

# 1

## OVERVIEW AND CHALLENGES OF CLINICAL DECISION MAKING IN MENTAL HEALTH PRACTICE

JEFFREY J. MAGNAVITA

You have made a decision to begin reading this volume, *Clinical Decision Making in Mental Health Practice*, on the basis of certain information that influenced your decision to pick up this copy, open it, and begin reading at this moment. Other decision-making processes will determine whether you become engaged in the topic and continue reading the book or lose interest and decide to redirect your valuable resources elsewhere. You will not be disappointed if you continue with the book; the contributors herein are well informed and offer useful information and wisdom as well as new ways of thinking to improve your decision making from various perspectives.

Perhaps, in the back of your mind, you have been preoccupied and perplexed by a complicated individual, couple, or family you are treating, and this may have unconsciously attracted you to the title of this volume. Maybe your challenging case didn't fit your personal internal heuristics, or "rules of thumb"—mental shortcuts on which we often base our decisions that are sometimes reliable but, unchecked, are prone to errors of thinking. Clinicians

---

<http://dx.doi.org/10.1037/14711-001>

*Clinical Decision Making in Mental Health Practice*, J. J. Magnavita (Editor)

Copyright © 2016 by the American Psychological Association. All rights reserved.

probably utilize hundreds or more of these heuristics in daily practice. For example, one that comes to mind is how I view poor eye contact as a marker of anxiety about emotional closeness and intimacy. In spite of the fact that you may be highly trained in a particular model of treatment or well versed in a number of evidence-based approaches and deem yourself a well-trained and competent or even “expert” clinician, you may be uncertain about how to proceed with treatment in certain situations. Developing expertise is not a straightforward proposition of attaining the appropriate education, training, and practice—more is required of us. We have a duty to those we treat for continuous improvement. Some of your cases may not be progressing in the manner you anticipated or expected, possibly creating a crisis of confidence. For example, a patient may have dropped out of treatment and harmed himself or someone else, showing deterioration in functioning instead of improving. None of us likes to face these disappointing outcomes. Often treatment doesn’t unfold as depicted in the textbooks or manualized versions of treatment so ubiquitous these days. Treatment is often in the moment, and our responses require trust in our intuition. With certain cases, you may be perplexed, confused about how to proceed, and worried about how to make appropriate decisions when there are few empirical data to guide you. You may find yourself trying harder with a favored approach because you have already invested a lot of time and energy in pursuing a particular course of action. I found this to be a common response while in training in brief dynamic therapy and afterward as a supervisor. I noticed that it was not uncommon for trainees to increase their effort with a particular method, such as defensive restructuring, when they were not getting the desired results. Instead of trying a different method, they might resort to what is best described as “hammering”—looking for the results viewed in the master therapist’s videos by doing more of the same approach. An increase in the frequency and intensity of a method all too often would lead to iatrogenic reactions and premature termination. In one of my cases, a patient walked out of the session, and there were others who never returned.

Although one psychotherapeutic strategy may work wonderfully with many patients, with others, increasing our efforts and investment in a tried-and-true strategy may prove ineffective or worse. In such a situation, trainees may fall prey to the *sunk-cost effect*, which occurs when one continues to invest in something in which he or she has already made an investment of time and energy (Kahneman, 2011). In economics and business, we can see that people often invest more money in a failing venture in an attempt to recoup their losses. This may also be true for some addictive behaviors. Those readers who treat gamblers know this narrative all too well. You have heard people say that after they lost all of their money they used their credit card to try to get back what they lost—this is the sunk-cost effect in operation. We

may also witness the *sunk-cost fallacy* (Kahneman, 2011) in the treatment context. This is a type of bias that can occur after we invest our resources in pursuing a particular approach to treatment and then find ourselves trying to apply this approach to all our patients instead of using tools of differential treatment selection and finding the approach that best fits the patient and his or her situation. This may be when it is warranted to seek a consultation or to get a trusted colleague's perspective.

We are also prone to want to present our best selves to the public. This is evident when you attend treatment conferences where cases are presented. Almost everyone presenting audiovisual tapes of their therapy sessions at these conferences shows their best work. We select videotapes of patients demonstrating great process and outcome. This selection bias may have serious consequences for trainees, as it surely did when I was in training. This often leads to what decision researchers term *confirmation bias*—we honor data that support our approach and dismiss that which calls what we do into question (Kahneman, 2011). Viewing positive treatment outcomes proves the veracity of the approach being demonstrated, and ignoring treatment failures intensifies this effect. How would the field evolve if instead we presented our worst outcomes or compared our best with our worst outcomes at these conferences? Would the learning process progress more rapidly by a study of errors and mistakes instead of only ideal treatments?

You may have made assumptions about patients in your clinical practice on the basis of diagnostic labels accrued from previous therapists, resulting in an *anchoring bias*—placing too much weight on one aspect or trait, which reduces the utility of predicting (Tversky & Kahneman, 1974). What biases do you notice when a referring clinician describes a patient as “psychopathic,” “borderline,” “narcissistic,” or “a pedophile”? Which one of these labels has greater emotional activation? I think I can predict which one does. Emotional responses can bias our judgment, compromising our decision making. Diagnostic labels serve as anchors that may color our thinking and influence our decision making on the basis of very limited information, thereby leading to reliance on a *representative heuristic* (Kahneman, 2011), whereby we prematurely arrive at conclusions without sufficient data, using too few data points. We may hastily assume that a very slender individual suffers from an eating disorder. The sheer complexity or uniqueness of some of our cases may leave us uncertain of both diagnosis and treatment approach.

Without an understanding of decision theory we are more likely to fall prey to various traps in our thinking or to biases of which we are unaware but that nevertheless influence us. Decision theory allows us to be aware of the underlying processes from which we derive our decisions. The quality of evidence from which we make decisions is essential, and efforts to remain

doubtful and question our thinking are imperative. We should strive to falsify our hypotheses instead of proving them correct. Kahneman (2011) implored us in this regard to not “expect this exercise of discipline to be easy—it requires a significant effort of self-monitoring and self-control” (p. 153). Reading the remainder of this volume will enhance your awareness of potential errors in decision making as well as various perspectives to consider when making difficult clinical decisions.

Wouldn't it be nice if our patients fit the prototypes we learned in school? Clinical practice is messy and at times chaotic. Patients are not exactly like the prototypes described in our textbooks, and treatment manuals, although helpful, necessarily attempt to simplify and organize information into useful knowledge. Our patients are more likely to present us with complicated physical and emotional symptoms, relational disturbances, and challenges in their current lives, along with histories of abuse and neglect as well as other developmental challenges. Heuristics and cognitive templates are essential. We navigate the world using pattern recognition tools based on schema and theory, but we must be cognizant that these can be error prone. These sources are often useful starting points, but clinical expertise is more than just textbook knowledge; it includes the ability to use the best information available in an unbiased manner and convert this information into knowledge. Transforming data and information into knowledge and wisdom usually requires extensive practice with relevant feedback to adjust our practice. Understanding the differences among data, information, knowledge, and wisdom is helpful when one is besieged with multiple sources of information (Mayer-Schönberger & Cukier, 2013). These categories are explored in Chapter 2 in this volume.

We may at times rely on our intuitive or rapid decision-making strategies, and at other times we may seek a more deliberative approach, gathering as much data as possible first (Kahneman, 2011). You may already view yourself as an “expert” clinician and not feel the need to learn more about decision making, and if this is the case, you may have fallen prey to a common prejudice, *overconfidence bias*, which is the tendency to overestimate one's ability. Most clinicians view themselves as at least average or better in their psychotherapeutic ability even while being aware that it is statistically impossible for almost everyone to be average or above (Walfish, McAlister, O'Donnell, & Lambert, 2012). Even when psychotherapists receive feedback about patients' conditions worsening, many continue to assess themselves as effective and discount the feedback as inaccurate or inconsequential. The practice of discounting information that does not match our internal self- or worldview can be dangerous. Why are we so prone to this type of bias to the point of ignoring patients who are deteriorating as a result of our treatment, making it difficult in some cases to prevent negative outcomes (Lambert,

2010)? These questions and many others can be understood through the lens of decision analytics that are based on advances in decision theory and through empirical investigation of various ways that we make decisions and the traps we can fall into.

A certain amount of energy will be required to master the material in this volume. Some readers may consider the deliberative system of thinking “lazy” and would rather defer to their intuitive “fast” response system (Kahneman, 2011), which will have already biased readers with information regarding the stickiness of the title, status of the publisher, the names of the editor and contributors, endorsements, or even the attractiveness of the cover. Your personal biases will influence how effortfully you engage with and learn the material presented in this volume. Your hidden biases may also determine whether as a result of reading this book your clinical decision making is enhanced and clinical efficacy improved. You have made a decision to continue reading this volume, and as the volume editor, this pleases me because there is so much information in the remaining chapters that you will find useful and practical. Your decision to invest resources in this volume was made using two very different but interrelated styles of thinking—one *fast* (you may have impulsively picked the book off a shelf in a bookstore responding to some intuitive sense that it might be worthwhile) and the other *slow* (you may have carefully read an advertisement and deliberately called on an internal book-buying algorithm). You probably are unaware, or only vaguely aware, of what influenced your decision to allocate your precious resources of money and time that could be spent in other activities. Take a few minutes to consider what factors influenced you, but try to remember that I already made some suggestions that may have created a *recency effect*. Just as you made this decision for reasons of your own, I decided that the topic of decision making and its application to mental and behavioral health was worth the allocation of my resources. I am confident that it has been, although I admit I may have succumbed to *attributional bias*—justifying to myself that this is an important topic that is worth my effort (Heider, 1958). Maybe you received a brochure online or in the mail, read a book review that piqued your interest, were exploring a related topic and found this book, or were attracted to the cover at the annual convention or on the shelf in a bookstore. At some level of awareness you weighed the *cost–benefit* outcome of investing your resources, made a decision, and followed a course of action about which I am pleased. All of these responses, and many more, are heavily influenced by hidden biases associated with two main systems for decision making, one tending to be more cognitive and the other more emotionally derived. These systems exert a powerful influence on just about every aspect of clinical decision-making practice and research and more broadly on every decision you make.

## THE MOST ADVANCED OF THE DECISION MAKERS

Humans are the most evolved, advanced decision-making species, and yet we are extraordinarily prone to biases and cognitive errors that result in less-than-optimal outcome. We all exercise decision-making processes from birth. Early on we orient to our mother's voice and smiling face. Our brains evolve to adapt to the decision demands of our environment and the relational matrix. Connections in our neural circuits are pruned so that those not necessary are eliminated, and resources can strengthen connections that will enhance our adaptation and capacity for decision making. We need to be able to make decisions rapidly to ensure our survival. Our limbic system, evolved to respond to danger, can easily go haywire, responding when there is no imminent threat, the result of unprocessed trauma (van der Kolk, 2014). No one has to tell us to escape a house on fire or avoid dangerous activities—we are unconsciously wired for rapid detection of and response to danger (Bargh, 2013). This is the neural foundation for rapid decision making and for our survival. These primal defensive structures are part of our reptilian and early mammillary brain development. Threat detection offers quick template matching and attention to environmental cues that are novel and unfamiliar and therefore potentially threatening. Trauma results when our limbic systems cannot process information because it has been overwhelmed and fragmented, and thus our decision making falters. We often perceive danger where none exists and live in state of hyperarousal, good for responding to threat but not so good for most decisions. This type of rapid decision making, when it does not go awry, is well suited for many situations, and when it is activated in the right circumstances is something to behold. Remember Chesley Sullenberger, the pilot who landed US Airways Flight 1549 in the Hudson River when both engines were put out of commission after the plane collided with geese? This is a truly remarkable example of someone operating with this type of intuitive, rapid response system based on many years of training and experience. He didn't have time to refer to a flight manual, nor would there be one that could tell him what he should do—he just did it. But intuition can also be dead wrong in many cases. The bleeding of patients with cholera seemed intuitive to 18th-century physicians—even though what they really needed in order to survive was hydration.

We have also developed an advanced deliberative and demanding style of decision making with the evolution of higher cortical structures. As we discussed, the process of your decision making about investing in this book began before you picked it up and opened it or read the dust jacket or viewed it online.

The goal of this volume is to provide you with a foundation in decision-making theory and offer you some critical tools to enhance the efficacy of

clinical decision making, especially in situations of uncertainty, which are so common in clinical practice where our ability to predict is often so limited. This volume will introduce you to the rapidly advancing science of decision analytics and review the decision biases that affect us all. More important, this volume will explore the application of decision theory through a number of interrelated topics relevant to clinical practice, research, training, and behavioral health care administration. Decision theory is influencing just about every scientific discipline, including mathematics, sociology, behavioral economics, computer science, and many others, and yet even though psychologists have conducted most of the essential research, many psychologists are not familiar with this topic. Because mental health professionals have been slow to absorb these groundbreaking new interdisciplinary developments, it is my hope that reading this book will be a step in remedying this lack of knowledge by exposing you to the advantages of using decision theory as a framework for clinical practice. I hope that you will continue to read and absorb the concepts in this volume and that that this knowledge will provide you with a foundation in decision analytics. This deeper appreciation for the value of decision theory and related topics will help you achieve better therapeutic results by increasing your awareness of the biases that detract from optimal decision making. This volume also offers strategies and approaches that will mitigate these biases and thus enhance your decision-making skills and optimize the outcomes of all your decisions.

## PILLARS OF EFFECTIVE DECISION MAKING

Five pillars of effective decision making are presented in this volume, each offering important information and perspectives to optimize decision making. These are (a) access to high-quality empirical evidence, (b) developing clinical expertise, (c) using sound theoretical constructs, (d) including ethical considerations, and (e) foundation in decision theory.

### **Access to High-Quality Empirical Evidence**

One pillar of effective decision making rests on a foundation of evidence derived from science and clinical experience (Hollon et al., 2014). The best available evidence optimizes decisions (Gawande, 2009; Lilienfeld, 2012). Unfortunately, we do not usually have perfect information with which to make clinical decisions. Psychology is still a relatively young scientific discipline, and the complexity of the subject is enormous. It is only relatively recently in scientific time, over the past 5 decades or so, that we



have established that psychosocial treatments for a variety of behavioral and mental disorders are effective. And even more recent is the beginnings of an evidence base showing the efficacy of a spectrum of approaches. Even so, the adoption of evidence-based treatments has been slow. Rosen et al. (2004) found that fewer than 10% of mental health providers at six sites surveyed provided evidence-based treatment for posttraumatic stress disorder.

The science to practice lag for [evidence-based practices] is, in fact, longer (and in many cases, far longer) than the typical lengthy lag time of 15 to 20 years identified for medical interventions by the Institute of Medicine (2001) in the seminal report *Crossing the Quality Chasm: A New Health System for the 21st Century*. (Karlin & Cross, 2014, pp. 19–20)

Clinicians' effectiveness at decision making ranges (as one would expect) on a normal curve. Some clinicians are more expert in their decision making, whereas others tend to regularly fall prey to common biases that reduce effectiveness. Little is known about what constitutes expert clinical practice, but one thing that is essential is the knowledge and ability to make decisions in the face of uncertainty.

### Developing Clinical Expertise

Another pillar of effective decision making is *expertise*, the definition of which is not straightforward (Kahneman & Klein, 2009). It has been described, for example, as “(a) reputation, (b) performance, or (c) client outcomes” (Tracey, Wampold, Lichtenberg, & Goodyear, 2014, p. 219). Behavioral and mental health professionals are consulted because of our perceived expertise based on our specialized knowledge of human behavior and methods of change. Expertise, however, goes beyond having information about the domains that encompass a scientific–professional discipline (Norcross, Hogan, & Koocher, 2008). Information by itself is available to anyone who has access to the Internet, but clinical decision-making skills are needed to distill and crystalize information into useful knowledge (Ariely, 2008). Much more is required to hone these skills. Several factors interfere with expertise, “including the cognitive and information processes of therapists, therapist’ failure to engage routinely in deliberate practice, the inaccuracy of therapists’ self-appraisals of their competence, and the lack of accurate feedback that affects learning” (Tracey et al., 2014, p. 220).

The public is somewhat skeptical that the study of human behavior is scientific (Lilienfeld, 2012). This skepticism should not be limited to the science of psychology. A recent issue of *The Economist* titled “How Science Goes



Wrong” (2013) challenged the assumption that science is self-correcting. Daniel Kahneman was quoted in an open letter challenging the widely accepted concept of *priming* (the notion that decisions we make are influenced by irrelevant events presented right before a choice is made) in psychological research as poorly founded, and many studies trying to replicate findings that seemingly support priming have failed to show support. Jerome Kagan (2012), in his book *Psychology’s Ghosts: The Crisis in the Profession and the Way Back*, challenged many of the assumptions that serve as the basis for contemporary psychology. The assumptions that we make and may hold dear influence a cascade of treatment issues from diagnostic labels to the treatments that follow. Kagan illustrated the assumptions, often unexamined and based on limited evidence, that guide our conceptualizations and approach to treatment. He held that a biological bias may prematurely lead clinicians toward suggesting a pharmacological approach, on the basis of a belief that genetic predispositions have led to certain symptom constellations. Kagan’s view is that although psychopharmacological treatment for mental disorders is fraught with biases, it continues to dominate the clinical landscape even though most psychotropic medication “can be likened to a blow on the head and resemble the cocktail of drugs used with many cancers that kill both healthy and cancerous tissues” (p. 209). American Psychological Association initiatives to develop clinical practice guidelines (Hollon et al., 2014) based on the most robust accumulated evidence should assist the public, behavioral and mental health consumers, policymakers, and other scientific disciplines in being assured that psychology is indeed a science and one that may be moving to a unifying framework (Magnavita & Anchin, 2014).

### Using Sound Theoretical Concepts

A theoretical framework provides a map with which to test reality and therefore represents a fundamental pillar for decision making (Magnavita & Anchin, 2014). Theories evolve over time as new advances are made and the utility of the theory is time tested. Theoretical formulations are a type of decision-analytic process that encourages testing hypotheses and gathering data to test the validity of the construct. Theories address how the interrelated component domains of the biopsychosocial model interact and shape human behavior. Theories limited to one domain are prone to attributional biases and theories, which are too general and are difficult to test. Theories of the mind, personality, psychopathology, and behavior should be congruent and increasingly based on findings from neuroscience as well as effectiveness in the consulting room.

## **Ethical Considerations**

An ethical framework is another pillar of effective decision making. An ethical examination of our actions and treatments can prevent us from being subject to the various types of biases that are discussed in this volume. An ethical framework serves as an important system of checks and balances when making complicated clinical decisions, and a strong ethical foundation for our decision making provides many safeguards to our patients and ourselves. Understanding how easily we are influenced by our biases can keep us from engaging in practices that are inert or, in the worst case, destructive.

## **Knowledge of Clinical Decision Making**

Who would not like to improve their clinical outcomes or assist students and trainees in attaining the best results? The National Institute of Mental Health (1999) identified the incorporation of patient and provider decision making as an important research agenda for improving mental health interventions. In an effort to improve quality of mental health care, the Institute of Medicine (2001) suggested that the study of decision-making theory (Roberto, 2009), concepts, and preferences is imperative. Probably one reason you are reading this volume is that you want to maximize your clinical expertise or assist others in doing so by adding to your knowledge base, thus increasing your effectiveness in your own and your students' treatment of behavioral and mental health disorders. Clinical decision making is the foundation of behavioral and mental health practice, yet most clinicians receive very little formal training in this complex activity. Clinical decision making requires a depth and range of knowledge that requires years of education, training, and supervision, yet this critical activity is not systematically taught. I hope this volume serves as an agent of change by bringing decision making to the forefront of science, practice, and education. Decision making has characteristics of both intuitive and deliberative modes (Stanovich, 2010). Both are necessary, and neither can operate without the other. The most profound responsibility a clinician has is discerning which interventions are beneficial and which may prove inert or even harmful for those who seek our assistance. A series of "correct" decisions can have a potentially profound impact on improving the lives of those in our care. A series of "incorrect" decisions can have dire results: Patients may fail to improve or will deteriorate, and in extreme cases the outcome may be death. The science and theory of clinical decision making is the focus of this volume.

## DECISION MAKING: THE KEY TO EVIDENCE-BASED PRACTICE

Providing a high-quality evidence-based practice informed by the best information through the lens of clinical expertise requires a foundation in how to make optimal decisions given the many choices available. Evidence-based practice represents the new era of contemporary health care: combining the best available evidence with clinical expertise. “Evidence-based practice in psychology (EBPP) is the integration of the best available research with clinical expertise in the context of patient characteristics, culture, and preferences” (APA Presidential Task Force, 2006, p. 273). All clinicians would likely agree that practice should be based on the best evidence. The evidence base for the treatment of behavioral and mental health disorders is growing, but it remains inadequate in the face of the extreme complexity and uncertainty in most domains of clinical science. We need to find and utilize the best evidence available from divergent credible sources and combine it with an appreciation of decision theory and deliberative decision analytics. We all make decisions, and we usually believe that what we decide is logical and that the consequences will be beneficial for those who seek our services. But decision theory requires us to constantly examine and challenge our beliefs and, more important, be alert for the common decision traps humans are likely to fall into. Thus we often find ourselves “down the rabbit hole” without understanding how we fell into such a state of upside-down reality.

## THE BIRTH OF DECISION THEORY

The formal study of decision theory was initially applied to economic analysis. Frank Knight (1921/2006) distinguished between risk when the probability of an outcome can be calculated and uncertainty when there is no way to determine the probability of an outcome. Later, John von Neumann and Oskar Morgenstern (1944) developed game theory, which deals with how people make decisions using unknown variables. Daniel Kahneman and Amos Tversky (see Kahneman, 2011), over many decades of collaboration, researched and described many facets of decision theory.

Decision theory has evolved since the 1950s from the fields of psychology and economics and has been applied in healthcare research since the 1960s. Theoretical perspectives in decision-making research encompass a wide variety of prescriptive approaches; for example, judgment and information processing analysis, decision analysis, and natural decision making. (Wills & Holmes-Rovner, 2006, p. 9)

The landmark work in this field that should be standard reading for all clinicians and social scientists is *Thinking Fast and Slow* by Kahneman (2011), who was awarded a Nobel Prize for his contributions in economics.

## ENCODING AND DECODING OUR ENVIRONMENT: USING SCHEMATA AND PROTOTYPES FOR DECISION MAKING

I have already discussed the evolutionary basis for and some of the neural circuits involved in decision making. Our brains have evolved to perceive, filter, organize, and respond to a potentially overwhelming amount of environmental stimuli. Without strategies to organize this incoming information and develop internal patterns or templates, we would be rendered helpless. We encode information and store it for later use maintaining internal schemata, which are prototypes we use to compare current situations with past situations and look for a match. We learn by encoding and storing new information and then decode what comes in by seeing how it matches our internal representation. Most decisions are made automatically without having to strain our mental resources: This is the fast thinking mode. “The mental work that produces impressions, intuitions, and many decisions goes on in silence in our mind” (Kahneman, 2011, p. 4). This type of decision making represents what is often experienced as intuitive and real but as prone to error. We activate the slow thinking system to prevent the fast one from ruling our lives. We help patients learn how and when to apply slow thinking with respect to their therapeutic endeavors, regardless of the approach and what it is termed.

## ASSESSING AND MANAGING RISK

Assessing risk in the face of uncertainty and even chaos by optimizing our choices is fundamental to decision making. In many important areas we are woefully inadequate at predicting human behavior. There is no area in which this is more visible than in the failure to predict the kinds of extreme violence that we have witnessed in schools in the United States beginning with the Columbine massacre. How could we let these events happen? If there were so many signs of trouble, how did we fail to notice? The unfortunate answer is that we are not good at predicting who will be violent. In a perfect world, where we have access to high-quality information, decision making is probabilistic. In the clinical setting, where there is often a dearth of empirical evidence, there is a need to be vigilant to the forms of biases and cognitive traps that influence our approach to making decisions. Almost every aspect of clinical practice is influenced by how we make decisions.

## SHARED DECISION MAKING

Decision making in clinical practice should be shared and collaborative. There are various perspectives through which to examine clinical decision making. Much of what has been presented so far is decision making with the locus being the clinician. We may also consider shared decision making, which is dyadic or triadic in that there are interpersonal and larger system processes that are in operation, with multiple stakeholders. Various aspects of decision making are critical to improving mental and behavioral health care. Clinical decision making examines the thought processes that are incorporated by the clinician in practice. Patient decision making is a relatively new area of investigation. “How patients make decisions, the testing of interventions to support effective decision making, and the development of measures of patient decision making have only recently begun to be studied for mental health contexts” (Wills & Holmes-Rovner, 2006, p. 10). Shared decision making involves a partnership between the patient system and provider system. It requires a collaborative approach in which the patient’s preferences are considered and information is shared to enhance decision making (Adams & Drake, 2006).

## DECISION ANALYTICS

Most forward-thinking executives have fully adopted decision analytics as an essential tool. A recent article in the *Harvard Business Review* was titled “How to Make Smarter Decisions” (2013).

Techniques from the field of decision analysis formalize the question of whether (provisionally) to adopt or reject an intervention. Decision analysis identifies the set of consequences of concern to the decision maker that might result from each available option (for example, the therapeutic effects and side effects associated with a drug, its direct costs, and its impact on social costs such as productivity losses) and determines their associated probabilities. Aggregating these probability-weighted consequences using an appropriate common metric yields an expected net impact for each option. (Claxton, Cohen, & Neumann 2005, p. 95)

Health care as a whole (with mental health soon to follow) will be seeing a greater reliance on the use of aggregated data to inform decision making, which will certainly have an economic impact in terms of who will get reimbursed and at what level. This trend is being fueled by computer technology, which is allowing us to mine data as never before.

## BIG DATA AND DECISION MAKING

Technological advances have led to new possibilities for using big data for making decisions, which will inevitably change how behavioral and mental health care is delivered. This trend is in large part being driven by the expansion of the Internet along with powerful computer processing to change the fundamental ways we gather and process information. “The fruits of the information society are easy to see, with a cellphone in every pocket, a computer in every backpack, and big information technology systems in back offices” (Mayer-Schonberger & Cukier, 2013, p. 8). Since the beginning of the era of information technology, humans have generated more information than had been heretofore produced in the cumulative history of our species (Lehrer, 2009). “From sciences to healthcare, from banking to the Internet, the sectors may be diverse yet together they tell a similar story: the amount of data in the world is growing fast, outstripping not just our machines but our imaginations” (Mayer-Schonberger & Cukier, 2013, p. 8). This has important implications that are beyond the scope of this volume, so I suggest that those interested read *Big Data* by Viktor Mayer-Schonberger and Kenneth Cukier (2013), which presents an in-depth review of the trend and its implications.

## ORGANIZATION OF THIS VOLUME

This volume offers a range of topics that will introduce the reader to the field of decision making in mental health practice. Decision making influences every aspect of clinical practice and is increasingly important for behavioral and mental health clinicians, as well as all health care providers, because of the inherent uncertainty in many aspects of clinical science. Many decisions are made that do not derive from an empirical evidence base and that necessitate a comfort with uncertainty. The topics covered in the remainder of this volume provide a sample of some of the important areas with which clinicians, researchers, and educators should be familiar. Decision theory and decisional research are far ranging and rapidly expanding into exciting areas such as big data and data mining that will influence all aspects of health care in the future. There is also an accelerating trend in all areas of health care to develop guidelines that practitioners, patients, policymakers, and others can use to optimize treatment of physical and behavioral health disorders.

The current chapter, Chapter 1, has introduced the topic of decision making in an effort to provide a brief overview of the subject of this volume and to highlight some of the essential constructs, common biases in decision making, and the five pillars of effective decision analytics. In Chapter 2

(“Clinical Expertise and Decision Making: An Overview of Bias in Clinical Practice”), my coauthor Scott O. Lilienfeld and I present an overview of decision analytics and the biases and traps of which clinicians and researchers should beware. This chapter provides a solid foundation in some of the important topics related to decision making, along with a brief compendium of common traps or errors to which we are subject when making clinical decisions. Decision-making theory is included in a robust body of literature that emanates from research from many disciplines. The fundamentals of decision analytics and the biases that present danger are critical aspects of optimal clinical practice. In Chapter 3 (“A Dual Process Perspective on the Value of Theory in Psychotherapeutic Decision Making”), Jack C. Anchin and Jefferson A. Singer explore the importance of theory in decision making, an essential tool that has been evolving and becoming more sophisticated over the course of clinical science history. Theory presents a way of organizing and understanding clinical phenomena, offering a road map for decision making if used appropriately. In Chapter 4 (“Clinical Practice Guideline Development and Decision Making”), Lynn F. Bufka and Erin F. Swedish introduce the science and processes that go into the development of treatment guidelines. These cutting-edge developments include both exciting and somewhat controversial trends and the safeguards that ensure that clinical practice guideline development is as scientifically valid and transparent as humanly possible. After reading the chapter by Bufka and Swedish, the next question you might ask is what to do with this information. Clinical practice guidelines are all well and good, but we want to know how they help us treat behavioral and mental health disorders. In Chapter 5 (“Developing Clinical Practice Guidelines to Enhance Clinical Decision Making”), Steven D. Hollon explains how using an evidence base can enhance clinical decision making and how clinicians can maximize their effectiveness by referring to practice guidelines. In Chapter 6 (“Using Technology to Enhance Decision Making”), Franz Caspar and coauthors show the importance of technology in clinical decision making. Technology is fundamentally changing who we are as a species and providing us with multiple options to enhance our decision making. The number of technological developments available to us seems to steadily increase, and having knowledge of these can increase our decision making skills. In Chapter 7 (“Clinical Decision Making When the Stakes Are High”), I present a model of collaborative decision making that was developed while working in close collaboration with a psychiatrist treating complex clinical presentations. Clinical decision making is most challenging when the stakes are high, when cases may not have a simple solution and hence involve a high level of risk and potential harm. In Chapter 8 (“Use of Empirically Grounded Relational Principles to Enhance Clinical Decision Making”), Ken L. Critchfield and Julia E. Mackaronis show how relational



principles offer a vital approach to clinical decision making. Having evidence for the effectiveness of a particular treatment approach is certainly important, but having an understanding of evidence-based principles adds another significant dimension. In Chapter 9 (“Integrating Ongoing Measurement Into the Clinical Decision-Making Process With Measurement Feedback Systems”), Thomas L. Sexton and Adam R. Fisher describe how client feedback can be used to improve treatment outcome. As I have discussed, decision making is about assessing probabilities and managing risk. Receiving ongoing feedback about how a patient is responding to treatment is immensely useful for monitoring treatment and altering one’s approach in a responsive fashion. This is certainly going to be a part of most practice situations in the future. In Chapter 10 (“Clinical Decision Making and Risk Management”), Steven A. Sobelman and Jeffrey N. Younggren offer an important perspective on how understanding risk can enhance clinical management. Formal training in decision making is not yet part of graduate curricula in behavioral and mental health programs. Most of what is taught is done through a mentoring relationship. So the time seems right to begin to develop formal curricula and advanced training in decision analytics for behavioral and mental health professionals. In Chapter 11 (“Teaching Clinical Decision Making”), Gregg Henriques offers his novel approach to this area of the field.

The chapters in this volume are arranged in a sequence that walks the reader through a variety of interrelated topics. The wealth of information in the chapters will allow readers to see how pragmatic decision theory is and how applicable it is to just about everything we do in clinical practice and life in general. Learning to apply these tools is also very useful for financial decision making and will assist in any major decision, especially when there is uncertainty among various options.

## SUMMARY

This volume, *Clinical Decision Making in Mental Health Practice*, applies the theory and research of decision analytics to the field of behavioral and mental health with a particular focus on how to improve clinical decision making. Decision theory is an exciting development that began as an attempt to deal with making decisions in situations of uncertainty, which has direct relevance to health care and mental health practice and training. There are basically two types of thinking that are called upon in making decisions. One is *fast*, intuitive, and emotional, excellent when rapid responses are vital to outcome. The other is *slow* or “lazy” in that a great deal of cognitive effort is required in order to consider the information and determine probabilities of outcomes from various choices. According to Kahneman (2011), both the

fast and the slow systems of thinking must flexibly interact and can balance each other to maximize outcome. There are a number of biases that occur without our knowledge when we rely too much on the fast response system. These errors can be avoided by developing knowledge of various types of biases that are common to problem solving.

The chapters that follow will take you along a fascinating path that you will find has direct bearing on just about every aspect of your clinical practice, regardless of the setting or the types of decisions that you must make. Enhancing our decision-making skills and knowledge will advance the practice of behavioral and mental health treatment and allow us to adapt and thrive in the new era of health care that is emerging in this country and the world. Thank you for deciding to read this chapter, and I hope you will decide that this volume is worth your investment.

## REFERENCES

- Adams, J. R., & Drake, R. E. (2006). Shared decision-making and evidence-based practice. *Community Mental Health Journal*, 42, 87–105.
- APA Presidential Task Force on Evidence-Based Practice. (2006). Evidence-based practice in psychology. *American Psychologist*, 61, 271–285. <http://dx.doi.org/10.1037/0003-066X.61.4.271>
- Ariely, D. (2008). *Predictably irrational: The hidden forces that shape our decisions*. New York, NY: Harper Collins.
- Bargh, J. A. (2013). Our unconscious mind. *Scientific American*, 310, 30–37. <http://dx.doi.org/10.1038/scientificamerican0114-30>
- Claxton, K., Cohen, J. T., & Neumann, P. J. (2005). When is evidence sufficient? *Health Affairs*, 24(1), 93–101. <http://dx.doi.org/10.1377/hlthaff.24.1.93>
- Gawande, A. (2009). *The checklist manifesto: How to get things right*. New York, NY: Henry Holt.
- Heider, F. (1958). *The psychology of interpersonal relations*. New York, NY: Wiley. <http://dx.doi.org/10.1037/10628-000>
- Hollon, S. D., Areán, P. A., Craske, M. G., Crawford, K. A., Kivlahan, D. R., Magnavita, J. J., . . . Kurtzman, H. (2014). Development of clinical practice guidelines. *Annual Review of Clinical Psychology*, 10, 213–241. <http://dx.doi.org/10.1146/annurev-clinpsy-050212-185529>
- How science goes wrong. (2013, October 19). *The Economist*. Retrieved from <http://www.economist.com/news/leaders/21588069-scientific-research-has-changed-world-now-it-needs-change-itself-how-science-goes-wrong>
- How to make smarter decisions. (2013, April). *Harvard Business Review*. Available at <https://hbr.org/2013/04/innovation-risk-how-to-make-smarter-decisions>

- Institute of Medicine. (2001). *Crossing the quality chasm: A new health system for the 21st century*. Washington, DC: Author.
- Kagan, J. (2012). *Psychology's ghosts: The crisis in the profession and the way back*. New Haven, CT: Yale University Press.
- Kahneman, D. (2011). *Thinking fast and slow*. New York, NY: Farrar, Straus & Giroux.
- Kahneman, D., & Klein, G. (2009). Conditions for intuitive expertise: A failure to disagree. *American Psychologist*, 64, 515–526. <http://dx.doi.org/10.1037/a0016755>
- Karlin, B. E., & Cross, G. (2014). From the laboratory to the therapy room: National dissemination and implementation of evidence-based psychotherapies in the U.S. Department of Veterans Affairs Health Care System. *American Psychologist*, 69, 19–33. <http://dx.doi.org/10.1037/a0033888>
- Knight, F. (2006). Risk, uncertainty and profit. Mineola, NY: Dover. (Original work published 1921)
- Lambert, M. J. (2010). *Prevention of treatment failure: The use of measuring, monitoring, and feedback in clinical practice*. Washington, DC: American Psychological Association. <http://dx.doi.org/10.1037/12141-000>
- Lehrer, J. (2009). Thinking meta. *Seed*, 58–60.
- Lilienfeld, S. O. (2012). Public skepticism of psychology: Why many people perceive the study of human behavior as unscientific. *American Psychologist*, 67, 111–129. <http://dx.doi.org/10.1037/a0023963>
- Magnavita, J. J., & Anchin, J. C. (2014). *Unifying psychotherapy*. New York, NY: Springer.
- Mayer-Schonberger, V., & Cukier, K. (2013). *Big data: A revolution that will transform how we live, work, and think*. New York, NY: Houghton Mifflin Harcourt.
- National Institute of Mental Health. (1999). *Bridging science and service: A report by the National Advisors Mental Health Council Clinical Treatment and Services Research Workgroup*. Washington, DC: Author.
- Norcross, J. C., Hogan, T. P., & Koocher, G. P. (2008). *Clinician's guide to evidence-based practices: Mental health and the addictions*. New York, NY: Oxford University Press.
- Roberto, M. A. (2009). *The art of critical decision making*. Chantilly, VA: The Great Courses—The Teaching Company.
- Rosen, C. S., Chow, H. C., Finney, J. F., Greenbaum, M. A., Moos, R. H., Sheikh, J. I., & Yesavage, J. A. (2004). VA practice patterns and practice guidelines for treating posttraumatic stress disorder. *Journal of Traumatic Stress*, 17, 213–222. <http://dx.doi.org/10.1023/B:JOTS.0000029264.23878.53>
- Stanovich, K. E. (2010). *Decision making and rationality in the modern world*. New York, NY: Oxford University Press.
- Tracey, T. J., Wampold, B. E., Lichtenberg, J. W., & Goodyear, R. K. (2014). Expertise in psychotherapy: An elusive goal? *American Psychologist*, 69, 218–229. <http://dx.doi.org/10.1037/a0035099>

- Tversky, A., & Kahneman, D. (1974). Judgment under uncertainty: Heuristics and biases. *Science*, 185, 1124–1131. <http://dx.doi.org/10.1126/science.185.4157.1124>
- van der Kolk, B. (2014). *The body keeps the score: Brain, mind, and body in the healing of trauma*. New York, NY: Viking.
- von Neumann, J., & Morgenstern, O. (1944). *Theory of games and economic behavior*. Princeton, NJ: Princeton University Press.
- Walfish, S., McAlister, B., O'Donnell, P., & Lambert, M. J. (2012). An investigation of self-assessment bias in mental health providers. *Psychological Reports*, 110, 639–644.
- Wills, C. E., & Holmes-Rovner, M. (2006). Integrating decision making and mental health interventions research: Research directions. *Clinical Psychology*, 13, 9–25.