



Research
Databases

Sign In to My EBSCOhost

[New Search](#) | [View Folder](#) | [Preferences](#) | [Help](#) | [Exit](#)

GALILEO

| | | | |
|----------------------------|-----------------|-----------------|------------------|
| Basic Search | Advanced Search | Visual Search | Choose Databases |
| Keyword | Publications | CINAHL Headings | |
| Evidence-Based Care Sheets | | Quick Lessons | Indexes |
| Cited References | | | |

◀ 221 of 231 ▶ [Result List](#) | [Refine Search](#) [Print](#) [E-mail](#)

[Save](#) [Add to folder](#)

[Folder is empty.](#)

Formats: [Citation](#) [HTML Full Text](#)

Title: *Diagnosis and treatment of attention deficit hyperactivity disorder (ADHD). NIH Consensus Development Conference, November 16-18, 1998, volume 16, number 2. US Department of Health and Human Services. Office of Medical Applications of Research, January 1, 1998*

Database: *CINAHL Plus with Full Text*

**Diagnosis and treatment of attention deficit hyperactivity disorder (ADHD).
NIH Consensus Development Conference, November 16-18, 1998, volume 16,
number 2.
US Department of Health and Human Services. Office of Medical Applications
of Research**

About the NIH Consensus Development Program

NIH Consensus Development Conferences are convened to evaluate available scientific information and resolve safety and efficacy issues related to a biomedical technology. The resultant NIH Consensus Statements are intended to advance understanding of the technology or issue in question and to be useful to health professionals and the public.

NIH Consensus Statements are prepared by nonadvocate, non-Federal panels of experts, based on (1) presentations by investigators working in areas relevant to the consensus questions during a 2-day public session, (2) questions and statements from conference attendees during open discussion periods that are part of the public session, and (3) closed deliberations by the panel during the remainder of the second day and morning of the third. This statement is an independent report of the consensus panel and is not a policy statement of the NIH or the Federal Government.

Reference Information

For making bibliographic reference to this consensus statement, it is recommended that the following format be used, with or without source abbreviations, but without authorship attribution:

Diagnosis and Treatment of Attention Deficit Hyperactivity Disorder (**ADHD**). NIH Consensus Statement 1998 Nov 16-18; 16(2): 1-37

Continuing Medical Education

This Continuing Medical Education activity was planned and produced in accordance with the Accreditation Council for Continuing Medical Education Essentials.

Publications Ordering Information

NIH Consensus Statements, NIH Technology Assessment Statements, and related materials are available by writing to the NIH Consensus Program Information Center, P.O. Box 2577, Kensington, MD 20891; by calling toll-free 1-888-NIH-CONSENSUS (888-644-2667); or by visiting the NIH Consensus Development Program home page at <http://consensus.nih.gov> on the World Wide Web.

Disclosure Statement

All of the panelists who participated in this conference and contributed to the writing of this consensus statement were identified as having no financial or scientific conflict of interest, and all signed conflict of interest forms attesting to this fact. Unlike the expert speakers who present scientific data at the conference, the individuals invited to participate on NIH consensus panels are selected specifically because they are not professionally identified with advocacy positions with respect to the conference topic or with research that could be used to answer any of the conference questions.

Abstract

Objective

The objective of this NIH Consensus Statement is to inform the biomedical research and clinical practice communities of the results of the NIH Consensus Development Conference on Diagnosis and Treatment of Attention Deficit Hyperactivity Disorder (**ADHD**). The statement provides state-of-the-art information regarding effective treatments for **ADHD** and presents the conclusions and recommendations of the consensus panel regarding these issues. In addition, the statement identifies those areas of study that deserve further investigation. Upon completion of this educational activity, the reader should possess a clear working clinical knowledge of the state of the art regarding this topic. The target audience of clinicians for this statement includes, but is not limited to, psychiatrists, family practitioners, pediatricians, internists, neurologists, psychologists, and behavioral medicine specialists.

Participants

Participants were a non-Federal, nonadvocate, 13-member panel representing the fields of psychology, psychiatry, neurology, pediatrics, epidemiology, biostatistics, education, and the public. In addition, 31 experts from these same fields presented data to the panel and a conference audience of 1215.

Evidence

The literature was searched through Medline, and an extensive bibliography of references was provided to the panel and the conference audience. Experts prepared abstracts with relevant citations from the literature. Scientific evidence was given precedence over clinical anecdotal experience.

Consensus Process

The panel, answering predefined questions, developed their conclusions based on the scientific evidence presented in open forum and the scientific literature. The panel composed a draft statement that was read in its entirety and circulated to the experts and the audience for comment. Thereafter, the panel resolved conflicting recommendations and released a revised statement at the end of the conference. The panel finalized the revisions within a few weeks after the conference. The draft statement was made available on the World Wide Web immediately following its release at the conference and was updated with the panel's final revisions.

Conclusions

Attention deficit hyperactivity disorder or **ADHD** is a commonly diagnosed behavioral disorder of childhood that represents a costly major public health problem. Children with **ADHD** have pronounced impairments and can experience long-term adverse effects on academic performance, vocational success, and social-emotional development which have a profound impact on individuals, families,

schools, and society. Despite progress in the assessment, diagnosis, and treatment of **ADHD**, this disorder and its treatment have remained controversial, especially the use of psychostimulants for both short- and long-term treatment.

Although an independent diagnostic test for **ADHD** does not exist, there is evidence supporting the validity of the disorder. Further research is needed on the dimensional aspects of **ADHD**, as well as the comorbid (coexisting) conditions present in both childhood and adult forms.

Studies (primarily short term, approximately 3 months), including randomized clinical trials, have established the efficacy of stimulants and psychosocial treatments for alleviating the symptoms of **ADHD** and associated aggressiveness and have indicated that stimulants are more effective than psychosocial therapies in treating these symptoms. Because of the lack of consistent improvement beyond the core symptoms and the paucity of long-term studies (beyond 14 months), there is a need for longer term studies with drugs and behavioral modalities and their combination. Although trials are under way, conclusive recommendations concerning treatment for the long term cannot be made presently.

There are wide variations in the use of psychostimulants across communities and physicians, suggesting no consensus regarding which **ADHD** patients should be treated with psychostimulants. These problems point to the need for improved assessment, treatment, and followup of patients with **ADHD**. A more consistent set of diagnostic procedures and practice guidelines is of utmost importance. Furthermore, the lack of insurance coverage preventing the appropriate diagnosis and treatment of **ADHD** and the lack of integration with educational services are substantial barriers and represent considerable long-term costs for society.

Finally, after years of clinical research and experience with **ADHD**, our knowledge about the cause or causes of **ADHD** remains largely speculative. Consequently, we have no documented strategies for the prevention of **ADHD**.

Introduction

Attention deficit hyperactivity disorder (**ADHD**) is the most commonly diagnosed behavioral disorder of childhood, estimated to affect 3 to 5 percent of school-age children. Its core symptoms include developmentally inappropriate levels of attention, concentration, activity, distractibility, and impulsivity. Children with **ADHD** usually have functional impairment across multiple settings including home, school, and peer relationships. **ADHD** has also been shown to have long-term adverse effects on academic performance, vocational success, and social-emotional development.

Despite the progress in the assessment, diagnosis, and treatment of children and adults with **ADHD**, the disorder has remained controversial. The diverse and conflicting opinions about **ADHD** have resulted in confusion for families, care providers, educators, and policymakers. The controversy raises questions concerning the literal existence of the disorder, whether it can be reliably diagnosed, and, if treated, what interventions are the most effective.

One of the major controversies regarding **ADHD** concerns the use of psychostimulants to treat the condition. Psychostimulants, including amphetamine, methylphenidate, and pemoline, are by far the most widely researched and commonly prescribed treatments for **ADHD**. Because psychostimulants are more readily available and are being prescribed more frequently, concerns have intensified over their potential overuse and abuse.

This 2 1/2 day conference brought together national and international experts in the fields of relevant medical research and health care as well as representatives from the public.

After 1 1/2 days of presentations and audience discussion, an independent, non-Federal consensus panel chaired by Dr. David J. Kupfer, Thomas Detre Professor and Chair, Department of Psychiatry, University of Pittsburgh, weighed the scientific evidence and wrote a draft statement that was presented to the audience on the third day. The consensus statement addressed the following key questions:

- * What is the scientific evidence to support **ADHD** as a disorder?
- * What is the impact of **ADHD** on individuals, families, and society?
- * What are the effective treatments for **ADHD**?
- * What are the risks of the use of stimulant medication and other treatments?
- * What are the existing diagnostic and treatment practices, and what are the barriers to appropriate identification, evaluation, and intervention?
- * What are the directions for future research?

The lead organizations of this conference were the National Institute on Drug Abuse, the National Institute of Mental Health, and the National Institutes of Health (NIH) Office of Medical Applications of Research. The conference was cosponsored by the National Institute of Environmental Health Sciences, the National Institute of Child Health and Human Development, the U.S. Food and Drug Administration, and the Office of Special Education Programs, U.S. Department of Education.

1. What Is the Scientific Evidence To Support **ADHD** as a Disorder?

The diagnosis of **ADHD** can be made reliably using well-tested diagnostic interview methods. However, as of yet, there is no independent valid test for **ADHD**. Although research has suggested a central nervous system basis for **ADHD**, further research is necessary to firmly establish **ADHD** as a brain disorder. This is not unique to **ADHD**, but applies as well to most psychiatric disorders, including disabling diseases such as schizophrenia. Evidence supporting the validity of **ADHD** includes the long-term developmental course of **ADHD** over time, cross-national studies revealing similar risk factors, familial aggregation of **ADHD** (which may be genetic or environmental), and heritability.

Additional efforts to validate the disorder are needed: careful description of the cases, use of specific diagnostic criteria, repeated followup studies, family studies (including twin and adoption studies), epidemiologic studies, and long-term treatment studies. To the maximum extent possible, such studies should include various controls, including normal subjects and those with other clinical disorders. Such studies may provide suggestions about subgrouping of patients that will turn out to be associated with different outcomes, responses to different treatment, and varying patterns of familial characteristics and illnesses.

Certain issues about the diagnosis of **ADHD** have been raised that indicate the need for further research to validate diagnostic methods.

* Clinicians who diagnose this disorder have been criticized for merely taking a percentage of the normal population who have the most evidence of inattention and continuous activity and labeling them as having a disease. In fact, it is unclear whether the signs of **ADHD** represent a bimodal distribution in the population or one end of a continuum of characteristics. This is not unique to **ADHD** as other medical diagnoses, such as essential hypertension and hyperlipidemia, are continuous in the general population, yet the utility of diagnosis and treatment have been proven. Nevertheless, related problems of diagnosis include differentiating this entity from other behavioral problems and determining the appropriate boundary between the normal population and those with **ADHD**.

* **ADHD** often does not present as an isolated disorder, and comorbidities (coexisting conditions) may complicate research studies, which may account for some of the inconsistencies in research findings.

* Although the prevalence of **ADHD** in the United States has been estimated at about 3 to 5 percent, a wider range of prevalence has been reported across studies. The reported rate in some other countries is much lower. This indicates a need for a more thorough study of **ADHD** in different populations and better definition of the disorder.

* All formal diagnostic criteria for **ADHD** were designed for diagnosing young children and have not been adjusted for older children and adults. Therefore, appropriate revision of these criteria to aid in the diagnosis of these individuals is encouraged.

In summary, there is validity in the diagnosis of **ADHD** as a disorder with broadly accepted symptoms and behavioral characteristics that define the disorder.

What Is the Impact of **ADHD** on Individuals, Families, and Society?

Children with **ADHD** experience an inability to sit still and pay attention in class and the negative consequences of such behavior. They experience peer rejection and engage in a broad array of disruptive behaviors. Their academic and social difficulties have far-reaching and long-term consequences. These children have higher injury rates. As they grow older, children with untreated **ADHD** in combination with conduct disorders experience drug abuse, antisocial behavior, and injuries of all sorts. For many individuals, the impact of **ADHD** continues into adulthood.

Families who have children with **ADHD**, as with other behavioral disorders and chronic diseases, experience increased levels of parental frustration, marital discord, and divorce. In addition, the direct costs of medical care for children and youth with **ADHD** are substantial. These costs represent a serious burden for many families because they frequently are not covered by health insurance.

In the larger world, these individuals consume a disproportionate share of resources and attention from the health care system, criminal justice system, schools, and other social service agencies. Methodological problems preclude precise estimates of the cost of **ADHD** to society. However, these costs are large. For example, additional national public school expenditures on behalf of students with **ADHD** may have exceeded \$3 billion in 1995. Moreover, **ADHD**, often in conjunction with coexisting conduct disorders, contributes to societal problems such as violent crime and teenage pregnancy.

Families of children impaired by the symptoms of **ADHD** are in a very difficult position. The painful decision-making process to determine appropriate treatment for these children is often made substantially worse by the media war between those who overstate the benefits of treatment and those who overstate the dangers of treatment.

What Are the Effective Treatments for **ADHD**?

A wide variety of treatments have been used for **ADHD** including, but not limited to, various psychotropic medications, psychosocial treatment, dietary management, herbal and homeopathic treatments, biofeedback, meditation, and perceptual stimulation/training. Of these treatment strategies, stimulant medications and psychosocial interventions have been the major foci of research. Studies on the efficacy of medication and psychosocial treatments for **ADHD** have focused primarily on a condition equivalent to DSM-IV combined type, meeting criteria for Inattention and Hyperactivity/Impulsivity. Until recently, most randomized clinical trials have been short term, up to approximately 3 months. Overall, these studies support the efficacy of stimulants and psychosocial treatments for **ADHD** and the superiority of stimulants relative to psychosocial treatments. However, there are no long-term studies testing stimulants or psychosocial treatments lasting several years. There is no information on the long-term outcomes of medication-treated **ADHD** individuals in terms of educational and occupational achievements, involvement with the police, or other areas of social functioning.

Short-term trials of stimulants have supported the efficacy of methylphenidate (MPH) dextroamphetamine and pemoline in children with **ADHD**. Few, if any, differences have been found among these stimulants on average. However, MPH is the most studied and the most often used of the stimulants. These short-term trials have found beneficial effects on the defining symptoms of **ADHD** and associated aggressiveness as long as medication is taken. However, stimulant treatments may not "normalize" the entire range of behavior problems, and children under treatment may still manifest a higher level of some behavior problems than normal children. Of concern are the consistent findings that despite the improvement in core symptoms, there is little improvement in academic achievement or social skills.

Several short-term studies of antidepressants show that desipramine produces improvements over placebo in parent and teacher ratings of **ADHD** symptoms. Results from studies examining the efficacy of imipramine are inconsistent. Although a number of other psychotropic medications have been used to treat **ADHD**, the extant outcome data from these studies do not allow for conclusions regarding their efficacy.

Psychosocial treatment of **ADHD** has included a number of behavioral strategies such as contingency management (e.g., point/token reward systems, timeout, response cost) that typically is conducted in the classroom, parent training (where the parent is taught child management skills), clinical behavior therapy (parent, teacher, or both are taught to use contingency management procedures), and cognitive-behavioral treatment (e.g., self-monitoring, verbal self-instruction, problem-solving strategies, self-reinforcement). Cognitive-behavioral treatment has not been found to yield beneficial effects in children with **ADHD**. In contrast, clinical behavior therapy, parent training, and contingency management have produced beneficial effects. Intensive direct interventions in children with **ADHD** have produced improvements in key areas of functioning. However, no randomized control trials have been conducted on some of these intensive interventions alone or in combination with medication. Studies that compared stimulants with psychosocial treatment consistently reported greater efficacy of stimulants.

Emerging data suggest that medication using systematic titration and intensive monitoring methods over a period of approximately 1 year is superior to an intensive set of behavioral treatments on core **ADHD** symptoms (inattention, hyperactivity/impulsivity, aggression). Combined medication and behavioral treatment added little advantage overall, over medication alone, but combined treatment did result in more improved social skills, and parents and teachers judged this treatment more favorably. Both systematically applied medication (monitored regularly) and combined treatment were superior to routine community care, which often involved the use of stimulants. An important potential advantage for behavioral treatment is the possibility of improving functioning with reduced dose of stimulants. This possibility was not tested.

There is a long history of a number of other interventions for **ADHD**. These include dietary replacement, exclusion, or supplementation; various vitamin, mineral, or herbal regimens; biofeedback; perceptual stimulation; and a host of others. Although these interventions have generated considerable interest and there are some controlled and uncontrolled studies using various strategies, the state of the empirical evidence regarding these interventions is uneven, ranging from no data to well-controlled trials. Some of the dietary elimination strategies showed intriguing results suggesting the need for future research.

The current state of the empirical literature regarding the treatment of **ADHD** is such that at least five important questions cannot be answered. First, it cannot be determined if the combination of stimulants and psychosocial treatments can improve functioning with reduced dose of stimulants. Second, there are no data on the treatment of **ADHD**, Inattentive type, which might include a high percentage of girls. Third, there are no conclusive data on treatment in adolescents and adults with **ADHD**. Fourth, there is no information on the effects of long-term treatment (treatment lasting more than 1 year), which is indicated in this persistent disorder. Finally, given the evidence about the cognitive problems associated with **ADHD**, such as deficiencies in working memory and language processing deficits, and the demonstrated ineffectiveness of current treatments in enhancing academic achievement, there is a need for application and development of methods targeted to these weaknesses.

What Are the Risks of the Use of Stimulant Medication and Other Treatments?

Although little information exists concerning the long-term effects of psychostimulants, there is no conclusive evidence that careful therapeutic use is harmful. When adverse drug reactions do occur, they are usually related to dose. Effects associated with moderate doses may include decreased appetite and insomnia. These effects occur early in treatment and may decrease with continued dosing. There may be negative effects on growth rate, but ultimate height appears not to be affected.

It is well known that psychostimulants have abuse potential. Very high doses of psychostimulants, particularly of amphetamines, may cause central nervous system damage, cardiovascular damage, and hypertension. In addition, high doses have been associated with compulsive behaviors and, in certain vulnerable individuals, movement disorders. There is a rare percentage of children and adults treated at

high doses who have hallucinogenic responses. Drugs used for **ADHD** other than psychostimulants have their own adverse reactions: tricyclic antidepressants may induce cardiac arrhythmias, bupropion at high doses can cause seizures, and pemoline is associated with liver damage.

The degree of assessment and followup by primary care physicians varies significantly. This variance may contribute to the marked differences in appropriate prescribing practices. Adequate followup is required for any prescribed medications, especially for higher doses of psychostimulants.

Although an increased risk of drug abuse and cigarette smoking is associated with childhood **ADHD** (see Question 2), existing studies come to conflicting conclusions as to whether use of psychostimulants increases or decreases the risk of abuse. A major limitation of inferences from observational databases is the inability to examine independently the use of stimulant medication, the diagnosis and severity of **ADHD**, and the effect of coexisting conditions.

The increased availability of stimulant medications may pose risks for society. The threshold of drug availability that can lead to oversupply and consequent illicit use is unknown. There is little evidence that current levels of production have had a substantial effect on abuse. However, there is a need to be vigilant in monitoring the national indices of use and abuse of stimulants among high school seniors. One of the indices is the Drug Abuse Warning Network (DAWN).

What Are the Existing Diagnostic and Treatment Practices, and What Are the Barriers to Appropriate Identification, Evaluation, and Intervention?

The American Academy of Child and Adolescent Psychiatry has published practice parameters for the assessment and treatment of **ADHD**. The American Academy of Pediatrics has formed a subcommittee to establish parameters for pediatricians, but those guidelines are not available at this time. Primary care and developmental pediatricians, family practitioners, (child) neurologists, psychologists, and psychiatrists are the providers responsible for assessment, diagnosis, and treatment of most children with **ADHD**. There is wide variation among types of practitioners with respect to frequency of diagnosis of **ADHD**. Data indicate that family practitioners diagnose more quickly and prescribe medication more frequently than psychiatrists or pediatricians. This may be due in part to the limited time spent making the diagnosis. Some practitioners invalidly use response to medication as a diagnostic criterion, and primary care practitioners are less likely to recognize comorbid (coexisting) disorders. The quickness with which some practitioners prescribe medications may decrease the likelihood that more educationally relevant interventions will be sought.

Diagnoses may be made in an inconsistent manner with children sometimes being overdiagnosed and sometimes underdiagnosed. However, this does not affect the validity of the diagnosis when appropriate guidelines are used. Some practitioners do not use structured parent questionnaires, rating scales, or teacher or school input. Pediatricians, family practitioners, and psychiatrists tend to rely on parent rather than teacher input. There appears to be a "disconnect" between developmental or educational (school-based) assessments and health-related (medical practice-based) services. There is often poor communication between diagnosticians and those who implement and monitor treatment in schools. In addition, followup may be inadequate and fragmented. This is particularly important to ensure monitoring and early detection of any adverse effect of therapy. School-based clinics with a team approach that includes parents, teachers, school psychologists, and other mental health specialists may be a means to remove these barriers and improve access to assessment and treatment. Ideally, primary care practitioners with adequate time for consultation with such school teams should be able to make an appropriate assessment and diagnosis, but they should also be able to refer to mental health and other specialists when deemed necessary.

What are the barriers to appropriate identification, evaluation, and intervention?

Studies identify a number of barriers to appropriate identification, evaluation, and treatment. Barriers to identification and evaluation arise when central screening programs limit access to mental health services. The lack of insurance coverage for psychiatric or psychological evaluations, behavior modification programs, school consultation, parent management training, and other specialized programs presents a major barrier to accurate classification, diagnosis, and management of **ADHD**. Substantial cost

barriers exist in that diagnosis results in out-of-pocket costs to families for services not covered by managed care or other health insurance. Mental health benefits are carved out of many policies offered to families, and thus access to treatment other than medication might be severely limited. Parity for mental health conditions in insurance plans is essential. Another cost implication lies in the fact that there is no funded special education category specifically for **ADHD**, which leaves these students underserved, and there is currently no tracking or monitoring of children with **ADHD** who are served outside of special education. This results in educational and mental health service sources disputing responsibility for coverage of special educational services.

Barriers exist in relationship to gender, race, socioeconomic factors, and geographical distribution of physicians who identify and evaluate patients with **ADHD**.

Other important barriers include those perceived by patients, families, and clinicians. These include lack of information, concerns about risks of medications, loss of parental rights, fear of professionals, social stigma, negative pressures from families and friends against seeking treatment, and jeopardizing jobs and military service. For health care providers, the lack of specialists and difficulties obtaining insurance coverage as outlined above present significant obstacles to care.

What Are the Directions for Future Research?

Basic research is needed to better define **ADHD**. This research includes the following: (1) studies of cognitive development, cognitive processing, and attention/inattention in **ADHD** and (2) brain imaging studies before the initiation of medication and following the individual through young adulthood and middle age.

Further research should be conducted with respect to the dimensional aspects of this disorder, as well as the comorbid (coexisting) conditions present in both childhood and adult **ADHD**. Therefore, an important research need is the investigation of standardized age- and gender-specific diagnostic criteria.

The impact of **ADHD** should be determined. Studies in this regard include (1) the nature and severity of the impact on individuals, families, and society of adults with **ADHD** beyond the age of 20 and (2) determination of the financial costs related to diagnosis and care of children with **ADHD**.

Additional studies are needed to develop a more systematized treatment strategy.

These include:

- * Studies of the Inattentive type of **ADHD**, especially since it might include a higher proportion of girls than the subtypes with hyperactivity/impulsivity.
- * Studies of long-term treatment (treatment lasting longer than 1 year), which are needed because of the persistence of the disorder.
- * Prospective controlled studies, up to adulthood, of the risks and benefits associated with childhood treatment with psychostimulants.
- * Studies to determine the effects of psychotropic therapy on cognitive function and school performance.
- * Studies of the effects of instructional treatments on the academic achievement of children with **ADHD**.
- * Studies to determine whether the combination of stimulants and psychosocial treatments can improve functioning with a reduced dose of stimulants.
- * Studies to determine the risks and benefits associated with treating children younger than age 5 with stimulants.

* Studies of the effects of various stimulants in adolescents and adults.

Greater attention should be given to developing integrated programs for diagnosis and treatment. These include:

* Model projects to demonstrate methods of training teachers to recognize and provide appropriate special programs for children with **ADHD**.

* Incorporation of classroom strategies to effectively serve a greater variety of students and thereby reduce the need for **ADHD** referral and diagnosis.

* Determination of the extent to which individuals with **ADHD** are being served in postsecondary education and, if so, where they are being served, with what types of accommodations, and with what level of success.

Conclusions

Attention deficit hyperactivity disorder or **ADHD** is a commonly diagnosed behavioral disorder of childhood that represents a major public health problem. Children with **ADHD** usually have pronounced difficulties and impairments resulting from the disorder across multiple settings. They can also experience long-term adverse effects on academic performance, vocational success, and social-emotional development.

Despite progress in the assessment, diagnosis, and treatment of **ADHD**, this disorder and its treatment have remained controversial in many public and private sectors. The major controversy regarding **ADHD** continues to be the use of psychostimulants both for short-term and long-term treatment.

Although an independent diagnostic test for **ADHD** does not exist, evidence supporting the validity of the disorder can be found. Further research will need to be conducted with respect to the dimensional aspects of **ADHD**, as well as the comorbid (coexisting) conditions present in both childhood and adult **ADHD**. Therefore, an important research need is the investigation of standardized age- and gender-specific diagnostic criteria.

The impact of **ADHD** on individuals, families, schools, and society is profound and necessitates immediate attention. A considerable share of resources from the health care system and various social service agencies is currently devoted to individuals with **ADHD**. Often the services are delivered in a nonintegrated manner. Resource allocation based on better cost data leading to integrated care models needs to be developed for individuals with **ADHD**.

Effective treatments for **ADHD** have been evaluated primarily for the short term (approximately 3 months). These studies have included randomized clinical trials that have established the efficacy of stimulants and psychosocial treatments for alleviating the symptoms of **ADHD** and associated aggressiveness and have indicated that stimulants are more effective than psychosocial therapies in treating these symptoms.

Lack of consistent improvement beyond the core symptoms leads to the need for treatment strategies that utilize combined approaches. At the present time, there is a paucity of data providing information on long-term treatment beyond 14 months. Although trials combining drugs and behavioral modalities are under way, conclusive recommendations concerning treatment for the long term cannot be made easily.

The risks of treatment, particularly the use of stimulant medication, are of considerable interest. Substantial evidence exists of wide variations in the use of psychostimulants across communities and physicians, suggesting no consensus among practitioners regarding which **ADHD** patients should be treated with psychostimulants. As measured by attention/activity indices, patients with varying levels and types of problems (and even possibly unaffected individuals) may benefit from stimulant therapy. However, there is no evidence regarding the appropriate **ADHD** diagnostic threshold above which the benefits of psychostimulant therapy outweigh the risks.

Existing diagnostic and treatment practices, in combination with the potential risks associated with medication, point to the need for improved awareness by the health service sector concerning an appropriate assessment, treatment, and followup. A more consistent set of diagnostic procedures and practice guidelines is of utmost importance. Current barriers to evaluation and intervention exist across the health and education sectors. The cost barriers and lack of coverage preventing the appropriate diagnosis and treatment of ADHD and the lack of integration with educational services represent considerable long-term cost for society. The lack of information and education about accessibility and affordability of services must be remedied.

Finally, after years of clinical research and experience with **ADHD**, our knowledge about the cause or causes of **ADHD** remains speculative. Consequently, we have no strategies for the prevention of **ADHD**.

Consensus Development Panel

David J. Kupfer, M.D.

Panel and Conference Chairperson

Thomas Detre Professor and Chair of Psychiatry

Western Psychiatric Institute and Clinic

Department of Psychiatry

University of Pittsburgh

Pittsburgh, Pennsylvania

Robert S. Baltimore, M.D.

Professor of Pediatrics, Epidemiology, and Public Health

Division of Infectious Diseases

Department of Pediatrics

Yale University School of Medicine

New Haven, Connecticut

Donald A. Berry, Ph.D.

Professor

Institute of Statistics and Decision Sciences

Duke University Medical Center

Durham, North Carolina

Naomi Breslau, Ph.D.

Director of Research

Department of Psychiatry

Henry Ford Health System

Detroit, Michigan

Everett H. Ellinwood, M.D.

Professor of Psychiatry and Pharmacology

Duke University Medical Center

Durham, North Carolina

Janis Ferre

Past Chair

Utah Governor's Council for People With Disabilities

Salt Lake City, Utah

Donna M. Ferriero, M.D.

Associate Professor of Neurology

Division of Child Neurology

Department of Neurology

University of California, San Francisco

San Francisco, California

Lynn S. Fuchs, Ph.D.

Professor

Department of Special Education

Peabody College

Vanderbilt University

Nashville, Tennessee

Samuel B. Guze, M.D.

Spencer T. Olin Professor of Psychiatry

Department of Psychiatry

Washington University School of Medicine

St. Louis, Missouri

Beatrix A. Hamburg, M.D.

Visiting Professor

Department of Psychiatry

Cornell University Medical College

New York, New York

Jane McGlothlin, Ph.D.

Assistant Superintendent for Curriculum and Instruction

Scottsdale Unified School District

Phoenix, Arizona

Samuel M. Turner, Ph.D., ABPP

Professor of Psychology

Director of Clinical Training

Department of Psychology

University of Maryland

College Park, Maryland

Mark Vonnegut, M.D.

Pediatrician

Milton Pediatrics

Quincy, Massachusetts

Speakers

Howard Abikoff, Ph.D.

"Matching Patients to Treatments"

Professor of Clinical Psychiatry

Director of Research

NYU Child Study Center

New York University School of Medicine

New York, New York

Sheila Anderson

"Individual and Family Barriers"

Immediate Past National President

Children and Adults With Attention Deficit Disorders

Plantation, Florida

L. Eugene Arnold, M.D., M.Ed.

"Treatment Alternatives for **ADHD**"

Professor Emeritus of Psychiatry

Ohio State University, Columbus

Sunbury, Ohio

Russell A. Barkley, Ph.D.

"**ADHD**: Long-Term Course, Adult Outcome, and Comorbid Disorders"

Director of Psychology

Department of Psychiatry

University of Massachusetts Medical Center

Worcester, Massachusetts

Joseph Biederman, M.D.

"Pharmacotherapy of **ADHD**: Nonstimulant Treatments"

Professor of Psychiatry, Harvard Medical School

Chief, Joint Program in Pediatric Psychopharmacology

Massachusetts and McLean General Hospitals

Boston, Massachusetts

Hector R. Bird, M.D.

"The Prevalence and Cross-Cultural Validity of **ADHD**"

Professor

Clinical Psychiatry

Columbia University

Deputy Director

Child Psychiatry

New York State Psychiatric Institute

New York, New York

Peter R. Breggin, M.D.

"Risks and Mechanism of Action of Stimulants"

Director

Center for the Study of Psychiatry and Psychology

Bethesda, Maryland

William B. Carey, M.D.

"Is **ADHD** a Valid Disorder?"

Clinical Professor of Pediatrics

University of Pennsylvania School of Medicine

Division of General Pediatrics

Children's Hospital of Philadelphia

Philadelphia, Pennsylvania

Betty Chemers, M.A.

"The Impact of **ADHD** on the Juvenile Justice System"

Director of Research and Program Development

Office of Juvenile Justice and Delinquency Prevention

Washington, D.C.

C. Keith Conners, Ph.D., M.A.

"Overview of Attention Deficit Hyperactivity Disorder (**ADHD**)"

Director, **ADHD** Program

Department of Psychiatry

Duke University Medical Center

Durham, North Carolina

James R. Cooper, M.D.

"Availability of Stimulant Medications: Nature and Extent of Abuse and Associated Harm"

Associate Director for Medical Affairs

Division of Clinical and Services Research

National Institute on Drug Abuse

National Institutes of Health

Bethesda, Maryland

Louis Danielson, Ph.D.

"Educational Policy: Educating Children With Attention Deficit Disorders"

Director, Division of Research to Practice

Office of Special Education Programs

Office of Special Education and Rehabilitative Services

U.S. Department of Education

Washington, D.C.

Gretchen Feussner

"Diversion, Trafficking, and Abuse of Methylphenidate"

Pharmacologist

Drug and Chemical Evaluation Section

Office of Diversion Control

Drug Enforcement Administration

Arlington, Virginia

Steven R. Forness, Ed.D.

"The Impact of **ADHD** on School Systems"

Professor of Psychiatry and Biobehavioral Sciences

Neuropsychiatric Hospital

University of California, Los Angeles

Los Angeles, California

Laurence L. Greenhill, M.D.

"Stimulant Medications"

Research Psychiatrist II

New York State Psychiatric Institute

Columbia University

New York, New York

Stephen P. Hinshaw, Ph.D.

"Impairment: Childhood and Adolescence"

Professor of Psychology

Director of Clinical Psychology Training Program

Department of Psychology

University of California, Berkeley

Berkeley, California

Kimberly Hoagwood, Ph.D.

"A National Perspective on Treatments and Services for Children With **ADHD**"

Chief of Child and Adolescent Services Research

Services Research Branch

National Institute of Mental Health

National Institutes of Health

Bethesda, Maryland

Peter S. Jensen, M.D.

"Behavioral and Medication Treatments for **ADHD**: Comparisons and Combinations"

Associate Director for Child and Adolescent Research

National Institute of Mental Health

National Institutes of Health

Bethesda, Maryland

Charlotte Johnston, Ph.D.

"The Impact of **ADHD** on Social and Vocational Functioning in Adults"

Associate Professor

Department of Psychology

University of British Columbia

Vancouver, British Columbia

Canada

Peter W. Kalivas, Ph.D.

"Sensitization and the Risk of Exposure to Stimulant Medications"

Professor and Chair

Department of Physiology and Neuroscience

Medical University of South Carolina

Charleston, South Carolina

Kelly J. Kelleher, M.D., M.P.H.

"Use of Services and Costs for Youth With **ADHD** and Related Conditions"

Staunton Professor of Pediatrics and Psychiatry

Child Services Research and Development Program

University of Pittsburgh

Pittsburgh, Pennsylvania

Rachel G. Klein, Ph.D.

"Alcohol, Nicotine, Stimulants, and Other Drugs"

Director of Clinical Psychology

Department of Psychology

New York State Psychiatric Institute

New York, New York

Benjamin B. Lahey, Ph.D.

"Current Diagnostic Schema/Core Dimensions"

Professor of Psychiatry

Chief of Psychology

Department of Psychiatry

University of Chicago

Chicago, Illinois

Nadine M. Lambert, Ph.D.

"Stimulant Treatment as a Risk Factor for Nicotine Use and Substance Abuse"

Professor

Cognition and Development Area

Director, School Psychology Program

Graduate School of Education

University of California, Berkeley

Berkeley, California

Jan Loney, Ph.D.

"Risk of Treatment Versus Nontreatment"

Professor

Department of Psychiatry

State University of New York at Stony Brook

Stony Brook, New York

William E. Pelham, Jr., Ph.D.

"Psychosocial Interventions"

Professor and Director of Clinical Training

Department of Psychology

State University of New York at Buffalo

Buffalo, New York

Andrew S. Rowland, Ph.D.

"Public Health Perspectives and Toxicological Issues Concerning Stimulant Medications"

Epidemiologist

Epidemiology Branch

National Institute of Environmental Health Sciences

National Institutes of Health

Research Triangle Park, North Carolina

James Swanson, Ph.D.

"Biological Bases of **ADHD**: Neuroanatomy, Genetics, and Pathophysiology"

Professor of Pediatrics

Department of Pediatrics

University of California, Irvine

Irvine, California

Rosemary Tannock, Ph.D.

"Cognitive and Behavioral Correlates"

Scientist

Associate Professor of Psychiatry

Brain and Behavior Program

Research Institute for the Hospital for Sick Children

University of Toronto

Toronto, Ontario

Canada

Timothy E. Wilens, M.D.

"**ADHD** and Risk for Substance Use Disorders"

Associate Professor of Psychiatry

Harvard Medical School

Massachusetts General Hospital

Boston, Massachusetts

Mark L. Wolraich, M.D.

"Current Assessment and Treatment Practices"

Professor of Pediatrics

Director, Division of Child Development

Department of Pediatrics

Vanderbilt University

Nashville, Tennessee

Planning Committee

James R. Cooper, M.D.

Planning Committee Co-Chairperson

Associate Director for Medical Affairs

Division of Clinical and Services Research

National Institute on Drug Abuse

National Institutes of Health

Bethesda, Maryland

Peter S. Jensen, M.D.

Planning Committee Co-Chairperson

Associate Director for Child and Adolescent Research

National Institute of Mental Health

National Institutes of Health

Bethesda, Maryland

Sheila Anderson

Immediate Past National President

Children and Adults With Attention Deficit Disorders

Plantation, Florida

Elaine Baldwin

Chief, Public Affairs and Science Reports Branch

Office of Scientific Information

National Institute of Mental Health

National Institutes of Health

Bethesda, Maryland

Cheryl Boyce, Ph.D.

Society for Research in Child Development Fellow

Developmental Psychopathology Research Branch

National Institute of Mental Health

National Institutes of Health

Bethesda, Maryland

Sarah Broman, Ph.D.

Health Science Administrator

Division of Fundamental Neuroscience and Developmental Disorders

National Institute of Neurological Disorders and Stroke

National Institutes of Health

Bethesda, Maryland

J.A. Costa e Silva, M.D.

Director

Division of Mental Health and Prevention of Substance Abuse

World Health Organization

Geneva, Switzerland

Dorynne J. Czechowicz, M.D.

Medical Officer

Division of Clinical and Services Research

National Institute on Drug Abuse

National Institutes of Health

Bethesda, Maryland

Jerry M. Elliott

Program Analysis and Management Officer

Office of Medical Applications of Research

National Institutes of Health

Bethesda, Maryland

John H. Ferguson, M.D.

Director

Office of Medical Applications of Research

National Institutes of Health

Bethesda, Maryland

Gretchen Feussner

Pharmacologist

Drug and Chemical Evaluation Section

Office of Diversion Control

Drug Enforcement Administration

Arlington, Virginia

Laurence L. Greenhill, M.D.

Research Psychiatrist II

New York State Psychiatric Institute

Columbia University

New York, New York

William H. Hall

Director of Communications

Office of Medical Applications of Research

National Institutes of Health

Bethesda, Maryland

John King

Deputy Assistant Administrator

Office of Diversion Control

Drug Enforcement Administration

Arlington, Virginia

David J. Kupfer, M.D.

Panel and Conference Chairperson

Thomas Detre Professor and Chair of Psychiatry

Western Psychiatric Institute and Clinic

Department of Psychiatry

University of Pittsburgh

Pittsburgh, Pennsylvania

Benjamin B. Lahey, Ph.D.

Professor of Psychiatry

Chief of Psychology

Department of Psychiatry

University of Chicago

Chicago, Illinois

Jan Loney, Ph.D.

Professor

Department of Psychiatry

State University of New York at Stony Brook

Stony Brook, New York

Reid Lyon, Ph.D.

Chief

Child Development and Behavior Branch

National Institute of Child Health and Human Development

National Institutes of Health

Bethesda, Maryland

Stuart L. Nightingale, M.D.

Associate Commissioner for Health Affairs

Food and Drug Administration

Rockville, Maryland

William E. Pelham, Jr., Ph.D.

Professor and Director of Clinical Training

Department of Psychology

State University of New York at Buffalo

Buffalo, New York

Elizabeth Rahdert, Ph.D.

Research Psychologist

Treatment Research Branch

Division of Clinical and Services Research

National Institute on Drug Abuse

National Institutes of Health

Bethesda, Maryland

Andrew S. Rowland, Ph.D.

Epidemiologist

Epidemiology Branch

National Institute of Environmental Health Sciences

National Institutes of Health

Research Triangle Park, North Carolina

Ellen Schiller, Ph.D.

Special Assistant

Division of Research to Practice

Office of Special Education Programs

U.S. Department of Education

Washington, D.C.

Bennett Shaywitz, M.D.

Professor of Pediatrics and Neurology

Department of Pediatrics

Yale University School of Medicine

New Haven, Connecticut

Charles R. Sherman, Ph.D.

Deputy Director

Office of Medical Applications of Research

National Institutes of Health

Bethesda, Maryland

Benedetto Vitiello, M.D.

Chief

Child and Adolescent Treatment and Preventive Intervention Research Branch

Division of Services and Intervention Research

National Institute of Mental Health

National Institutes of Health

Bethesda, Maryland

Timothy E. Wilens, M.D.

Associate Professor of Psychiatry

Harvard Medical School

Massachusetts General Hospital

Boston, Massachusetts

Lead Organizations

Office of Medical Applications of Research

John H. Ferguson, M.D.

Director

National Institute on Drug Abuse

Alan I. Leshner, Ph.D.

Director

National Institute of Mental Health

Steven E. Hyman, M.D.

Director

Supporting Organizations

National Institute of Environmental Health Sciences

Kenneth Olden, Ph.D.

Director

National Institute of Child Health and Human Development

Duane Alexander, M.D.

Director

U.S. Food and Drug Administration

Michael A. Friedman, M.D.

Acting Commissioner

Office of Special Education Programs

U.S. Department of Education

Thomas Hehir, Ed.D.

Director

This publication is protected by US and international copyright laws and its content may not be copied without the copyright holder's express written permission except for the print or download capabilities of the retrieval software used for access. This content is intended solely for the use of the individual user.

Source: United States Department of Health and Human Services Public Health Serv (Rockville, MD). 1998 (37p)

Item Number: 2002031257

[Top of Page](#)

Formats:  [Citation](#)  [HTML Full Text](#)

◀ [221 of 231](#) ▶ [Result List](#) | [Refine Search](#)  [Print](#)  [E-mail](#)

 [Save](#)  [Add to folder](#)

 [Folder is empty.](#)

[Privacy Policy](#) - [Terms of Use](#) - [Copyright](#)

© 2006 EBSCO Publishing.