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Medicating Children



ADHD AND PEDIATRIC MENTAL HEALTH

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Introduction

It is obvious that overdiagnosis and overmedication exist . . . And I do think that a certain portion of what is sometimes labeled as pathology in children can be attributed to poor parenting, poor schools, and the pathological levels of stress and pressure that kids (and adults) now experience . . . But there's a difference between people who exhibit these signs of distress under certain conditions and those who show consistent signs of disorder under all conditions. Overdiagnosis is surely happening within the former group. But the latter group, in many communities, actually remains underdiagnosed.

—JUDITH WARNER, *NEW YORK TIMES*, MARCH 1, 2007

Attention deficit/hyperactivity disorder (ADHD) holds the distinction of being both the most extensively studied pediatric mental disorder and one of the most controversial,¹ due in part to the fact that it is also the most commonly diagnosed mental disorder among minors.² On average, 1 in every 10 to 15 school-age children in the United States has been diagnosed with the disorder, and 1 in every 20 to 25 uses a stimulant medication—often Ritalin, Adderall, or Concerta—as treatment.³ These figures, however, mask significant geographic, racial, gender, age, and socioeconomic variation across the United States in per capita use of the drugs,⁴ for which to date it has been difficult to provide a satisfactory empirical explanation. The largest increase in the number of youths diagnosed with ADHD and prescribed a stimulant drug occurred during the 1990s, when the prevalence of physician visits for stimulant pharmacotherapy increased fivefold.⁵ This unprecedented growth in the number of U.S. children using psychotropic medication triggered an intense public debate.⁶

Ironically, neither the debate nor ADHD and stimulants were new. Methylphenidate, more commonly known by the trade name Ritalin, was first introduced in the United States in 1955 and was approved by the Food and Drug Administration in 1961.⁷ Prior to Ritalin, another

stimulant (Benedrine) had been tested and used by small numbers of children as early as 1937.⁸ As for ADHD, the basic symptoms of the disorder have gone by several different diagnostic labels since the early 1930s: “organic drivenness,” “minimal brain damage,” “hyperkinetic impulse disorder,” “minimal brain dysfunction,” “hyperkinesis,” “hyperactive child syndrome,” and “attention deficit disorder.”⁹ Even the core of the controversy, children using physician-prescribed psychoactive drugs, dates back almost four decades. Nevertheless, negative publicity over the “drugging of problematic children” in the early 1970s—together with another negative media blitz and a wave of lawsuits against physicians, school personnel, and the American Psychiatric Association in the late 1980s—greatly reduced the prevalence of ADHD diagnoses and pharmacotherapy compared with current levels. When the 1990s began, there were around 900,000 youths in the United States diagnosed with ADHD, and most schools across the country had only a handful of children (if any) diagnosed with ADHD and using stimulants.¹⁰ By 2000, there were upwards of 3 to 4 million children diagnosed with the disorder.¹¹ Currently, almost 8% of youths from 4 to 17 years of age have a diagnosis of ADHD, and between 4% and 5% of this group both have the diagnosis and are taking medication for the disorder.¹² If one includes the adult population using physician-prescribed stimulants for ADHD, the prevalence of drug treatment in the United States has continued to increase by almost 12% per year since 2000.¹³

This book seeks to answer a number of questions. Given the fact that ADHD has been present under different diagnostic labels in the United States for roughly 70 years, what accounts for the rapid growth in diagnoses, stimulant treatment, and the disorder’s popular acceptance within the past 20 years? To what extent has the evolution of ADHD and stimulants been unique compared to other mental disorders and forms of pharmacotherapy? And why did stimulant use by American youths become so controversial yet commonplace?

As we attempt to explain, the massive increase in the number of U.S. children diagnosed with ADHD and using stimulants stemmed from a convergence in the first half of the 1990s of a confluence of *trends* (clinical, economic, educational, political), an alignment of *incentives* (among clinicians, educators, policy makers, health insurers, the pharmaceutical industry), and the sizable growth in *knowledge* about ADHD and stimulants. Growing political movements advocating for children’s welfare and mental health consumers,¹⁴ along with the decreasing stigma associated with mental disorders, led to three seemingly minor policy

changes in the early 1990s that helped trigger the surge in ADHD diagnoses and related stimulant use.¹⁵

First, in 1990, a Supreme Court ruling led to a modification of the Supplemental Security Income (SSI) program—which provides financial assistance for individuals with disabilities—to include low-income children diagnosed with mental disorders such as ADHD. Congress later rescinded this expansion, and many children with ADHD were cut from the SSI program in the latter half of the 1990s, but in the first half of that decade, rates of new children enrolling in the program with a qualifying diagnosis of ADHD increased almost threefold.¹⁶ Second, due largely to lobbying pressure from parents of children with ADHD, Congress in 1991 urged the Department of Education to clarify that ADHD was a protected disability under the Individuals with Disabilities Education Act (IDEA).¹⁷ As a result, more children diagnosed with the disorder became eligible for special accommodations on tests (including the SAT), homework, and other school-related activities. Low-income children with ADHD could receive the same benefits in school, plus cash assistance for their families from SSI. These changes made many parents and educators more aware of ADHD and the services and benefits available to children with learning and behavioral problems who received a medical diagnosis.¹⁸ Third, beginning in the early 1990s, policy makers expanded tremendously the number of individuals, especially children, eligible for Medicaid.¹⁹ As a result, between 1988 and 1993, the total number of children receiving Medicaid services grew by 53%, as the proportion of U.S. youths eligible for Medicaid increased from 19% to 31%.²⁰ These expansions fueled massive increases in Medicaid spending on psychotropic drugs in general—from \$0.6 billion in 1991 to \$6.7 billion in 2001—and particularly on stimulants: between 1991 and 2001 real (inflation-adjusted) spending per child on stimulants grew almost ninefold, as the number of prescriptions increased sixfold.²¹

These policy changes reflected a shift that occurred over the course of the 1980s and 1990s in much of the public's view of mental disorders and their optimal treatment.²² Back in the 1970s, a growing number of leaders in psychiatry and psychology sought to change the definitions of mental disorders.²³ Their efforts eventually led to the “biological” view of mental health—which stresses the neurosciences, brain chemistry, and psychotropic medications—eclipsing the “psychodynamic” or “psychosocial” view, which had dominated for decades and which sees mental disorders as largely influenced by individuals' personalities

and relationship development, as well as life's social problems and personal stresses (poverty, bad parenting, broken families).²⁴ Clinicians usually subscribe to a combination of both mental health perspectives, psychosocial and biological, and encourage treatment regimens that weave the two together.²⁵ Yet when it comes to what third-party payers—employers, health insurers, government health plans—are willing to pay to treat mental disorders, the two approaches are very different.²⁶ Thus, it is of major political and clinical importance which approach dominates, as the ramifications for health insurance, education policy, and disability eligibility are extensive.²⁷

ADHD and stimulant use have been and remain controversial, partly because most children are diagnosed and medicated as the result of decisions made by their parents and clinicians.²⁸ In short, the treatment is ordinarily decided *for* them instead of *by* them, a scenario that invites criticism that a patient's autonomy is being compromised to some extent.²⁹ Yet many medical decisions involving children are made this way and are not controversial. Mental disorders such as ADHD, however, are different.³⁰ They are regularly diagnosed based mainly, if not solely, on the presence of behavioral symptoms—inattentiveness, hyperactivity, and impulsiveness—that are common and thus not unique to ADHD (despite the fact that the fourth revised edition of the American Psychiatric Association's *Diagnostic and Statistical Manual of Mental Disorders*, the DSM-IV-TR, outlines a much more rigorous—albeit still subjective—approach to making a proper diagnosis of ADHD than relying exclusively on rating an individual's symptoms). The key difference is one of degree. Children with ADHD are *significantly* more inattentive, impulsive, distractible, and/or fidgety than their peers, such that their symptoms cause major personal impairment and interfere with daily human functioning.³¹

At the same time, mental disorders usually involve matters of degree, so why has ADHD been more controversial than other mental disorders? One of the main reasons has to do with the disorder's dominant educational aspect.³² The majority of ADHD diagnoses originate with the observations of a child's teacher,³³ and many of the disorder's symptoms—rated on behavioral scales—require teacher reports to make a diagnosis (that is, the child “often fails to give close attention to details or makes careless mistakes in schoolwork, work, or other activities,” “often does not follow through on instructions and fails to finish schoolwork, chores, or duties in the workplace,” “often avoids, dislikes, or is

reluctant to engage in tasks that require sustained mental effort [such as schoolwork or homework],” “often leaves seat in classroom or in other situations in which remaining seated is expected,” “often blurts out answers before questions have been completed”).³⁴ With ADHD, teachers are typically the primary source of diagnostic information.³⁵ Only a minority of children with the disorder exhibit symptoms during a physician’s office visit,³⁶ and, as is the case with all mental disorders, there is no definitive medical (blood, urine, radiological) test to verify an ADHD diagnosis. Therefore, the diagnosis contains a large element of unavoidable subjectivity, which leaves it open to competing definitions of what is considered “normal” childhood behavior.³⁷ In addition, it is not clear why the fourth edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV), the official diagnostic manual that categorizes and defines mental disorders, emphasizes the symptoms of ADHD more than impairment criteria.³⁸

For these and other reasons, people debate the sources of the ADHD and stimulant phenomenon in the United States. On the one hand, it can be ascribed to medical science making progress on a long-misunderstood disorder. On the other hand, it is claimed that ADHD has largely been “socially constructed,”³⁹ under the biological vision of mental health, as a response to nonmedical problems such as underperforming schools, increased academic demands and expectations, and higher poverty and divorce rates than existed before the 1970s.⁴⁰ What makes this question so contentious is that the debate is as much political and philosophical in nature as it is clinical and scientific.⁴¹ Meanwhile, teachers, parents, clinicians, health plans, and policy makers are all trying to determine—within their separate but overlapping spheres of influence—what is in the best interests of literally millions of children.

This book is designed to try to explain how and why ADHD and stimulant use have evolved over time. As a case study, it is also intended to illustrate the larger changes associated with how mental disorders have been defined and treated over the past three decades, ADHD and stimulants being one of the more striking and controversial examples. Chapter 2 provides an overview of ADHD. Drawing from scientific studies of ADHD, it focuses on the disorder’s symptoms and diagnostic criteria, prevalence and developmental course, relationship with other disorders, effects on individuals’ daily functioning, possible underlying causes, and effective treatment interventions. The chapter concludes

with a discussion of where future research efforts on the disorder are principally aimed. We start our book on a clinical note with a description of the state of scientific knowledge about ADHD because the general public often misunderstands what is and is not known about ADHD.⁴² This understanding of the disorder and review of scientific research on its identification, causes, and consequences provide a context for evaluating the changes in public policy and resulting controversies we review in subsequent chapters.

The next two chapters (3 and 4) survey how ADHD as a diagnosis and stimulants as a form of treatment evolved from the early 1900s to the late 1980s. In synthesizing the vast literature on ADHD and the drugs, the chapters explain why, over time, the neurobiological view of the disorder—along with that of most mental disorders—came to dominate and thus strongly influence mental health, insurance, disability, and education policies. The chapters demonstrate that ADHD did not arise as a new diagnosis in the 1990s. What changed, beginning in the early 1980s, was how clinicians formally diagnosed the disorder and the extent to which stimulants became the dominant form of treatment.⁴³

Chapter 3 provides a historical survey of both ADHD and the use of stimulants from the beginning of the twentieth century to the late 1970s. It traces the origins of the diagnosis in London by an English pediatrician, Sir George Frederick Still,⁴⁴ to the first official listing of “Attention Deficit Disorder” as a mental disorder in 1980 in the third edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-III). During this long period of time, the diagnostic terms used to describe excessively hyperactive and inattentive children changed frequently, as did the claims for what caused the disorder. What remained relatively consistent over the seven decades were the symptoms the children exhibited. Yet even as clinicians and researchers from different eras reached similar conclusions that the disorder was biological in nature, they often reached very different conclusions as to what caused the disorder and how exactly its biological basis operated on a child.⁴⁵

Chapter 4 serves as a bridge connecting the older history of ADHD and stimulants to the larger changes in the field of mental health that transpired from the late 1970s to the early 1990s. One of the main goals of the chapter is to step back and examine the broader trends in mental health during that period. It is necessary to understand these trends in order to make sense of how ADHD and psychopharmacology have evolved over the past three decades. The chapter examines one of the most consequential postwar developments in the area of mental

health: the publication in 1980 of the American Psychiatric Association's third edition of its *Diagnostic and Statistical Manual of Mental Disorders*.⁴⁶ Developed primarily by academic researchers—rather than the tens of thousands of rank-and-file clinicians—the DSM-III transformed the way in which all mental disorders, including ADHD, were defined, diagnosed, and, as a result, treated.⁴⁷ In so doing, the DSM-III also radically expanded the opportunities and funding for research.⁴⁸

The critical change associated with the DSM-III was that diagnoses were defined more as categories of disorder (a person has or does not have ADHD) and less as dimensions of disorder (a person has more or less depression, ADHD, anxiety, and so on).⁴⁹ This predominantly categorical—rather than dimensional—approach to diagnosing mental disorders led to many improvements in clinicians' understanding and treatment of mental disorders.⁵⁰ But it also gave rise to heated debates over where diagnostic lines should be drawn between, for example, introverted and depressed, shy and phobic, active and hyper, scattered and dysfunctionally inattentive.⁵¹ Consequently, even as the new DSM increased the level of reliability in diagnosing mental disorders, it did not—and could not—resolve debates over the validity of several mental diagnoses (are there really hundreds of qualitatively different and distinct mental disorders?).⁵² Additionally, the DSM-III provided much more specific diagnoses for drug companies to target their products at, which over time has led to a disconcerting level of financial interconnectedness among clinical researchers, physicians, and the pharmaceutical industry.⁵³ For example, 13 of the 21 individuals who created the most recent version of the DSM criteria for ADHD had financial ties to the pharmaceutical companies that market stimulants.⁵⁴ More than one-third of all U.S. physicians receive reimbursement for costs associated with professional meetings or continuing medical education. And more than a quarter receive payments for consulting, giving lectures, or enrolling patients in trials.⁵⁵ “There's an irony that psychiatrists ask patients to have insights into themselves, but we don't connect the wires in our own lives about how money is affecting our profession,” noted Steven Hyman, provost of Harvard University and former director of the National Institute of Mental Health.⁵⁶ To many observers, drug companies' direct-to-consumer marketing fosters problems by, among other things, making serious mental illnesses seem banal and creating an easy, overeager and underscrutinized market for psychotropic drugs.

Chapter 4 also analyzes the convergence in the latter half of the 1980s of several major clinical and policy developments related to

ADHD and stimulants. This convergence contributed significantly to the huge increase in the number of children diagnosed with the disorder and prescribed stimulant medication in the following decade. During the 1980s, spending on mental health services and treatment increased markedly, with a huge expansion of inpatient psychiatric facilities for adolescents and those with substance-abuse problems.⁵⁷ The dramatic increase in spending on mental health gave rise to employers' and insurers' cost-control response: managed care. Managed behavioral health companies emerged in the late 1980s and focused on finding less expensive ways of treating mental disorders, with decreased hospitalizations, shorter lengths of stay, greater use of primary-care physicians, limited psychotherapy, and the increased use of psychotropic drugs.⁵⁸ These new trends coincided with major changes in the pharmaceutical industry, the introduction of Prozac, and the rise of a new mental health advocacy organization: Children and Adults with Attention Deficit/Hyperactivity Disorder (CHADD).

Chapter 5 outlines the large and rapid increase in ADHD diagnoses and stimulant use in the early 1990s. The chapter highlights the linkages among minor changes in federal disability, education, and public health insurance policy in 1990 and 1991 that contributed to this rapid increase. The changes in public policy were partly the result of years of lobbying efforts by a broad coalition of medical professionals, antipoverty activists, and disability and children's health and welfare advocates.⁵⁹ The coalition had been pushing for more generous and expansive interpretations of how children qualified for programs designed to aid those with disabilities.⁶⁰ Their efforts—alongside changes in public perceptions of mental disorders—inadvertently provided the spark that resulted in a huge surge in ADHD diagnoses and stimulant pharmacotherapy, as well as growing public debates over their appropriateness.⁶¹

Chapter 6 examines the backlash that arose in the latter half of the 1990s. In tone, it was similar to the controversies over pediatric stimulant use in the early 1970s and late 1980s.⁶² In size, though, it was far more widespread.⁶³ The mid- to late 1990s, therefore, is the period when most Americans first became familiar with ADHD and stimulants.⁶⁴ Old allegations that children were being diagnosed improperly and for nonmedical reasons—poorly performing schools, family problems, pharmaceutical greed—resurfaced in newspapers, books, television reports, school board hearings, and other venues.⁶⁵

Chapter 6 also analyzes the Food and Drug Administration (FDA) Modernization Act of 1997, which provided new financial incentives to

pharmaceutical companies for developing and testing drugs on children by extending their patent exclusivity.⁶⁶ As a result, pediatric psychopharmacology research underwent a major expansion,⁶⁷ which led to the development of new once-a-day or “long-acting” stimulants. These new drugs represented an important clinical event and one that, while not solving them, did address many complaints about children’s embarrassment taking the drugs during the school day, as well as the drugs’ diversion in school settings for illicit use.⁶⁸ By both avoiding the need for school personnel—particularly the dwindling number of school nurses in the United States⁶⁹—to administer the drugs to children at midday and increasing confidentiality for families, the long-acting drugs made stimulant treatment an easier choice for many parents and youths.⁷⁰ The introduction of slow-release forms of stimulant medications played an especially important role in increasing the attractiveness of this form of treatment because children with ADHD are often sensitive to a change in their internal states.⁷¹ The rapid fluctuations in the effects that result from short-acting medications made many of the children using the short-acting stimulants uncomfortable and thus more likely to reject the treatment.⁷² The introduction of long-acting (or extended-release) forms of stimulant medication led to a smoother, less disturbing response, which many children found more attractive.⁷³ Nevertheless, even as benefits and services for disabled children expanded and ADHD became more widely recognized among educators, many parents of children with ADHD still harbored doubts about their children’s diagnosis and treatment, doubts stoked by the polarizing popular debate about the disorder.⁷⁴

Chapter 7 addresses three current issues and questions resulting from the marked increase in ADHD diagnoses and stimulant consumption. First, as the number of minors diagnosed with the disorder grew significantly in the 1990s, so too did the amount of stimulants in circulation.⁷⁵ This increased availability—most children and adolescents know someone who has a prescription for stimulants—has raised questions about illicit diversion of the drugs and fostered new controversies over illegal use of stimulants for academic and competitive advantage.⁷⁶ In Chapter 7 we review the literature on illicit use of stimulants by adolescents and college students and discuss the degree to which this is a significant concern.⁷⁷ Second, a common concern for many parents when making decisions about the use of medication to manage their children’s ADHD is whether taking a stimulant will make their children more susceptible to drug use and abuse in the future.⁷⁸ We discuss the research on the relationship between the use of stimulants and abuse of other drugs

in Chapter 7. Third, the number of adults diagnosed with ADHD and using stimulant medication is growing.⁷⁹ Chapter 7 concludes with a discussion of the diagnosis of ADHD in adulthood and the effectiveness of stimulants as a treatment for adults diagnosed with the disorder.

The conclusion (Chapter 8) summarizes our findings, compares ADHD and stimulants to other mental disorders and treatments, and highlights the growing use of protocols and guidelines for clinicians' diagnosis of the disorder. It also explains how and why similar rates of increase in antidepressant and antipsychotic medication use by children lagged a few years behind the significant increase in stimulant use.⁸⁰ The differences in timing are due in part to the fact that stimulants—unlike the newer generation of SSRI antidepressants and antipsychotics—are older drugs that have been used to treat a disorder (ADHD) that has traditionally been seen as one that affects children. Thus, while the rate of increase in children's and adolescents' use of antidepressants and antipsychotic drugs has been greater than that of adults over the past decade,⁸¹ the rate of increase in stimulant use has been greater in adults than in children over the same period. Nevertheless, the *overall* use of psychotropic drugs by children, adolescents, and adults has increased by several orders of magnitude over the past two decades.⁸²

This book grew out of our separate teaching, training, and research experiences. Rick Mayes is a public policy analyst and former National Institute of Mental Health postdoctoral fellow specializing in health-care policy and mental health; Catherine Bagwell is trained in child clinical psychology and has worked in clinics for children with disruptive behavior disorders, including aggression and ADHD; and Jennifer Erkulwater is a political scientist whose research has focused on disability, education, and social welfare policy. The book is unique in that it attempts to pull together different research traditions and academic disciplines to produce a single study of how and why ADHD and stimulants have evolved over time to become the most commonly diagnosed disorder and form of pharmacotherapy among children and adolescents, as well as one of the most controversial.

Occasionally the book shifts in tone and literary style due to the fact that our professional backgrounds vary and our respective fields employ different analytical approaches for answering questions about subjects such as ADHD and stimulants. Clinical discussions are followed and preceded by social science analyses of the historical, political, economic, and sociological aspects of the disorder and the drugs. We allow these

shifts in tone and style to remain because they reflect the reality that mental disorders and treatments for them are strongly influenced by their cultural and environmental contexts.⁸³ In other words, ADHD and stimulants do not exist in a clinical vacuum.⁸⁴ Like all mental disorders and mental health care, noted medical anthropologist Byron Good, they are “social, psychological and cultural to the core,” powerfully influenced by public opinion and varying expectations of what is considered normal and abnormal behavior by girls and boys of different ages and stages of development.⁸⁵ So it is not surprising or unusual that ADHD and stimulants have become intensely politicized issues for debate, a debate that sometimes seems to border on being religious in nature.⁸⁶

One of our main goals was to write a book that fills the large gap in the literature on ADHD and stimulants. The majority of publications on the disorder and the drugs are either scientific in nature—and thus aimed more narrowly at research and clinical audiences—or polemics from skeptics who directly or indirectly question the existence of ADHD. The reality is that there *is* an abundance of research findings from the past 3 decades that strongly suggests that ADHD is a real disorder and that stimulants are a generally safe and effective treatment for it when used properly.⁸⁷ At the same time, the disorder is often diagnosed, and the drugs prescribed, in a less than thorough manner due to a number of intense pressures experienced by parents, children, teachers, and clinicians.⁸⁸ In everyday clinical settings, ADHD is often seen as a somewhat messy, ambiguous, and even residual diagnosis,⁸⁹ which leaves many clinicians with a great deal of uncertainty and questions about the extent to which a child’s complex of ADHD behaviors—or symptoms, when the behaviors are medicalized—are more a form of developmental delay⁹⁰ than a single condition (with three unstable subtypes: predominantly hyperactive-impulsive, predominantly inattentive, combined)⁹¹ connected to a single etiology (cause).⁹² One of the many reasons that ADHD is such a controversial mental disorder has to do with the fact that the symptom complex of inattentiveness, hyperactivity, and impulsiveness can reflect not ADHD but some other mental disorder or a learning disorder, or it could simply reflect a child’s maturational lag, differences in temperament, or rigid or age-inappropriate parental or societal expectations.⁹³

In addition, while decades of research support the position that ADHD is a valid disorder with neurobiological underpinnings, most children are on something of a continuum in terms of their vulnerability (as is now the dominant conceptualization of autism spectrum disorders).⁹⁴ And

although the standard diagnostic conceptualization of ADHD is that a child either does or does not have the disorder, the reality is that children diagnosed with ADHD vary considerably in terms of the severity and number of symptoms they exhibit.⁹⁵ Furthermore, psychosocial and environmental factors—such as more demanding school environments⁹⁶ and busier home settings, along with different forms and rates of cognitive development—play very important roles in the complex interaction with biological vulnerabilities to the disorder. These factors cannot be disaggregated⁹⁷ and are more influential for children on the high-functioning end of the spectrum.⁹⁸ For example, “[a] disproportionate number of children labeled ‘ADHD without hyperactivity’ are exceptionally bright and creative children,” noted Sydney Spiesel, a pediatrician at Yale University School of Medicine who has treated children for many years. “I’ve often thought that these kids find their own inner theater much richer and more interesting than the outer theater of the classroom and, so, naturally, focus on it at the expense of classroom attention . . . The proper fix for this problem would be done at the school level, a place where I am unlikely to have any significant effect. I can, however, help these children concentrate and return their attention to the classroom.”⁹⁹ Arguably the most important thing for many clinicians and parents regarding an ADHD diagnosis is that it provides the basis for financial reimbursement by health insurance companies and access to a variety of therapies and educational accommodations.¹⁰⁰ In other words, for many the diagnosis is essentially a bureaucratic necessity to get a struggling child treated and helped.¹⁰¹

By integrating our analyses of the clinical, political, historical, medical, educational, cultural, economic, and legal aspects of ADHD and stimulants, we hope that readers will gain a better understanding of the immense challenges of taking scientific progress in research laboratories and flawlessly translating these findings into both public policy and such unscientific settings as schools, families, and clinicians’ offices.¹⁰² Given that none of the authors receives any funding from pharmaceutical companies, as many clinical researchers do who publish their findings on ADHD and stimulants in academic journals,¹⁰³ we have what we believe is a unique and valuable vantage point from which to analyze the story of ADHD and pediatric stimulant use. Essentially, we have no vested interest in either ignoring or overemphasizing any aspect of the history, current practice, or controversy surrounding the disorder.

Our desire is that this book will increase the public’s understanding of the enormous difficulties that exist when it comes to accurately and

consistently defining, diagnosing, and treating mental disorders in children. We also hope to shed light on how these difficulties contribute to the ongoing controversies over how mental disorders should best be addressed in terms of crafting and interpreting a number of important health, educational, disability, and welfare policies. As previously mentioned, the dominant diagnostic and public policy models in the United States are built primarily on categorical frameworks (that is, the child does or does not have ADHD and thus does or does not qualify for treatment and special accommodations).¹⁰⁴ Yet, as this book demonstrates, most children in question do not fit this typology well.¹⁰⁵ Thus, much of the controversy surrounding ADHD and stimulants is not over the comparatively smaller number of children with clear and extreme cases of ADHD, which often coexist with other problems such as depression, learning disabilities, and conduct disorders (and who constitute the majority of subjects in clinical research studies).¹⁰⁶ The controversy centers, instead, on the much larger number of children with less clear behavioral symptomology—or those with a shadow of ADHD in the form of mild-to-moderate behavioral difficulties—using stimulants where there is legitimate disagreement over how best to treat them.¹⁰⁷ Consequently, one of our main objectives has been to add a large dose of reason and thought to a debate that has sometimes lacked both.