjure an answer that has relevance for both of us.” How can we hope to forge out of this wealth of information a series of hypotheses upon which we can build both further assessment and treatment plans? How do our brains conjure answers that help the person in front of us to achieve a healing experience? It’s not surprising when you begin to understand how the human brain works in an environment of uncertainty that, from this array of information—this 52-card-pickup chaos, if you will—significant answers do emerge. It’s profoundly humbling because within the black box of the biological brain, astounding synthesis can occur.

What surprises me now is that in conventional medicine we still believe that you can compute answers to the patient’s problems from a purely statistical perspective—the essence of the 21st-century evolution of evidence-based medicine. The forces within each patient’s life are so numerous and so complex that normally they can only inform the clinical environment in a nonspecific way. The significant clinical answers come from a combination of the patient’s experience, the clinician’s experience, and clinical evidence, all mixed together in a way that enhances the possibility of creating a hypothesis that can then be clinically probed.

The functional medicine matrix model was designed to assist in the filtering of all three sources of information: the patient’s life experiences, the clinician’s wealth of skills and knowledge, and the robust science-based clinical information now available. The integration of these three sources of information requires rigorous and disciplined processing. We developed the different elements of the functional medicine matrix (the underlying mechanisms of wellness as well as dysfunction) to facilitate the clinician’s job. Key questions organize around key mechanisms—for example, focusing on what’s going on in the immune and inflammatory processes of the body or finding out whether toxicants are present and, if so, whether the patient’s body can handle the environmental toxicant exposure.

We teach clinicians to use the functional medicine matrix model to develop the patient’s narrative story within the framework of the seven underlying mechanisms that we have identified. When the patient’s experiences, the clinician’s experience, and the scientific evidence are integrated, insight can emerge.

This pattern-recognition ability, emerging from a plethora of input, uniquely marks us as a species—we do complex tasks every moment of every day that require both computation and pattern recognition. The process of writing the white paper was an opportunity to step out of my everyday responsibilities and consider what my 4 decades of clinical experience, combined with the unique companionship of other thoughtful, functionally oriented practitioners, have meant to me. Many of us know that if you immerse yourself in your patient’s story and inform yourself about the evidence that’s relevant to that patient, something emerges that’s unique and useful to that patient. I became convinced during the writing of the white paper—having 8 months to immerse myself in the history and the science and to bring
forward 40 years of clinical experience—that a truly personalized medicine is possible and can be taught. Chapter 4, “The Clinician’s Dilemma,” and Chapter 5, “Functional Medicine: A 21st Century Model of Patient Care and Medical Education,” crystallized the many meaningful experiences and intuitions that I have been granted in my life as a doctor.

Ms Hofmann: How has that material been received? What sort of feedback have you received from your colleagues, medical school faculty, and others?

Dr Jones: The feedback depends upon the perspective of the person reading the white paper. I’ve had feedback declaring that the first chapter, which describes the crisis faced by contemporary medicine, is the most cogent presentation of the seriousness of what we’re facing in the industrialized world. Other people have said, “No one has really surveyed the different answers that are out there like your group has in Chapter 2.” Sheila Quinn and I did a review of the answers that different groups have come up with; there seemed to be a sense from the feedback from readers that there was fairness to our evaluation.

But most people have talked to me about the thrill they felt when they read the chapters on the clinician’s dilemma and a 21st-century model because these chapters articulated for them the challenge they face every day in their clinics: “How do you make a decision in the sea of uncertainty inherent in clinical practice without hurting people and improve the chances of enhancing their conditions in the process of trying to find appropriate answers together?”

For me, this project was the culmination of 40 years of clinical work, daily asking the questions: “What do I do when I see patients? What changes in the model—the mapping system—that I’m using can help to decrease the mischief that occurs as we search together for complete answers?” We now have a model that has the scientific foundation for how to approach uncertainty in a way that’s comprehensive and disciplined and yet uses the unique ability of the human species to find answers in very complex sets of data. This is one area where computers and algorithms cannot match the power of the human mind to achieve insight. For clinicians to say that Chapter 4 explains for them why and how they’re able to do their best work is a powerful experience for me after 40 years of asking these questions.

Ms Hofmann: How is the functional medicine curriculum taught in such a way that it helps clinicians to cultivate pattern-recognition skills?

Dr Jones: That is a wonderful question because our faculty is made up almost exclusively of successful clinicians—successful in the sense of the outcomes they have with their patients. Our faculty members are clinicians who see very complex patients who require very comprehensive assessments and interventions. But how do you teach in a relatively short period of time something that many of our faculty members have worked for 30 years to develop an ability to do? What is the pedagogical science that can inform us about how you take something as complex as teaching pattern recognition and make it a learnable skill that doesn’t take 3 decades to sufficiently master so that it can be clinically applied? I have asked our faculty to take the next leap in their professional lives: “You are successful clinicians. Now the job is to become successful teachers.” We bring in consultants, we look at the science of pedagogy, and we use techniques that take this very complex science-based clinical content and reduce it to methods of applying it in a clinically disciplined way.

Part of that has to do with making information databases available and teaching how they can be used. Also, we have to identify the guideposts for critical thinking—the disciplined methods that you go through in the process of working up a patient. That’s why much of our teaching is case-based. We work through complex patient case histories to model how to do the thinking, how to navigate, and how to map the information so that the pathways that lead a patient toward health become more apparent.

At the same time, we teach that the real answers can emerge only when you authentically honor the partnership between clinician and patient. We do not see functional medicine practitioners as experts who tell patients what they have to do; rather,
The conversations are much more animated at this point because there is no question now that the epidemic of chronic disease has created a crisis that requires health care reform. We cannot continue to look at the job of medicine as simply taking care of a patient when he or she is sick. We must also focus on the upstream issues of how to evaluate risk and then how to work in partnership with patients to reduce that risk, in terms of both primary and secondary prevention. Many patients come to me for the first time when there is some brokenness in their lives, and the question is not just how to treat that brokenness but how to rebalance a system so it’s more robust, to remove the susceptibility that is already expressed in whatever that brokenness is—diabetes or multiple sclerosis, for instance. How do you return the biology and the emotional, spiritual life of

Ms Hofmann: What have been the highlights and key accomplishments of The Institute for Functional Medicine in the first decade of the 21st century?

Dr Jones: First of all, we should give credit to Susan Bland for recognizing, almost 3 decades ago, that this perspective was unique, this methodology was unique, and it needed to find its own organizational home. It was at her urging and under her direction that she and Jeff formally created The Institute for Functional Medicine. Their company, HealthComm, Inc, began to host the annual International Symposium on Functional Medicine in the early 1990s as a starting point for introducing this model.

In 2010, almost 20 years later, the 17th annual symposium will focus on cancer from a functional medicine perspective. In primary care, the cancer patient is often handed off to oncology because of the arcane and specific kinds of assessments and treatments that oncologists or radio-oncologists use. It is our position that primary care clinicians must re-engage in cancer care throughout the continuum, from prevention to treatment to survivorship. We have assembled a covey of experts who will present lectures and workshops about how primary clinicians can stratify patients’ risk for having cancer in their future. For those who have cancer, the experts will teach us how to provide adjunctive therapies, keeping the patients as robust as possible as they move through their cancer therapy. And finally, we will learn how the survivors of cancer therapy deal with the challenges of that phase.

In conventional medicine, survivorship and follow-up basically amount to periodic reviews to see whether cancer has recurred. However, we know that a great deal can be done to decrease the risk of recurrence if you understand the underlying mechanisms of health and disease. One of the achievements of IFM is following that consistent thread about underlying mechanisms for nearly 20 years, through all the IFM symposia, programs, and publications. The institutionalization of that search and the clustering of committed clinicians and scientists to develop a clinically useful architecture that can be taught are, of course, the real achievements of the last 2 decades.

Ms Hofmann: What are the priorities for IFM as an organization over the next 3 to 5 years?

Dr Jones: There are three major priorities. The first is to continue working on the model. How do you teach it? How do you tweak it so it’s easier to understand and use clinically? How do you ensure that it evolves to supersede the limitations of organ-system medicine? It’s a model that takes the whole patient into consideration—what his or her preferences are, what the individual’s risk landscape is, what the totality of that particular life is about, which genetics are in play, and so forth. We continue to evolve a medical model that’s understandable and practical but has different and better outcomes in terms of the whole person than the conventional acute-care model.

The second issue is how do we move this model into the health care environment in such a way that it becomes more widely available? Because once it’s mastered to the point of application, the outcomes are so exciting for clinicians. Many clinicians who take our courses approach me or write and say, “You have re-enchantment medicine.” This has been true for me as well. Being a clinician has been an enchantment my whole life because it’s a calling that requires the very best of who I am—this calling brings me face to face with my inadequacies every day. If you want to be good at clinical practice, you’re constantly being challenged to be bigger than your personal needs. It’s an enchanting journey.

The third part of what we are doing at IFM is in the area of research. There’s a profound need for innovative, validated methods to perform whole-systems research. We currently labor under the gold standard of clinical research—the randomized controlled trial—that was originally developed to make sure that strong medicines that might cause major damage are not released to the public without proper investigation, certainly a laudable goal. But the much bigger questions today are, “What constitutes a whole-systems approach to researching the best assessments, treatments, and prevention strategies for chronic complex conditions? How do you do quality research that can tell you whether you’re on the right trail for answers that can be systematized and generalized for clinical assessment and treatment?”

Ms Hofmann: To recap, the three areas IFM is focused on for the next few years are the evolution of the functional medicine model, the diffusion of that model more broadly, and research?

Dr Jones: Yes.

Ms Hofmann: How do you characterize the conversations you’re having in 2010 with insurers, employers, medical school faculty, governmental agencies, and researchers? How do they compare to the conversations you were having 5 years ago?

Dr Jones: The conversations are much more animated at this point because there is no question now that the epidemic of chronic disease has created a crisis that requires health care reform. We cannot continue to look at the job of medicine as simply taking care of a patient when he or she is sick. We must also focus on the upstream issues of how to evaluate risk and then how to work in partnership with patients to reduce that risk, in terms of both primary and secondary prevention. Many patients come to me for the first time when there is some brokenness in their lives, and the question is not just how to treat that brokenness but how to rebalance a system so it’s more robust, to remove the susceptibility that is already expressed in whatever that brokenness is—diabetes or multiple sclerosis, for instance. How do you return the biology and the emotional, spiritual life of
that patient to a place where he or she may no longer express that dysfunction or disability to which we applied a diagnostic label? That is the real task ahead.

Ms Hofmann: What factors have led to such widespread interest in IFM’s educational programs?

Dr Jones: As I said earlier, most practitioners already recognize that the system is broken, so seriously broken that a new model is desperately needed. In biology, they realized this problem several decades ago and developed the systems biology concepts that have invigorated their science. Even the issue of genetic susceptibility has moved from linear application of one gene—one illness into the network model of complex genetic susceptibilities. The question morphs into “What are the various nodes of genes that together express certain problematic susceptibilities?” Very few problems are one-gene derived.

At IFM we constantly ask ourselves how to take this model from biology and integrate it with new concepts in genetics, genomics, translational genomics, metabolomics, etc, and then apply it to clinical medicine, getting closer to where the underlying complex disorders actually originate. This perspective has engendered a keen interest from educational institutions, medical schools, and residency programs about the architecture of functional medicine.

The interesting thing for me is that not only do we feel a push coming from the scientific community to move to a systems-medicine model, but on the other side, we also feel a push from the consumer. This consumer impetus, I think, comes primarily from the same group that changed natural childbirth 4 decades ago. Early in my career, my primary focus was on younger families; I was very involved in the natural childbirth movement. Those advocates who changed birthing practices are now in their 50s, 60s, and 70s. In the past, they absolutely demanded that we change the way we birth their babies. Now they demand a more comprehensive care for their complex illnesses, saying, “I’m experiencing chronic complex problems, and your methodology for treating me is to put me on many different drugs. When I go home and look up the side effects associated with the drugs, I find that I would rather keep my original symptoms than have these new ones that might come from the number of drugs you want me to take—no thanks.”

Medicine is being pushed from both sides—from the scientific side to better reflect clinically what we know about how the human organism actually works and from the consumer side, which is saying, “I want my medicine to reflect how I see the world, and I don’t see the world as bodily compartments that need different, powerful prescriptions because no one can figure out what the underlying problem(s) really is.” This attitude fuels the demand that pushes IFM to continue developing the principles, practices, and tools that allow us to take traditional values such as balance and wholeness, integrate them with systems biology, and ultimately shape an effective systems-medicine architecture within which both can flourish.

Ms Hofmann: What do you see as the most significant barriers to widespread adoption of functional medicine, and what are you doing to address them?

Dr Jones: When I have an opportunity to actually explain the principles that underlie functional medicine, there is not a lot of opposition to the concepts. The opposition comes when practitioners are challenged to change their frame of reference and clinical practice behavior. The functional medicine perspective requires looking through a different set of lenses which, at first, can seem to turn the world upside down. The responsibility of the clinician, in concert with the patient, is not just to make a diagnosis and select a drug; it is to make a diagnosis and then look under the hood for potential mechanisms that have gone awry and that, when mended, can help change the trajectory of the patient’s life away from illness and toward health. This is a different lens. It is a different way of understanding and then mapping the world of medicine.

Change is difficult, and the change that we’re suggesting is very difficult because it’s not a simple one-to-one answer. You have to really understand your patients. You have to really understand the qualities of their lives, from what you can tell about cellular level function all the way up to what’s happening with spiritual meaning. Do they have a reason for getting up in the morning? All of these things merge into the patient’s physiological state and what we see manifested as their medical issues. The wholeness of the functional medicine perspective is the biggest obstacle because it requires the next jump, and the next jump is away from being primarily doctor-technicians who make a diagnosis and give a drug to being facilitators to being ecumenical, to being fully engaged with the patient, to being authentic as a human being.

This is the major obstacle because medical education, in so many ways, has filtered out the very qualities that are required to become a clinician rather than a technician. What continually gives me optimism is that most doctors are doctors because they are very curious, because they care deeply about people, and because they want wholeness in their professional lives. Most doctors are not satisfied with being technicians. In the mid to late 1990s, I was the president of the doctors’ individual practice association in southern Oregon. We wrestled with insurance companies over who was going to make medical decisions. Was it going to be the insurance companies, or was it going to be the doctors? I found, to my great pleasure, that my profession is filled with fellow clinicians who are devoted to their patients, and they stepped up to the challenge. I also realized that health care professionals have been given tools through their conventional medical education that are often inadequate to the challenge of delivering fully on their commitment to patients—and too often they don’t realize it.

What many individuals and IFM have done over these many years is to continue to evolve concepts and tools—the functional medicine matrix model—that facilitate the practice of comprehensive medicine and help all of us to fulfill the commitment of
being a clinician. That is one of the most exciting things for me in this later chapter of my professional life. It is this re-enchantment of medicine that will overcome the barriers to changes in medical practice toward a more personalized and complete form of care.

**Ms Hofmann:** What do skeptics say about functional medicine, and how do you respond?

**Dr Jones:** The skeptics ask the appropriate questions: "Where's the evidence? Where's your proof of concept?" And that's why one of our major strategies at IFM right now is to collaborate with different stakeholder groups—medical schools, insurance companies, researchers, and a network of practicing clinicians—who will work on developing methods for doing whole-systems research. We plan to use that network of trained clinicians to perform a systematic evaluation of functional medicine as it is practiced. At this point, the basic proof of concept lies with the thousands of doctors who use this functional medicine architecture and attendant tools in their clinical care of patients. They write to us about the difference they experience every day in their clinical outcomes with the help of functional medicine. We have focused on making these tools as science-based and efficacious as possible. Skeptics have helped us focus on this next challenge at IFM, a full extension of functional medicine into whole-systems research.

**Ms Hofmann:** As you reflect on what's been accomplished at IFM and with the evolution and development of the functional medicine matrix model, what still needs to happen to truly transform medical education and clinical practice, and what are you personally most enthusiastic about?

**Dr Jones:** What needs to happen is happening. The original circle of people involved in functional medicine—the original developers and mentors—constituted a small group. Then the group broadened to include the many graduates of our programs as well as an enlarging IFM faculty. Now there's a bigger circle, with academicians becoming part of our family at IFM, beginning to use the tools that we've developed and, with our assistance, teaching medical students and finding broader applications for the critical thinking tools inherent to functional medicine. That is the next step: the involvement of a larger circle of committed clinicians, academicians, and researchers who see the doorway into the 21st century that functional medicine represents, a tool for dealing with the uncertainty that's finally being acknowledged as we practice clinical medicine in an environment of complex, chronic illnesses.

Whatever that calling is, don't ever lose touch with it because there will be difficult times in executing on that calling. Second, don't ever give up on the hugeness of the human spirit within you and your patients because that is what will guide you to your breakthroughs. I think of these statements as axiomatic for a fully engaged life as a clinician.

Take solace in both the difficulties of sustaining your commitment and in the celebrations when you have stayed true to your calling, where the bigness and connections of the human spirit have been evident to you. I've had the unique pleasure of being around very committed people most of my life, and I have experienced and been molded by the courage of these people. Their honesty, integrity, commitment, and support have given me a life that I could not possibly have scripted in terms of the pleasure and richness that it has brought me.