Comprehensive Pharmacological, Behavioral, and Combined Treatment for ADHD

Linking Forces Conference

Miami, FL

April, 2010

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Center for Children and Families

Florida International University

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Latest News

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Preschool-Kindergarten Undergraduate Classroom Counselors Needed
Promoting Successful Transitions to Kindergarten: Graduate or undergraduate....

Now Accepting STP Applications
If you would like more information on the Summer Treatment Program, click h....

Upcoming Events

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Jun 16, 2010
The Summer Treatment Program (STP) begins on June 16th and runs until Augus...

Respite Days and Evenings
Dec 1, 2010
Dear CCF Families:The CCF is pleased to announce that we will soon be pr...

Contact Us

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Disclosures

Past Consultant, scientific advisor, speaker, grant recipient:

McNeil/Alza (Concerta)

Abbott

Shire (Adderall, Adderall XR, guanfacine)

Noven (Daytrana)

Lilly (Strattera)

Cephalon (Sparlon)

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Pittsburgh: Brooke Molina, Tracey Wilson, Heidi Kipp, Oscar Bukstein, Carol Walker, Joanne Bethune, Kellie Seles, Vicki Krug, Jason Duin, Barb Postal, Mike Marshal, Kevin King (UW), Catherine Bagwell (UR), Kate Flory (USC), Brian Wymbs

MTA Cooperative Group (Pittsburgh, UC Berkeley/Irvine, Columbia, NYU, Duke)

IES/CDC SACD Collaborative Group (Rochester, NYU, U. Md, UNC, Vanderbilt, UICC, Greta Massetti, CDC)

McMaster: Chuck Cunningham

UNC: Mike Foster, Patrick Curran, Mike Willoughby

Chicago: Benjamin Lahey

Vermont: Betsy Hoza

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EBT's and P's in Child Mental Health

- Society for Clinical Child and Adolescent Psychology (Division 53 of the American Psychological Association)
- Special Issues of *Journal of Clinical Child and Adolescent Psychology*, 1998, 2005, 2008
- Niagara Conference on Evidence-based Treatments (1999-ongoing)
- Moving to Miami, February 2011
- Website (www.effectivechildtherapy.com)
- Current Initiative on Dissemination of EBPs via the Web—bringing 50 nationally known speakers to FIU for workshops in the next 24 months

http://www.effectivechildtherapy.com

Evidence-Based Mental Health Treatment for Children and Adolescents

ABCT ASSOCIATION FOR BEHAVIORAL AND COGNITIVE THERAPIES

SOCIETY OF CLINICAL CHILD AND ADOLESCENT PSYCHOLOGY SCCAP

Welcome | The Public | Professionals & Educators

The information on this website is offered as a completely free service to families and mental health professionals to help ensure that children and adolescents benefit from the most up-to-date information about mental health treatment. We request absolutely no information from visitors to this site, and hope this service will help all learn more about important differences in mental health treatments. Families want their children to get the best possible treatment, and this site maintains an updated list of treatments with strong scientific support.

The site was developed by the Association of Behavioral and Cognitive Therapies and the Society of Clinical Child and Adolescent Psychology, a division of the American Psychological Association. The site is maintained regularly to ensure that information reflects the current scientific literature. All psychological treatments are considered for inclusion on this website, and anyone may offer input on the information listed. To learn more about how to request a change to this site, click here.

SCCAP

ABCT

FIND A THERAPIST

Find the Best Treatments for You and Your Family

Information for parents, caregivers, and the general public

Practice the Best Treatments

Information for practitioners, educators, and other mental health professionals

Information on Evidence-based Mental Health Treatment for Children and Adolescents has been provided by a partnership between the Association for Behavioral and Cognitive Therapies and the Society of Clinical Child and Adolescent Psychology

What is Cognitive Behavioral Therapy (CBT)? | Child Therapy Options | Therapy or Medication? | Find a Therapist | Fear, Worry, & Anxiety | Agoraphobia | Generalized Anxiety | Obsessions & Compulsions | Panic | Posttraumatic Stress | Separation Anxiety | Social Phobia | Specific Phobia | Sadness, Hopelessness, & Depression | Major Depressive Disorder | Dysthymic Disorder | Adjustment Disorder | Inattention & Hyperactivity | Attention Deficit/Hyperactivity Disorder (ADHD) | Rule Breaking, Defiance, & "Acting Out" | Oppositional Defiant Disorder (ODD) | Conduct Disorder (CD) | Drug & Alcohol Use | Eating & Body Image Problems | Anorexia Nervosa | Bulimia Nervosa | Severe Mood Swings & Bursts of Rage | Bipolar Disorder | Autism & Related Disorders

Downloadable Materials (Free) on our Website (http://ccf.FIU.edu)

Instruments

Impairment Rating Scales (Parent and Teacher)

Disruptive Behavior Disorder Symptom Rating Scale (Parent and Teacher)

Pittsburgh Side Effect Rating Scale

DBD Structured Interview

Parent Application Packet and Clinical Intake Outline

Initial Teacher Interview

Information

What Parents and Teachers Should Know about ADHD

Medication Fact Sheet for Parents and Teachers

Psychosocial Treatment Fact Sheet for Parents and Teachers

Many reprints

Videos of lectures on child treatments

"How to" Handouts

How to Establish a School-Based Daily Report Card

How to Conduct a School-based Medication Assessment

How to Establish a Home-Based Daily Report Card

How to Begin a Summer Treatment Program

ADHD: Importance to Professionals

Prevalence: 2-9% of population in the U.S.--higher in boys—similar prevalence across many countries

Children dealt with by:

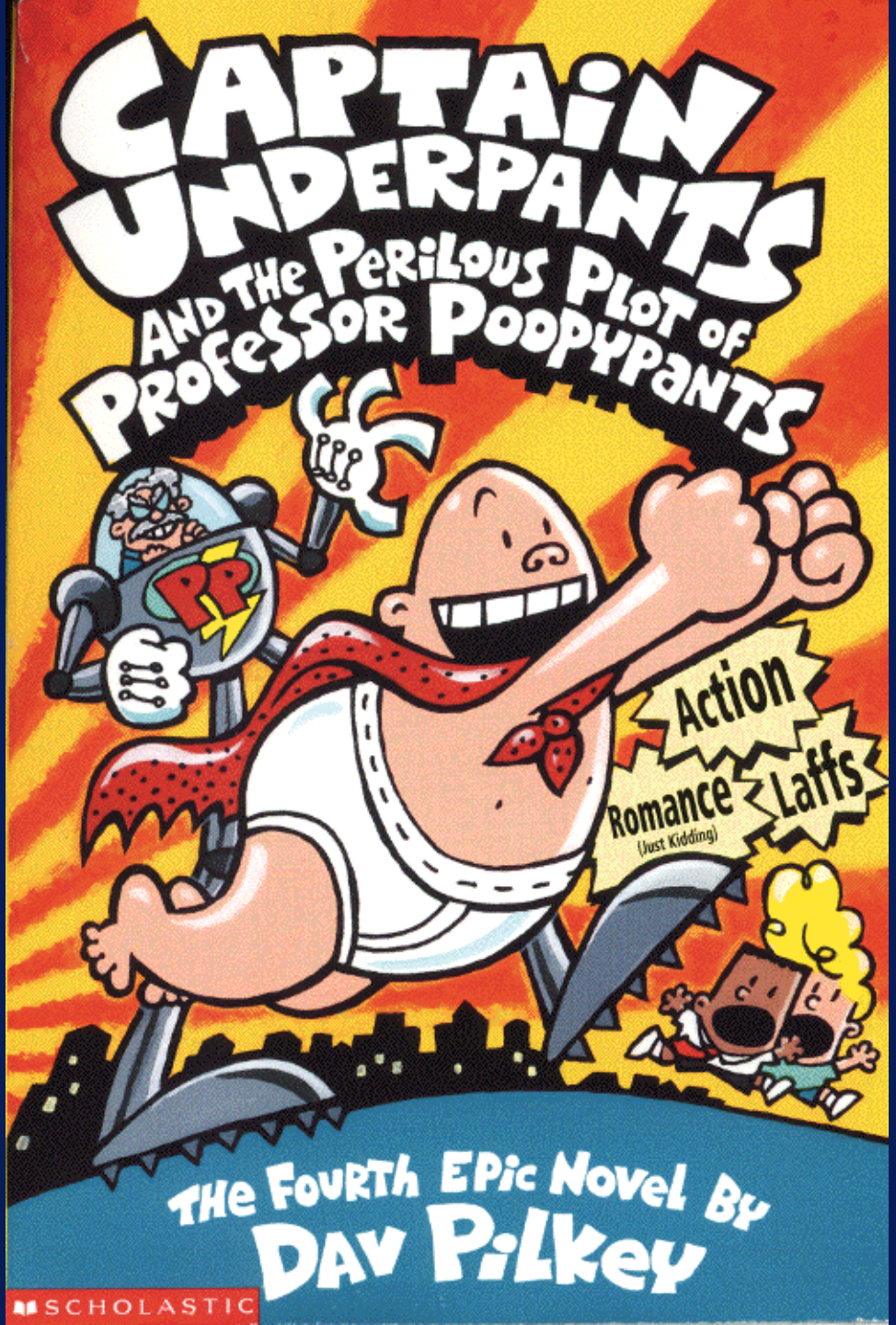
- Health Care Professionals
- Mental Health Professionals
- Allied Health Professionals
- Educators

Most common behavioral referral to health care professionals

Most common referral/diagnosis in special education

Most common behavior problem in regular education classrooms

Most common diagnosis in child mental health facilities


CAPTAIN UNDERPANTS
AND THE PERILOUS PLOT OF PROFESSOR POOPYPANTS
Action
Romance
(Just Kidding)
Laffs
THE FOURTH EPIC NOVEL BY
DAV PILKEY
SCHOLASTIC

“All of the ‘experts’ at Jerome Horwitz Elementary School had their opinions about George and Harold. Their guidance counselor, Mr. Rected, thought the boys suffered from A.D.D. The school psychologist, Miss Labler, diagnosed them with A.D.H.D. And their mean old principal, Mr. Krupp, thought they were just plain old ***B.A.D.***!”

Core Symptoms--Same Over Past 50 Years

Inattention

Impulsivity

Hyperactivity

But are symptoms what we should focus on in diagnosis, treatment, and clinical trials?

DSM-IV Definition for Attention-Deficit/Hyperactivity Disorder

- **A. Six Symptoms of either Inatt. or Hyp/Impuls.**
- **(1) Inattention:**
- often fails to give close attention to details or makes careless mistakes in schoolwork, work, or other activities
- often has difficulty sustaining attention in tasks or play activities
- often does not seem to listen to what is being said to him or her
- often does not follow through on instructions and fails to finish schoolwork, chores, or duties in the workplace
- often has difficulties organizing tasks and activities
- often avoids or has difficulties engaging in tasks that require standard mental effort
- often loses things necessary for tasks or activities
- is often easily distracted by extraneous stimuli
- often forgetful in daily activities

DSM-IV Definition for Attention-Deficit/Hyperactivity Disorder

– **(2) Hyperactivity-Impulsivity**:

- often has difficulty playing or engaging in leisure activities quietly
- is always "on the go" or acts as if "driven by a motor”
- often talks excessively
- often blurts out answers to questions before the questions have been completed
- often has difficulty waiting in lines or awaiting turn in games or group situations
- often interrupts or intrudes on others (e.g. butts into other's conversations or games)
- often runs about or climbs inappropriately
- often fidgets with hands or feet or squirms in seat
- leaves seat in classroom or in other situations in which remaining seated is expected

DSM-IV Definition for Attention-Deficit/Hyperactivity Disorder-Subtypes

- **Predominantly Inattentive Type**: Criterion (1) is met but not criterion (2) for the past six months
- **Predominantly Hyperactive-Impulsive Type**: Criterion (2) is met but no criterion (1) for the past six months
- **Combined Type**: Both criteria (1) and (2) are met for the past six months
- Not Otherwise Specified: This category is for disorders with prominent symptoms of attention-deficit or hyperactivity-impulsivity that do not meet criteria for Attention Deficit/Hyperactivity Disorder.

DSM-IV Definition for Attention-Deficit/Hyperactivity Disorder

- B. Some symptoms that caused impairment were present before age seven.
- C. Some symptoms that cause impairment are present in two or more settings (e.g. at school, work, and at home).
- D. There must be clear evidence of clinically significant impairment in social, academic, or occupational functioning.
- E. Does not occur exclusively during the course of Pervasive Developmental Disorder, Schizophrenia or other Psychotic Disorder, and is not better accounted for by a Mood Disorder, Anxiety Disorder, Dissociative Disorder, or a Personality Disorder.

Comorbidity/Other Problems Associated with ADHD

- **Learning disorders**
- **Language and communication disorders**
- **Conduct disorder**
- **Oppositional defiant disorder**
- **Anxiety disorder**
- **Mood disorders**
- **Tourette's syndrome; chronic tics**

- **Is it Important in Treatment?** No, but differences in functional problems means treatment targets may be different for children with different associated problems

Domains of Functional Impairment in ADHD Children

- Relationships with parents, teachers, and other adults
- Relationships with peers and siblings
- Academic achievement
- Behavioral functioning at school
- Family functioning at home
- Leisure activities

Central Role of Functional Impairment in Treatment

- **Impairment--that is, problems in daily life functioning that result from symptoms and deficits in adaptive skills--rather than symptoms themselves is**
  - (1) why children are referred,
  - (2) what mediates long-term outcome, and therefore
  - (3) what should be targeted in treatment.
- **Key domains are peer relationships, parenting/family, and academic achievement**
- **Assessment of impairment in daily life functioning and adaptive skills is the most fundamental aspect of**
  - initial evaluation to determine targets of treatment
  - Ongoing assessment to evaluate treatment response.
- **Normalization or minimization of impairment in daily life functioning and maximization of adaptive skills is the goal of treatment--not elimination of symptoms**

Use the Most Efficient Method of Diagnosis/Assessment

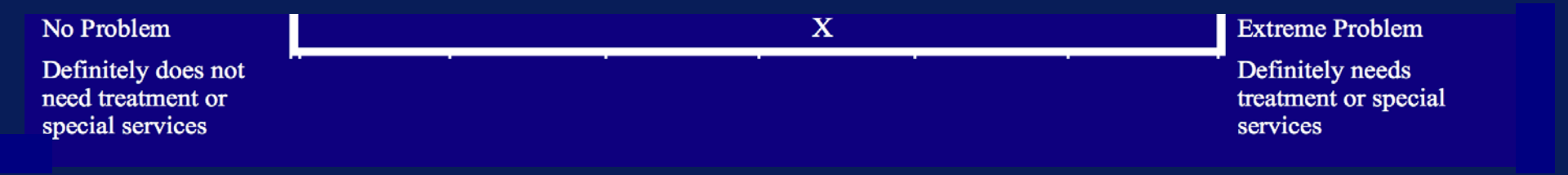
(Pelham, Fabiano & Massetti, JCCAP, 2005)

- **Use Parent and Teacher Rating Scales**
  - –Either DSM-Based (e.g., SNAP, DBD, Vanderbilt, ADHDRS, Stony Brook)
  - –Or Empically-derived (e.g., IOWA Conners, CAP, BASC)
- **Structured diagnostic interviews NOT necessary**
- **Focus on functional impairments (e.g., the IRS; Fabiano et al, 2005) rather than DSM symptoms or comorbid diagnoses (AAP, 2001)**
- **Use behavioral assessment and functional analysis of target behaviors based on clinical interview with caretakers and teachers**
- **Modify treatment based on ongoing functional assessments**
- **Do NOT use psychological or neurological tests (AAP, 2001)**

Impairment Rating Scale

Fabiano et al, JCCAP, 2005

- Raters (parents, teachers) describe what they see as the child's primary problems in narrative format. Raters then rate how the child's symptoms have affected each of the following domains:
  - (1) relationship with peers/siblings
  - (2) relationship with parents or teachers,
  - (3) his or her academic progress,
  - (4) your classroom/family in general
  - (5) his or her self-esteem , and
  - (6) overall problem/need for treatment



Downloadable at our website

Daily Report Card

Child's Name: _____ **Date:** ____

	LA		Math		Reading		SS		Sci.	
Follows class rules with no more than 3 rule violations per period.	Y	N	Y	N	Y	N	Y	N	Y	N
Completes assignments within the designated time.	Y	N	Y	N	Y	N	Y	N	Y	N
Completes assignments at 80% accuracy.	Y	N	Y	N	Y	N	Y	N	Y	N
Complies with teacher requests. (< 3 noncompliance per period)	Y	N	Y	N	Y	N	Y	N	Y	N
No more than 3 teasings per period.	Y	N	Y	N	Y	N	Y	N	Y	N

OTHER

Follows lunch rules (<3 violations).	Y	N
Follows recess rules (<2 violations).	Y	N

Total Number of Yeses/Nos: _____
Teacher's Initials:

Comments: _____

_____

_____

Downloadable at our website

Why Is it Important to Treat ADHD in Childhood?

Prognosis for ADHD Children

Chronic disorder (AAP, 2000) extending into adolescence and adulthood

One-third: **Tolerable outcome**; appear to have mild problems but must constantly work to adapt to their difficulties

One-third: **Moderately poor outcome**; continue to have a variety of moderate to serious problems, including school difficulties (adolescents) or vocational adjustment difficulties (adults), interpersonal problems, general underachievement, problems with alcohol, etc.

One-third: **Bad outcome**; severe dysfunction and/or psychopathology, including sociopathy, repeated criminal activity and resulting incarceration, alcoholism, drug use disorders

Economic Impact of ADHD on Society--the Cost of Illness?

Pelham, Robb & Foster (for AAP)

Ambulatory Pediatrics, January 2007

Total Annual Incremental Costs Per Child Across Sectors

Pelham, Foster & Robb, Ambulatory Pediatrics, 2007

Health and Mental Health	$ 2,636
Education	$ 4,900
Crime and Delinquency	$ 7,040
Family Costs (e.g., work loss)	No data
Total	$14,576
Range (lowest to highest ests.)	$12,500--$17,458

NOTE: Few studies and many domains not assessed--these are very conservative estimates

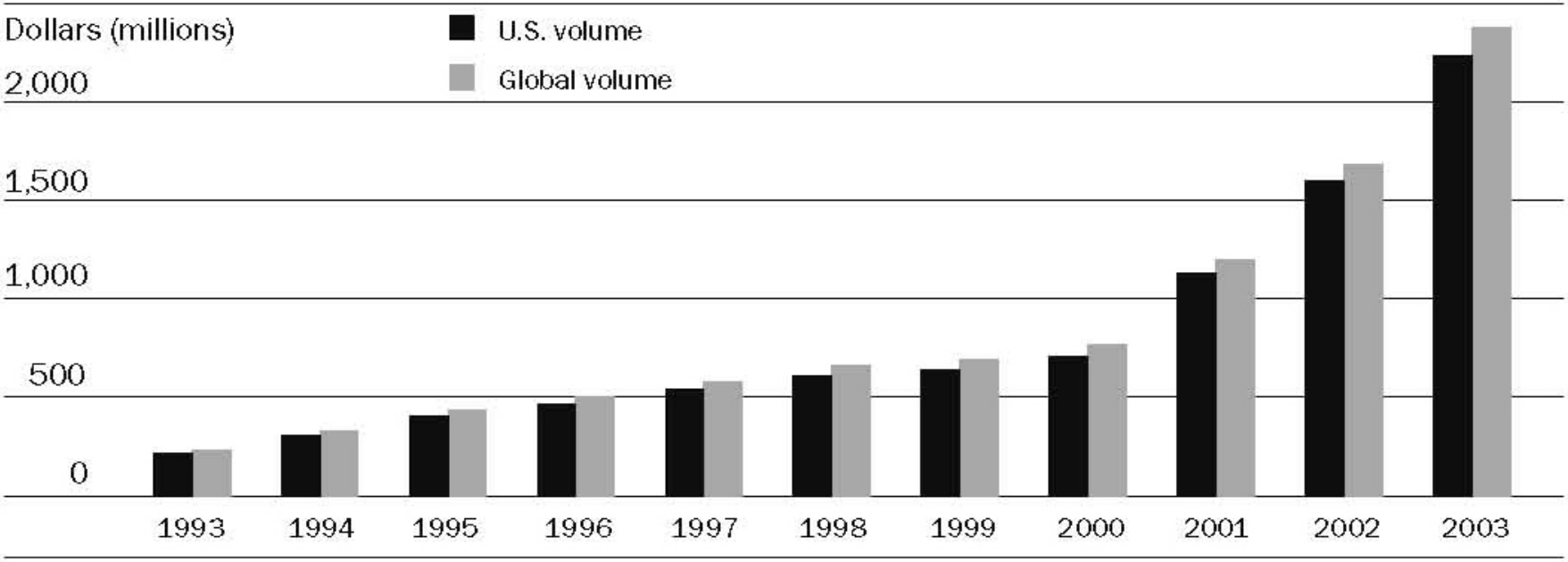
Annual Societal Costs of Childhood/Adolescent ADHD in North America

Health and Mental Health	$7.9 billion
Education	$13.6 billion
Crime and Delinquency	$21.1 billion
Parental work loss	?
Total (low estimate based on incomplete data)	$42.5 billion
Range (lower to upper bounds based on currently available data)	$36--$52.4 billion

*Using 5% prevalence estimate and US 2000 Census data

Pelham, Robb & Foster, Ambulatory Pediatrics, 2007

U.S. And Global Spending On Attention Deficit Hyperactivity Disorder (ADHD) Medications, 1993–2003



SOURCE: MIDAS database, IMS Health, 1993–2003.

NOTES: Spending is deflated to 2003 U.S. dollars using the U.S. Consumer Price Index. Cross-sectional variation from country to country was accounted for by IMS Health, which had converted all local currencies to U.S. dollars using purchasing power parity (PPP) methods. SU is standard units.

Scheffler, R.M., Hinshaw, S.P., Modrek, S., & Levine, P. (2007). Trends: The global market for ADHD Medications. *Health Affairs, 26(2)*, 450-457.

Annual Cost of ADHD and Other Disorders in U.S.

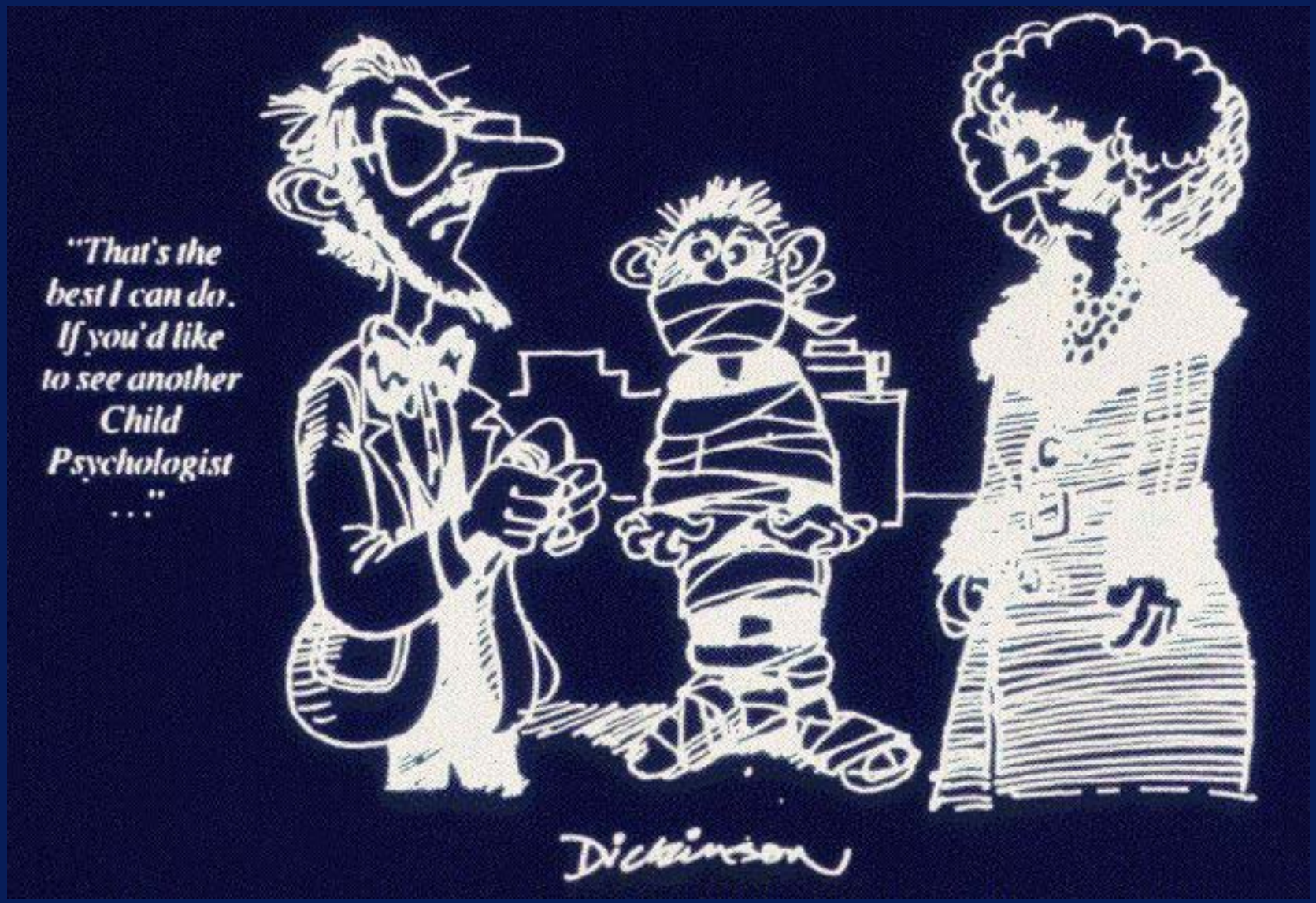
Depression (adults):	$44 billion
Stroke:	$53.6 billion
ADHD (child, adolescent)	$50-60 billion
ADHD (adult)	$30 billion
Alzheimer's	$100 billion
Alcohol abuse/dep.	$180

What is Effective, Evidence-based Treatment for ADHD in Children?

Treatments That Are Commonly Used but Are Not Evidence-Based (i.e., are Not Effective)

(AAP, 2001; Pelham & Fabiano, 2008)

(1) Traditional one-to-one therapy or counseling
(2) Cognitive therapy
(3) Office based "Play therapy”
(4) Elimination diets
(5) Biofeedback/neural therapy/attention (EEG) training
(6) Allergy treatments
(7) Chiropractics
(8) Perceptual or motor training/sensory integration training
(9) Treatment for balance problems
(10) Pet therapy
(11) Dietary supplements (megavitamins, blue-green algae)


"That's the best I can do. If you'd like to see another Child Psychologist . . ."
Dickinson


LIFE IN HELL
©1993 BY MATT GROENING
I THINK THIS HAS BEEN OUR BEST GROUP SESSION YET.

Evidence-Based Short-term Treatments for ADHD

(1) Behavior modification

-175 studies

(2) CNS stimulant medication

>300 studies

(3) The combination of (1) and (2).

>25 studies

Moderate to large effect sizes across treatments

(Pelham & Fabiano, 2008; Greenhill & Ford, 2002; Hinshaw et al, 2002; Fabiano et al, 2009)

Given that Two Modalities of Treatment Work (Medication, and Behavioral Treatment), Which Should be Used as First Line Treatment?

AAP Clinical Practice Guideline: Treatment of the School-Aged Child with Attention-Deficit/Hyperactivity Disorder

Pediatrics, October 2001

RECOMMENDATION 3: The clinician should recommend stimulant medication and/or behavior therapy as appropriate, to improve target outcomes in children with ADHD.

Japanese Guidelines for Pediatricians

(Ministry of Welfare and Labor, 2007)

- Start with education and environmental adjustments
- Add behavioral treatment, or medication, or combined treatment (suggested)

British Health Service National Clinical Practice Guidelines (2008)

- Start with behavioral parent training in the majority of cases (mild to moderate)
- Add medication as adjunct if needed
- Start with medication for moderate to severe cases

APA Task Force on Medication and Psychosocial Treatments in Children and Adolescents (2007)

... the decision about which treatment to use first [should] be guided by the balance between anticipated benefits and possible harms of treatment choices …which should be the most favorable to the child.

By this we mean, the safest treatments with demonstrated efficacy should be considered first before considering other treatments with less favorable profiles.

For most of the disorders reviewed herein, there are psychosocial treatments that are solidly grounded in empirical support as stand alone treatments.

Moreover, the preponderance of available evidence indicates that psychosocial treatments are safer than psychoactive medications.

Thus, it is our recommendation that in most cases psychosocial interventions be considered first.

American Academy of Child and Adolescent Psychiatry Guidelines...
(JAACAP, August, 2007)

- Medication is first, second, and third-line treatment
- Behavioral treatments placed as last line adjunctive interventions--equivalent to nonFDA-approved medications and polypharmacy

Despite the Evidence, There is Controversy in the USA about which Treatments Should be Used for ADHD

The NIMH Collaborative MTA Study (MTACG, 1999) has resulted in widespread agreement amongst psychiatric professionals, ADHD experts, pharmaceutical companies, media outlets, insurers, and advocacy groups that medication is first-line treatment for ADHD.

5%-6% of children in U.S. take stimulant medication daily for ADHD.

Questions the Treatment Research Field Has Not Yet Answered

How to decide what treatments a child needs?

Should behavioral treatment begin before medication (parent preference) or vice versa (physician practice) or should they be implemented simultaneously (as in the MTA Study).

What are the best “doses” of psychosocial, pharmacological, and combined treatments?

If one or the other modality is begun first, how long should it be conducted and at what dose before adding in the second modality?

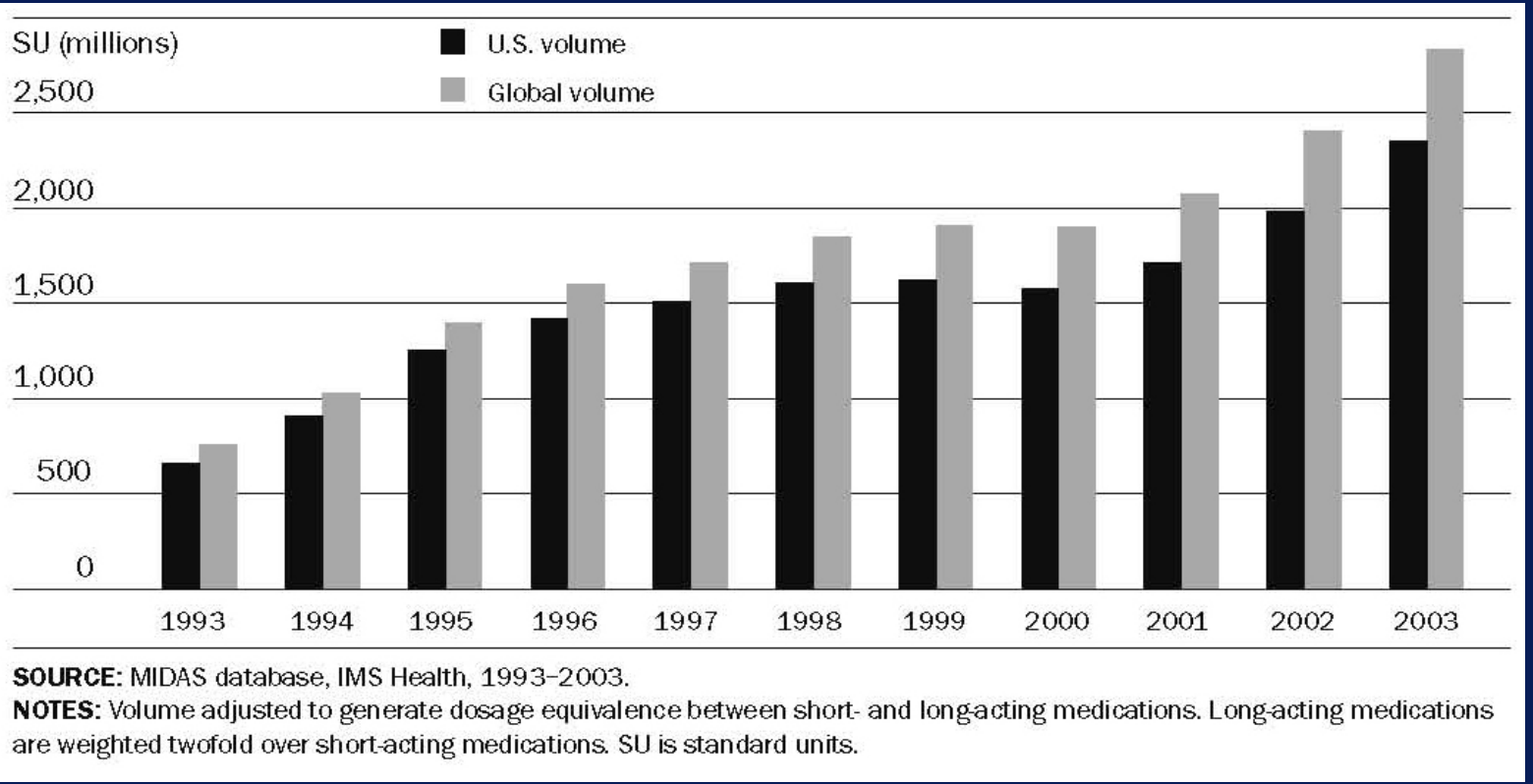
What are the implications of different doses and sequences for treatment dosing, benefit, and risk of side effects?

These are the questions that families, practitioners, and educators face daily, but they have not been studied.

Medication Business is Booming

- In 1997, FDA extended patent life of drug by 6 months if performed pediatric trials
- Insurance plans now spend more money on psychotropics than antibiotics or asthma meds (17% total drug costs)
- 6+% of children took at least one psychotropic in 2005, with 1/5 of those taking 2+meds
- Recent increases in use of antipsychotic medications (10% increase in 2008)
- Stimulants are the most prescribed child psychotropic.
- Pediatric drugs are typically more expensive than in adults because of lack of generics

U.S. And Global Volume Of Attention Deficit Hyperactivity Disorder (ADHD) Medications, 1993–2003

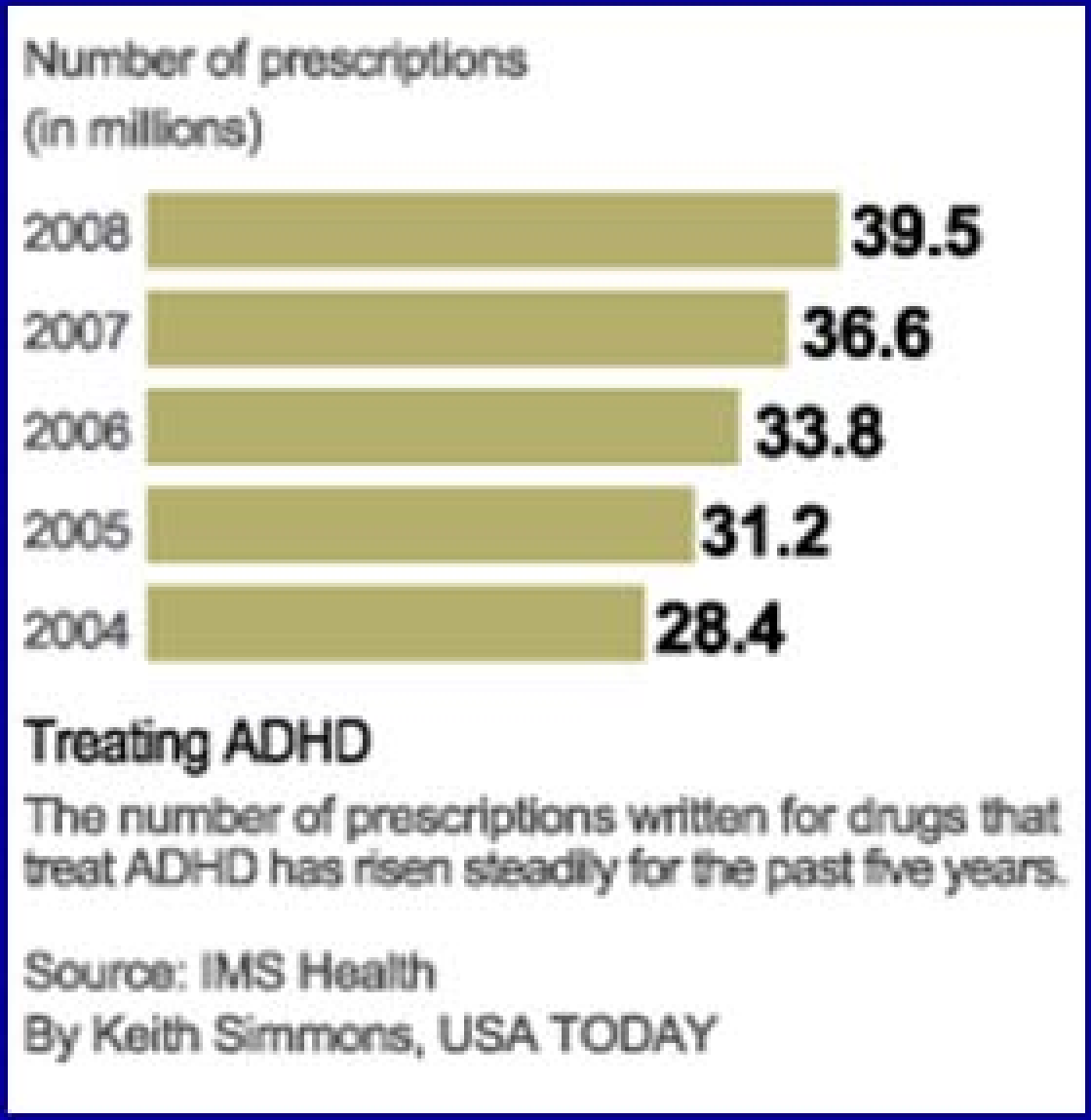


SOURCE: MIDAS database, IMS Health, 1993–2003.
NOTES: Volume adjusted to generate dosage equivalence between short- and long-acting medications. Long-acting medications are weighted twofold over short-acting medications. SU is standard units.

Scheffler, R.M., Hinshaw, S.P., Modrek, S., & Levine, P. (2007). Trends: The global market for ADHD Medications. *Health Affairs, 26(2)*, 450-457.

ADHD Medication Usage

(USA Today 4/13/09)



Components of Effective, Comprehensive Treatment for ADHD

(Pelham & Fabiano, 2008)

- **Behavioral Parent Training--**

  Use always
- **Behavioral School Intervention--**

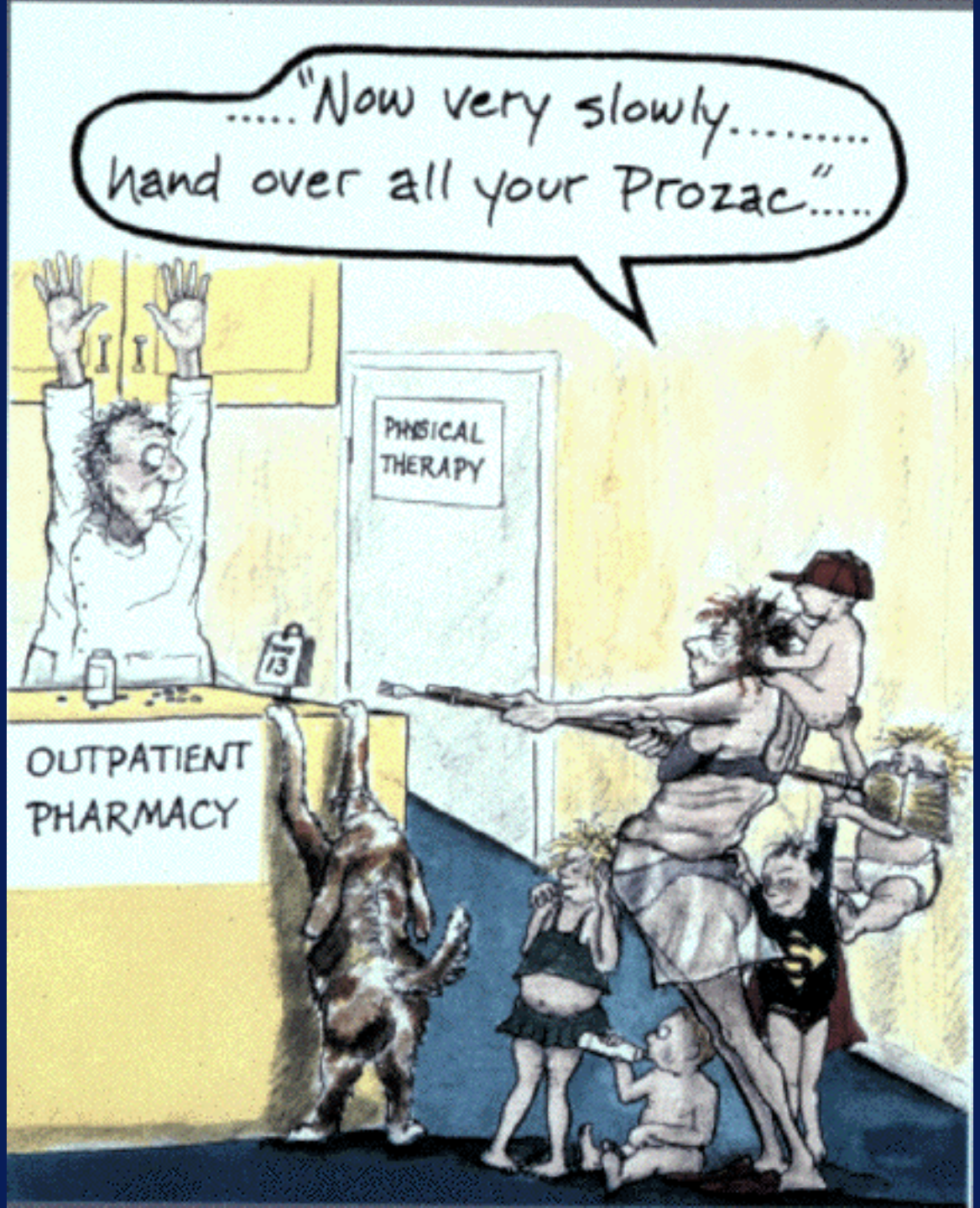
  Use always
- **Intensive Behavioral Child Intervention--**

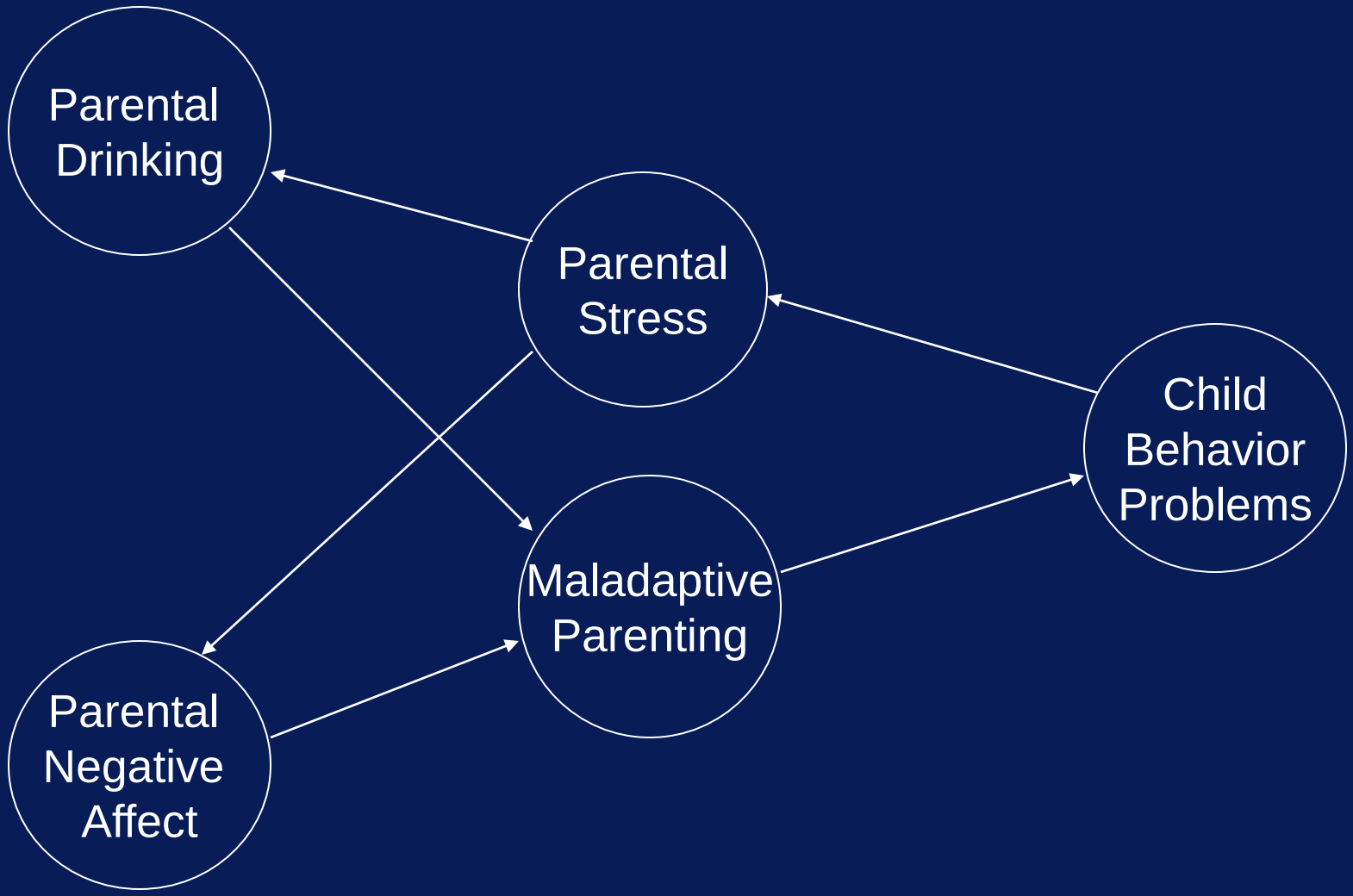
  Use when needed
- **Medication--Use when needed**

Why is it Important to Include Parent Training in Treatment?

- No one is taught how to be a parent
- Parents of ADHD children have significant stress, psychopathology, and poor parenting skills
- ADHD children contribute greatly to parental stress and disturbed parent-child relationships
- Parenting styles characteristic of ADHD parents predict and mediate long term negative outcomes for children

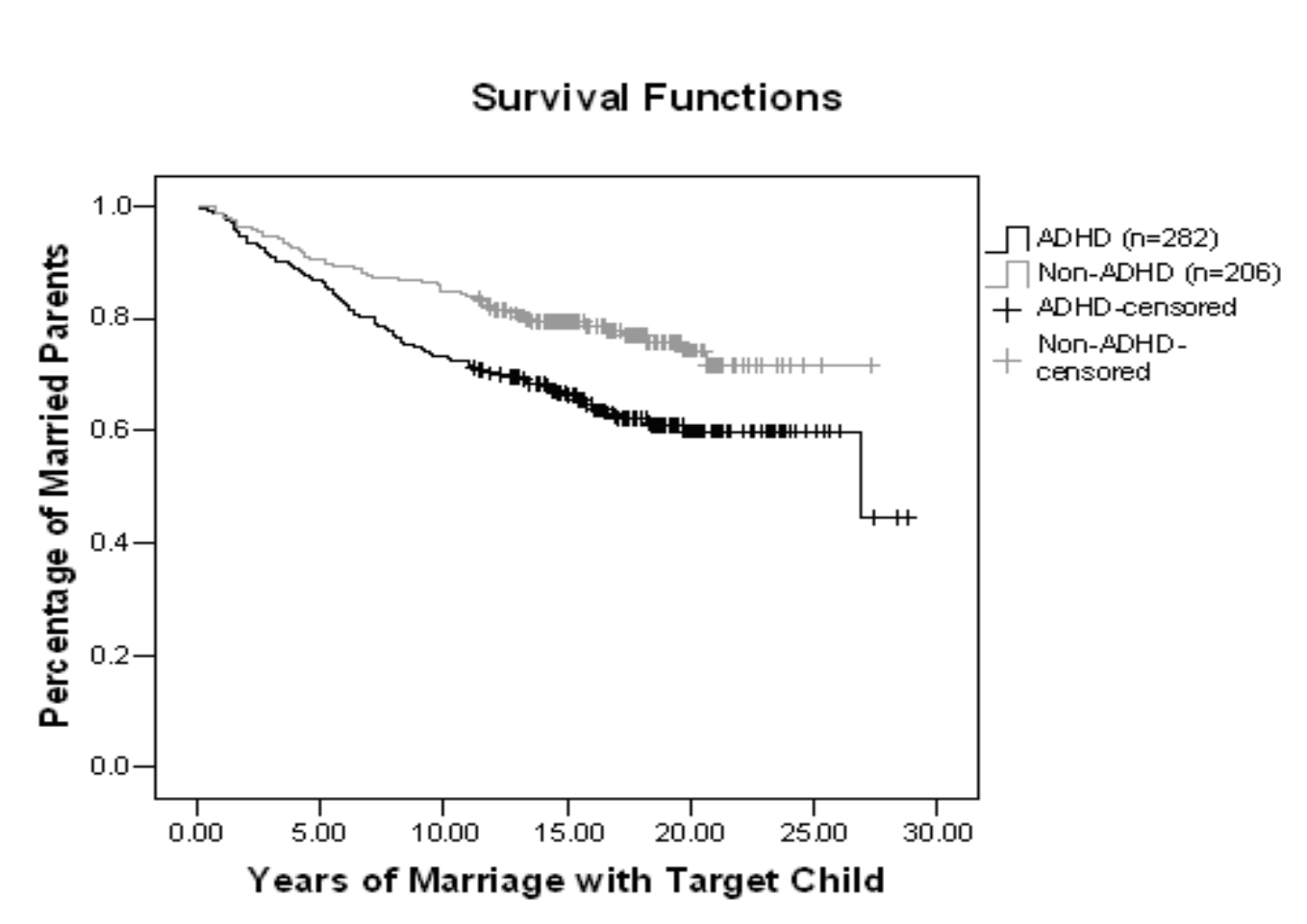
Do Your Children Cause You Stress?

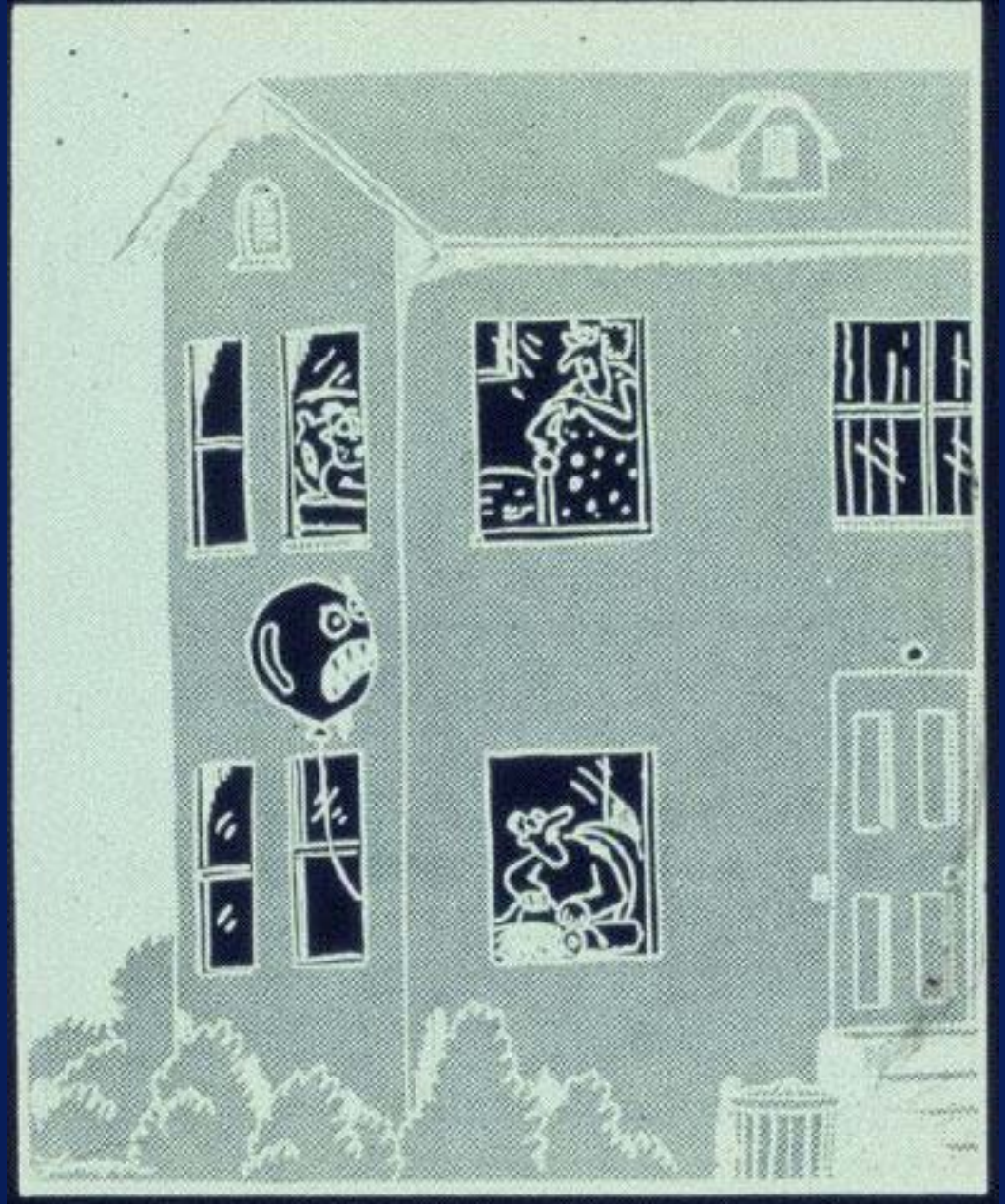

.....“Now very slowly.....
hand over all your Prozac”.....
PHYSICAL THERAPY
OUTPATIENT PHARMACY


Parental Drinking
Parental Stress
Child Behavior Problems
Maladaptive Parenting
Parental Negative Affect

Divorce in Families with an ADHD Child

Wymbs et al, in press





"Now go to sleep, Kevin — or once again I'll have to knock three times and summon the Floating Head of Death."

Buffalo News, 1997

CRIME

Man is accused of dangling stepson by feet from window

Components of Effective, Comprehensive Treatment for ADHD

Parent Training

- Behavioral approach
- Focus on parenting skills, child's behavior, and family relationships
- Parents learn skills and implement treatment with child, modifying interventions as necessary using ongoing functional analysis
- Group-based, weekly sessions with therapist initially (8-16 sessions), then contact faded
- Don't expect instant changes--improvement (learning) often gradual
- Continued support and contact as long as necessary (e.g., 2 or 3 years and/or when deterioration occurs)
- Program for maintenance and relapse prevention (e.g., develop plans for dealing with concurrent cyclic parental problems, such as maternal depression, parental substance abuse, and divorce; make programs palatable and feasible)
- Reestablish contact for major developmental transitions (e.g., adolescence)
- Can be offered in MH, primary care, schools, churches, community centers by individuals with wide variety of training--very cost effective

Why is it also important to treat in school settings?

Academic Functioning

(Lifetime-PALS Robb et al, under review; Kent et al, under review)

- 33% of ADHD have academic problems (special ed., academic probation, dropped out, or held back) every year, vs. 2% of controls
- 48% of ADHD children have at least one year of special education placement vs. 3% of controls (bulk of cost)
- 12% of ADHD vs. 5% of controls have been held back a grade
- 9% of ADHD adolescents drop out of school vs. 1% of controls
- ADHD adolescents a full letter grade lower than controls, with twice the rate of absences
- 30% of ADHD children have a major behavioral incident at school at least monthly (vs 1% of controls)

Components of Effective, Comprehensive Treatment for ADHD

School Intervention

- Behavioral approach--teachers are trained and implement treatment with the child, modifying interventions as necessary using ongoing functional analysis
- Focus on classroom behavior, academic performance, and peer relationships
- Widely available in schools
- Teacher training: (1) in service training and follow up or (2) consultant model—initial weekly sessions, then contact faded
- Don’t expect instant changes--improvement (learning) often gradual
- Continued support and contact for as long as necessary--typically multiple years and/or if deterioration
- Program for maintenance and relapse prevention (e.g., school-wide programs, train all school staff, including administrators; eventually train parent to implement and monitor)
- Reestablish contact for major developmental transitions (e.g., adolescence)

Classroom Behavioral Interventions

- Techniques are similar to those that have been employed in the classroom management literature for some time.
- Clinicians or school personnel should use one of many widely-available handbooks, texts, or training programs.
- Most of these programs are designed to be implemented by classroom teachers with training and guidance from school support staff or outside consultants.

Daily Report Card (Downloadable)

- An integral part of all of our school interventions with ADHD children; studies have shown DRCs effective in changing behavior at school
- Effective in changing ADHD children's behavior at school
- Cost little and take little teacher time
- Provide for daily communication between teachers and parents, which is critical
- Provide positive reinforcement for a child who has already been singled out by other children
- Reduce the need for notes home and phone calls to parents
- Once they are set up, DRCs reduce the amount of time that teachers must spend dealing with the child’s problematic behaviors
- Provide a tool for ongoing monitoring of the child’s progress
- Can be used to titrate the appropriate dose of medication
- Daily reports are necessary because children with ADHD need specific feedback and rewards/consequences for their behavior more frequently than once per week

Daily Report Card: Good Example

Child's Name: _____ **Date:** ____

	Special	LA	Math	Reading	SS/Sci.
Follows class rules with no more than 3 rule violations per period.	Y N	Y N	Y N	Y N	Y N
Completes assignments within the designated time.	Y N	Y N	Y N	Y N	Y N
Completes assignments at 80% accuracy.	Y N	Y N	Y N	Y N	Y N
Complies with teacher requests. (< 3 noncompliance per period)	Y N	Y N	Y N	Y N	Y N
No more than 3 teasings per period._____	Y N	Y N	Y N	Y N	Y N

OTHER

Follows lunch rules (<3 violations).	Y	N
Follows recess rules (<2 violations).	Y	N

Total Number of Yeses/Nos: _____

Teacher's Initials:

Comments: _____

_____

_____

_____

_____

Why is it Important to Use Psychosocial Treatments for ADHD Peer Relationships?

- We have long known that impaired peer relationships in children are the best predictors of negative adult outcomes
- ADHD children have seriously impaired peer relationships
- ADHD children have the negative adult outcomes that are predicted by disturbances in peer relations
- Peer relationships arguably mediate ADHD children's adult outcomes

Peer Perceptions of ADHD Children

(Pelham & Bender, 1982)

Those who:	ADD Boys	Non-ADD Boys
Try to get other people into trouble	51	17
Play the clown and get others to laugh	40	19
Tell other children what to do	41	16
Are usually chosen last to join in group activities	27	13

- Peer Evaluation Inventory Items

Peer Perceptions of ADHD Children

(Pelham & Bender, 1982)

Those who:	ADD Boys	Non-ADD Boys
Always mess around and get into trouble	62	24
Bother people when they are trying to work	45	20
Get mad when they don't get their way	51	18
Don't pay attention to the teacher	55	25

- Peer Evaluation Inventory Items

Components of Effective, Comprehensive Treatment for ADHD

Child Intervention

- Behavioral and developmental approach
- Focus on teaching academic, recreational, and social/behavioral competencies, decreasing aggression, increasing compliance, developing close friendships, improving relationships with adults, and building self-efficacy
- Paraprofessional implemented (for cost reasons)
- Intensive treatments such as summer treatment programs (9 hours daily for 8 weeks), and/or school-year, after-school, and Saturday (6 hours) sessions
- Don’t expect instant changes--improvement (learning) often gradual
- Continued support and contact as long as necessary--multiple years or if deterioration occurs
- Program for generalization and relapse prevention (e.g., integrate with school and parent treatments--link all through home/school report card systems)
- Reestablish contact for major developmental transitions (e.g., adolescence)

Components of Effective, Comprehensive Treatment for ADHD

Concurrent Psychostimulant Medication

- Rarely should be used as first treatment implemented
- Need determined following initiation of behavioral treatments; timing depends on severity and responsiveness
- Try both a methylphenidate- and an amphetamine-based compound; then, if necessary, atomoxetine, then stop
- Need based on objective data regarding impairment at home and school independently
- Use at minimal rather than maximal effective dose –so minimal times of day and days of week
- Continue for as long as need exists (typically years--evaluate need and dose annually)
- Plan for possible emergent iatrogenic effects (e.g., growth suppression)

Main Beneficial Short-term Effects

(Greenhill & Ford, 2002)

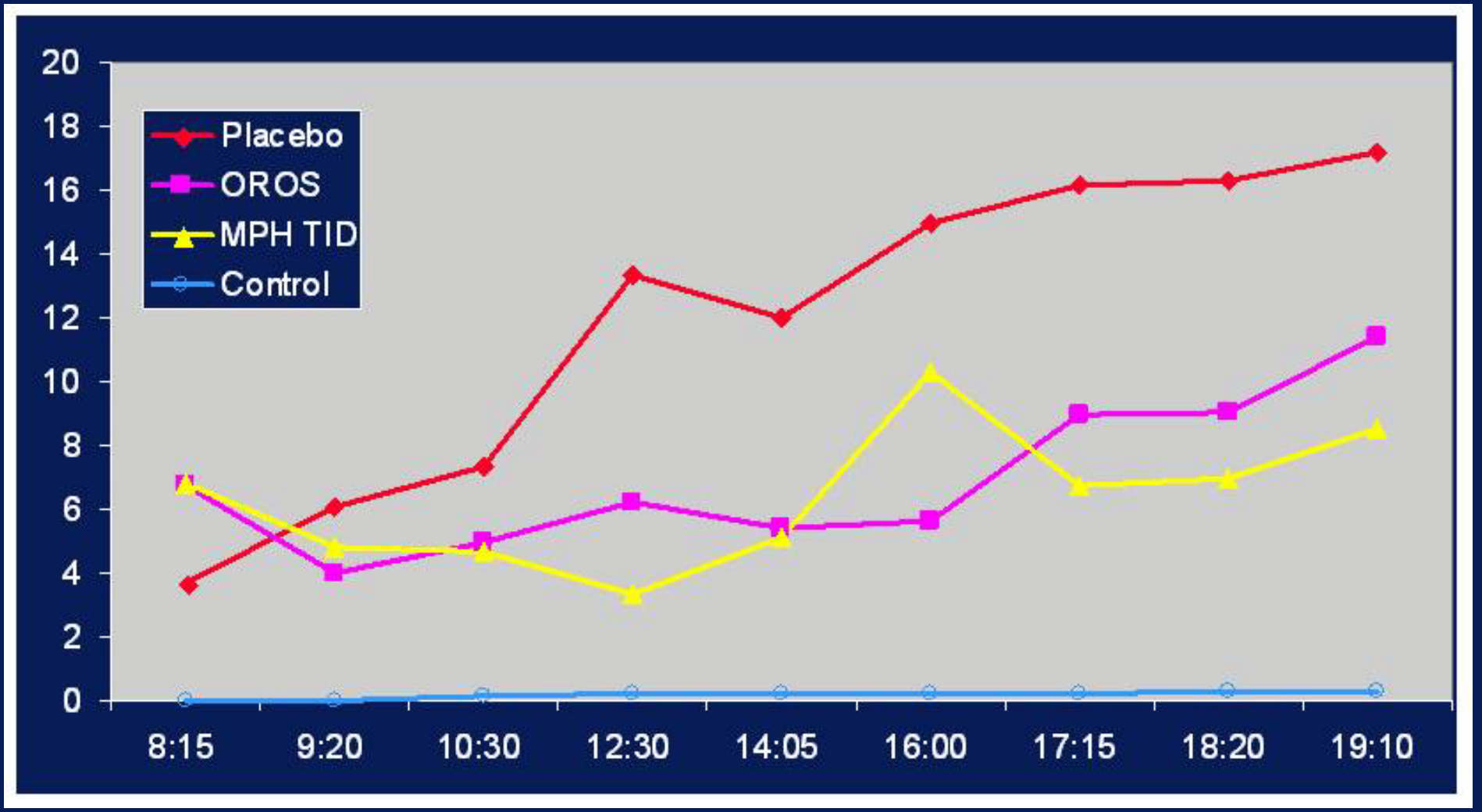
1. Decrease in classroom disruption
2. Improvement in teacher ratings of behavior
3. Improvement in compliance with adult requests and commands
4. Increase in on-task behavior and academic productivity and accuracy (but no long-term effect on academic achievement)
5. Improvement in peer interactions
6. Improvement in performance on laboratory measures of attention, impulsivity, and learning

Limitations of Pharmacological Interventions When Used Alone

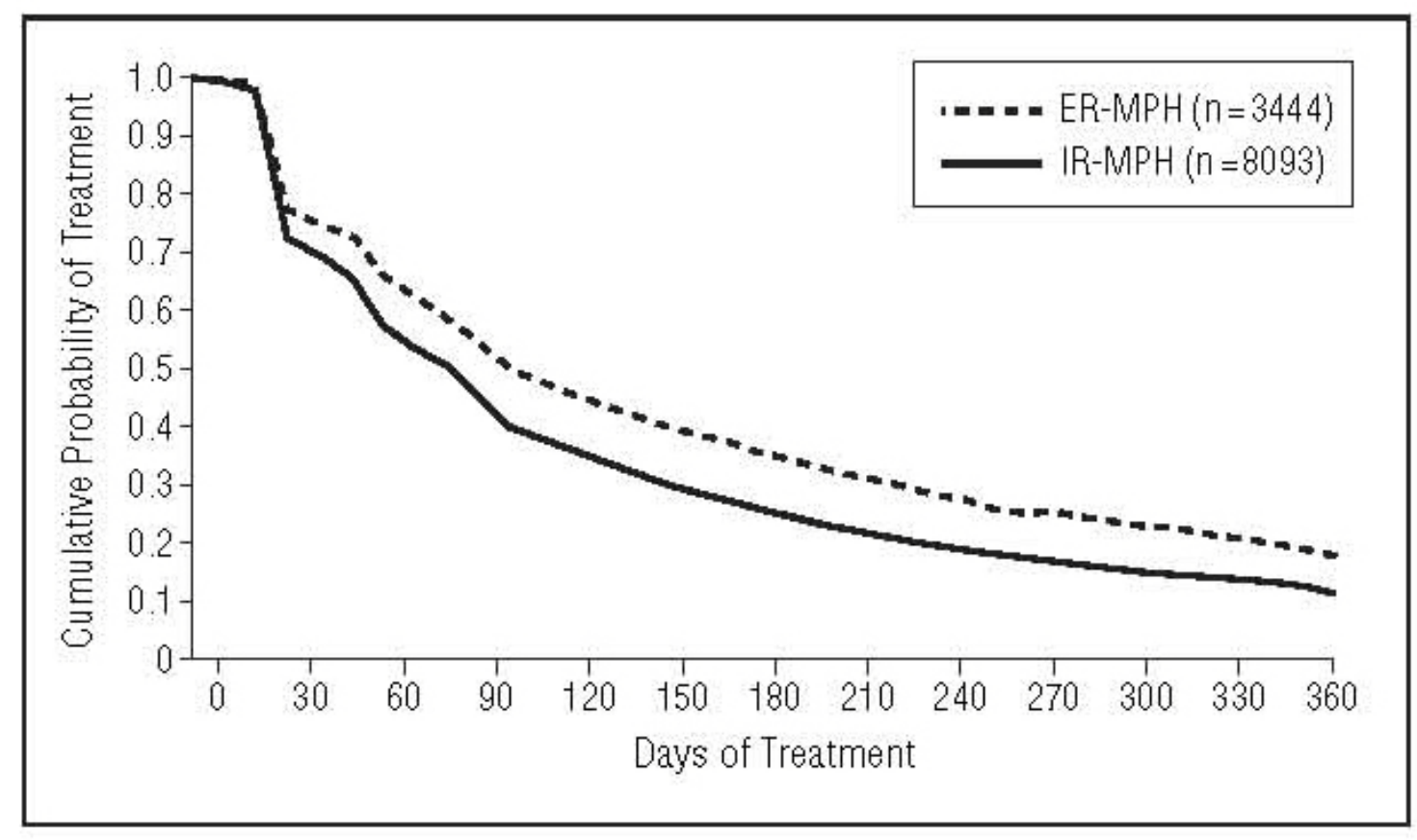
1) Not sufficient to bring some children to the normal range of functioning
2) Works only as long as medication taken
3) Not effective for all children
4) Does not affect several important variables (e.g., academic achievement, concurrent family problems, peer relationships)
6) Poor Compliance in long-term use
7) Parents are not satisfied with medication alone
8) Removes incentive for parents and teachers/schools to work on other treatments
9) Uniform lack of evidence for beneficial long-term effects
10) Reduction in growth (height and weight)
11) Lack of information about long-term safety (Swanson & Volkow, 2008)

Classroom Rule Violations

(Pelham et al, 2001)



Survival distribution of ADHD treatments for extended-release (ER-MPH) and immediate-release (IR-MPH)



Marcus, S.C., Wan, G.J., Kemner, J.E., & Olfson, M. (2005). Continuity of methylphenidate treatment for Attention Deficit/Hyperactivity Disorder. *Archives of Pediatric and Adolescent Medicine, 159*, 572-578.

Would Parent Recommend Treatment?

(Pelham & MTA Coop. Group, under review)

	Medmgt	Comb	Beh
Declined/dropped out	12%	4%	0%
Not recommend	8%	3%	5%
Neutral	8%	1%	2%
Slightly Recommend	4%	2%	2%
Recommend	31%	15%	24%
Strongly recommend	38%	76%	67%

Trends in Medication Use

- **Before MTA, Concerta, and Adderall XR**
  - Meds for school hours only-184 days per year
  - Modal total daily dose: 15-20 mg MPH; 10 mg Adderall
  - Weekends and summers medication free
  - Most children medicated 1-3 years
  - Lifetime dose: 5400 mg to 10,800 mg MPH
- **After MTA, Concerta, and Adderall XR**
  - Meds for school and home
  - Equivalent total daily doses: 36 mg Concerta; 20 mg Adderall XR
  - Weekends and summers medicated (so 365 days per year)
  - Current recommendations (e.g., MTA): start early and medicate for all 12 school years
  - Lifetime dose: 14,600 mg/year X 12 =175,000 mg MPH
  - IS THIS INCREASE SAFE IN THE LONG RUN?

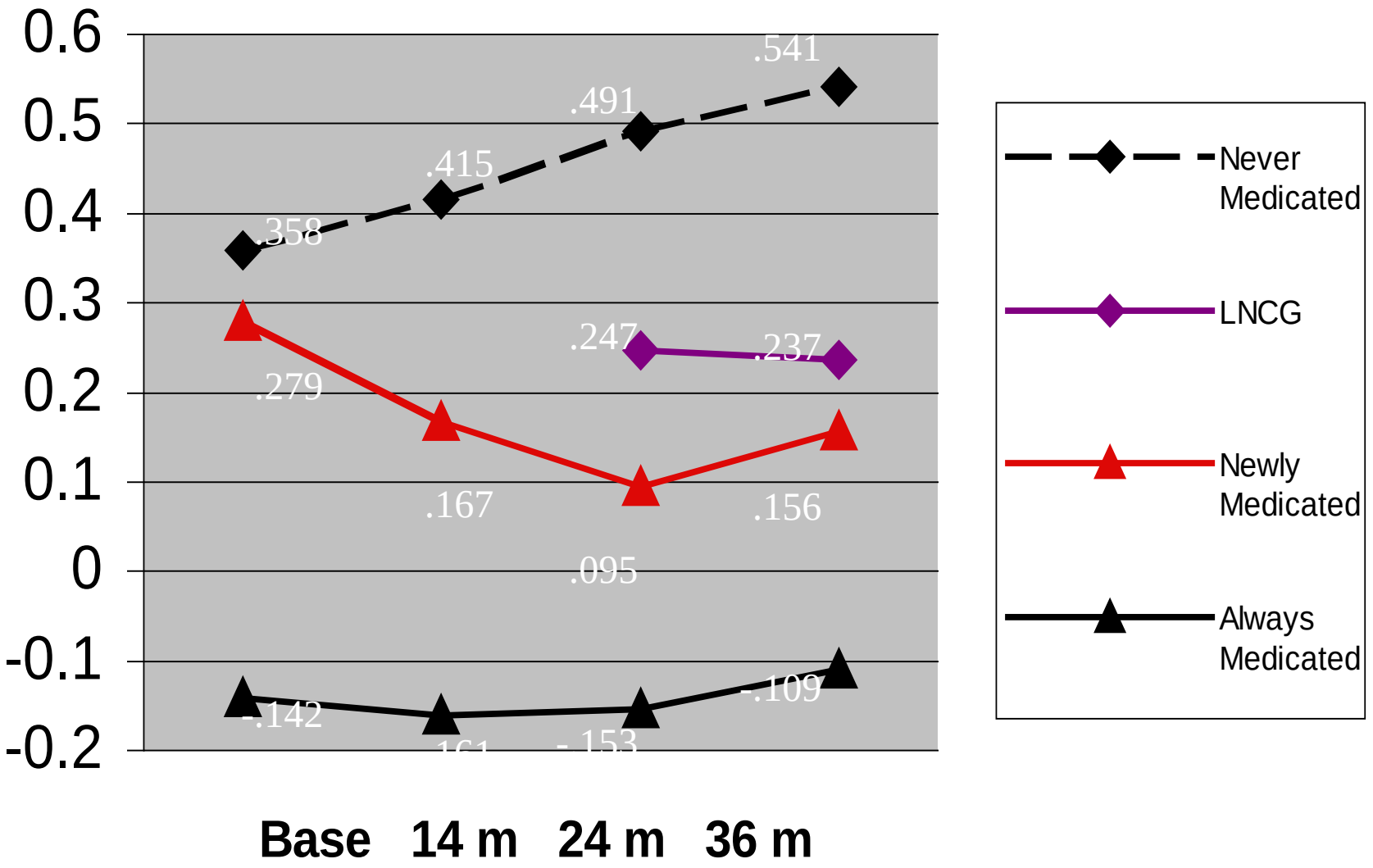
Exposure (MPH Dose) in MTA Based on Total Consumption of Medication Over 8 Yrs

(Swanson & MTACG, APA, 2008

Decile/Quintile		Mg Cutoff	Minimum Mg/D	Subgroup
D1		0	0.0 mg/d	n=49
D2	Q1	**6,130 mg**	**2.1 mg/d**	**n=26 n=75**
D3		16,360 mg	5.6 mg/d	n=38
D4	Q2	**27,700 mg**	**9.5 mg/d**	**n=38 n=75**
D5		39,866 mg	13.7 mg/d	n=37
D6	Q3	**53,030 mg**	**18.2 mg/d**	**n=37 n=74**
D7		69,038 mg	23.6 mg/d	n=38
D8	Q4	**83,100 mg**	**28.5 mg/d**	**n=37 n=75**
D9		110,930 mg	38.0 mg/d	n=38
D10	Q5	**>110,930**	**<75.5 mg/d**	**n=37 n=75**

MTA Growth Curves for Height for Major Naturalistic Subgroups

(MTACG, 2007 and 2009)



MTA 10 Year Outcome for Height

Swanson and MTA Cooperative Group, APA 2008

Level of Exposure		h-zscore at 120 months	
med 10 yr pattern	N	Mean	Std Dev
0	40	0.41235626	1.02964263
0.25	52	0.21960422	1.13036999
0.5	44	0.38155225	0.79542111
0.75	41	0.08853861	0.87985613
1	35	-0.18723666	1.07162240

Switch to Jessica Robb, Ph.D. Director of Ourtreach Services at the CCF

Components of Effective, Comprehensive Treatment for ADHD

Parent Training

- Behavioral approach
- Focus on parenting skills, child's behavior, and family relationships
- Parents learn skills and implement treatment with child, modifying interventions as necessary using ongoing functional analysis
- Group-based, weekly sessions with therapist initially (8-16 sessions), then contact faded
- Don't expect instant changes--improvement (learning) often gradual
- Continued support and contact as long as necessary (e.g., 2 or 3 years and/or when deterioration occurs)
- Program for maintenance and relapse prevention (e.g., develop plans for dealing with concurrent cyclic parental problems, such as maternal depression, parental substance abuse, and divorce; make programs palatable and feasible)
- Reestablish contact for major developmental transitions (e.g., adolescence)
- Can be offered in MH, primary care, schools, churches, community centers by individuals with wide variety of training--very cost effective

Evidence-Based Parent Training Programs

- Triple P (Sanders-Australia)
- PMT (Patterson & Forgatch-Oregon)
- Incredible Years (Webster-Stratton-Washington)
- Helping the Noncompliant Child (Forehand and McMahon)
- PCIT (Eyberg-Florida)
- Parent Management Training (Barkley)
- COPE (Cunningham-McMaster)
- Many generic versions—some free—key question for evaluation is do they have the common effective elements

Common Elements of Behavioral Parent Training

1. Rules for the home
2. Ignore mild inappropriate behaviors and praise appropriate behaviors (choose your battles)
3. Appropriate commands:
   - Obtain the child's attention: say the child's name
   - Use command not question language
   - Be specific
   - Command is brief and appropriate to the child's developmental level
   - State consequences and follow through
4. Daily charts (e.g., School, Home Daily Report Cards)
5. Premack contingencies (e.g., watch TV or phone time contingent upon homework completion)
6. Time out from positive reinforcement/work chores
7. Point/token system with both reward and cost components
8. Level system
9. Homework hour
10. Contracting/negotiating with adolescents

Behavioral Interventions in the Home

- Social learning approach to train the ADHD child's parents to implement behavioral procedures in the home.
- Clinicians should use one of the parent training manuals that have been developed for use with children with externalizing disorders (Patterson, Barkley, Forehand, Webster-Stratton, Cunningham, PCIT, PPP).
- Most of these are written to fit with an 8- to 12-session series of individual or group therapist contacts.
- Typically the intervention that parents will conduct is individualized, consists of several of the components listed below, and is based on the child’s needs and the parents’ resources, skills, abilities, and preferences.

Behavioral Interventions in the Home

- Procedures have been described in the behavioral literature for some time.
- In contrast to widespread belief, recent research suggests that the mildest procedures (e.g., praise and ignore) are usually not sufficient and that some type of prudent punishment program (time out, loss of privileges, response cost) is usually necessary.
- Procedures are arranged in order from mildest and least restrictive to intensive and most restrictive procedures.

Behavioral Interventions: Key Points

- First, assess the child's functional impairment in all relevant domains, including home, school (both behavioral and academic), and with peers.
- Assessment should yield a list of target areas for treatment.
  - Target behaviors should be behaviors that differentiate the child being treated from other, nonproblematic children.
  - They should be behaviors that if changed will contribute to improvement in the child's functioning and positive outcome
  - They should be behaviors that are causing the child difficulties in functioning--NOT symptoms of ADHD
- Assessment does not end when treatment begins; assessment of treatment response is ongoing and determines the need for modifications in the treatment regimen.

General Approach to Behavioral Interventions

- After general domains of impairment are identified in the assessment, specific problematic behaviors (target behaviors) are identified within each relevant domain.
- Target behaviors are defined in precise operational language.
- Antecedent conditions and consequences that are controlling the target behaviors and that could be modified in treatment are identified, ideally through a systematic functional analysis..
- Relevant antecedents (As), target behaviors (Bs), and consequences (Cs) are monitored for a period of time.

  -gives information about the relationships among the ABCs that helps conceptualize the problem and suggests treatment strategies

  -provides data about the frequency and severity of target behaviors (baseline data) that will be used as a comparison to evaluate whether treatment improves the problems.

General Approach to Behavioral Interventions

- Treatment involves establishing interventions in which the antecedents and consequences are modified to change the target behaviors.
- Treatment response is constantly monitored, and the interventions are modified when they fail to have a sufficient impact or are no longer needed.
- Examine possible functions of target behaviors:
  - **Avoid/escape effortful tasks**
  - **Obtain peer/sibling attention**
  - **Obtain teacher/parent attention**
  - **Obtain tangible object/outcome**
  - **Sensory stimulation**

COPE Parent Training Sessions: Content

Cunningham et al, 1998

1. Introduction to ADHD and Orientation
2. Attending and Rewards
3. Balanced attending
4. Planned Ignoring
5. Transitional Warnings and When Then
6. Planning ahead 1

7/8. Time out 1 and 2

9/10. Point systems 1 and 2

11. Planning ahead 2
12. School-home Daily Report Cards
13. Problem Solving
14. 14/15. Selected problems 1 and 2
16. Closing session

COPE Parent Training Sessions

- **Systems Levels**
  - Parenting Skill
  - Problem Solving
  - Role Balance
  - Communication
  - Social Network

COPE Parent Training Sessions

- **Attributional Questions (asked about all systems levels)**
  - Social Effect (What difference make?)
  - Social Learning (What lesson taught?)
  - Communication (What message communicated?)
  - Long-term outcome (What long term effect?)
  - Effort (Is it worth the effort?)

COPE Parent Training Sessions: Format

- Resource Table
- Subgroup setup
- Homework review
- Identify Videotaped Parenting Errors
- Formulate alternative strategies
- Systemic discussion option
- Leader models solutions
- Subgroups brainstorm applications
- Dyads role play
- Systemic discussion option
- Planning homework
- Closing and encouraging attendance

Important Clinical Guidelines/Issues-Home

1. Begin treatment by educating the parents about ADHD. Give parents the data regarding prognosis and convince them that medication alone will not solve their child's problem in the long run, although it may appear to in the short run. This information is critical to hook parents into parent training.

Important Clinical Guidelines/Issues-Home

2. Give the clear expectation that it won't be easy--treatment will mean lifestyle changes and long-term commitment to the intervention.

3. Although some parents can develop adequate programs with little direct help, most need explicit instructions and guidance. Simply giving parents one of the handbooks to read is generally completely ineffective.

Important Clinical Guidelines/Issues-Home

4. Constantly emphasize the importance of shaping and consistency. That is, ensure that parents set attainable initial goals for target behaviors and that they reward reasonable progress towards the goals, setting new criteria as child reaches the old ones.

5. Point or token system and time out will typically be absolutely essential. Punishment procedures (e.g., time out, response-cost) are almost invariably necessary, and often need to be taught early rather than late in the parent training session sequence.

Important Clinical Guidelines/Issues-Home

6. Involve collaterals in home (both adults and siblings), extended family (e.g., grandparents who care for the child), and neighborhood (e.g., neighbors who baby-sit, peers) if necessary.
7. Do at least some of the training with parents and children directly in the clinic to insure that parents are doing it right. Many parents can verbalize what they should do, but what they actually do with the child when faced with the problematic situation may differ.

Important Clinical Guidelines/Issues-Home

8. Provide support as well as training. Parent training in groups often serves this purpose (be sure groups are well comprised with regard to educational level).
9. Encourage parents of ADHD children to communicate with one another for help and advice (parent advocacy groups).
10. Don't stop training too soon. Use booster sessions for long period following initial training.
11. Be creative in developing and teaching programs and procedures.

Important Clinical Guidelines/Issues-Home

12. Be cognizant of family issues that may interact or interfere with parent training (e.g., paternal drinking, marital distress, maternal anxiety/depression, parental residual ADHD). Make appropriate referrals or institute appropriate treatment when problems are apparent.
13. For older children and adolescents, place greater emphasis on family sessions with the child/adolescent participating in contracting communication and negotiation.
14. Program for maintenance and relapse prevention.

We will be providing all of these parenting services in the CCF at FIU

Why is it also important to treat in school settings?

Academic Functioning

(Lifetime-PALS Robb et al, under review; Kent et al, under review)

- 33% of ADHD have academic problems (special ed., academic probation, dropped out, or held back) every year, vs. 2% of controls
- 48% of ADHD children have at least one year of special education placement vs. 3% of controls (bulk of cost)
- 12% of ADHD vs. 5% of controls have been held back a grade
- 9% of ADHD adolescents drop out of school vs. 1% of controls
- ADHD adolescents a full letter grade lower than controls, with twice the rate of absences
- 30% of ADHD children have a major behavioral incident at school at least monthly (vs 1% of controls)

Components of Effective, Comprehensive Treatment for ADHD

School Intervention

- Behavioral approach--teachers are trained and implement treatment with the child, modifying interventions as necessary using ongoing functional analysis
- Focus on classroom behavior, academic performance, and peer relationships
- Widely available in schools
- Teacher training: (1) in service training and follow up or (2) consultant model—initial weekly sessions, then contact faded
- Don’t expect instant changes--improvement (learning) often gradual
- Continued support and contact for as long as necessary--typically multiple years and/or if deterioration
- Program for maintenance and relapse prevention (e.g., school-wide programs, train all school staff, including administrators; eventually train parent to implement and monitor)
- Reestablish contact for major developmental transitions (e.g., adolescence)

Classroom Behavioral Interventions

- Techniques are similar to those that have been employed in the classroom management literature for some time.
- Clinicians or school personnel should use one of many widely-available handbooks, texts, or training programs.
- Most of these programs are designed to be implemented by classroom teachers with training and guidance from school support staff or outside consultants.

Do Teachers Use Behavior Modification in North America?

Fabiano et al, in preparation

- A national sample of teacher surveys were collected from 26 counties across the United States.
- 948 surveys are included in these results.
- The teachers were asked to indicate whether they used a number of behavior modification procedures.
- Teachers could indicate that they used procedures consistently, sometimes, or not at all.
- The following tables illustrate the percentage of teachers who used each procedure consistently or sometimes.

Use of Rules, Ignoring, and Praise

	Use in General		Use with an ADHD child	
	Consistently	**Sometimes**	**Consistently**	**Sometimes**
Rules	**94.1%**	**5.0%**	**89.7%**	**8.7%**
Ignoring	**61.8%**	**34.4%**	**64.0%**	**33.2%**
Praise	**85.3%**	**13.9%**	**80.4%**	**17.6%**

Use a school-home communication procedure

	Use in General		Use with an ADHD child	
	Consistently	**Sometimes**	**Consistently**	**Sometimes**
Daily home note	**17.6%**	**45.7%**	**21.8%**	**33.0%**
Weekly home note	**33.4%**	**38.7%**	**36.0%**	**29.4%**
Daily report card	**8.2%**	**28.4%**	**9.9%**	**17.9%**
Weekly report card	**11.4%**	**29.4%**	**14.4%**	**22.0%**
Any of the above	**42.9%**	**42.3%**	**47.9%**	**30.0%**

Use More Intensive Behavior Modification Procedures

	Use in general		Use with an ADHD child	
	Consistently	**Sometimes**	**Consistently**	**Sometimes**
When-then contingencies	**41.5%**	**43.7%**	**38.6%**	**40.6%**
Point system	**34.9%**	**35.9%**	**38.0%**	**24.5%**
Response cost	**28.5%**	**35.5%**	**32.1%**	**30.5%**
Group contingency	**28.3%**	**45.7%**	**29.4%**	**37.1%**
Time out	**29.9%**	**49.1%**	**31.7%**	**42.8%**
Any of the above	**72.9%**	**15.5%**	**68.4%**	**26.8%**

Classroom Behavioral Interventions

1. Classroom rules and structure
   - Be respectful of others
   - Obey adults
   - Work quietly
   - Stay in assigned seat/area
   - Use materials appropriately
   - Raise hand to speak or ask for help
   - Stay on task/complete assignments
2. Ignore mild inappropriate behaviors that are not reinforced by peer attention and praise appropriate behaviors
   - Praises should outnumber reprimands and/or commands - at least 3 to 1 ratio.
   - Use commands/reprimands to cue positive comments for children who are behaving appropriately - that is, find two or more children who can be praised each time a reprimand or command is given to a child who is misbehaving.
   - Shape appropriate behavior by working within the child's ability/skill level.
   - Use praise and ignore *consistently*.

Classroom Behavioral Interventions

3. Appropriate commands (clear, specific, manageable) and private reprimands (at child's desk as much as possible).
   - Obtain the child's attention
   - Use command not question language
   - Be specific
   - Command is brief and appropriate to the child's developmental level
   - State consequences and follow through
   - Firm but neutral tone of voice
   - Neutral affect
   - Reward compliance
   - Use prearranged silent cues for individual or class
   - Possibly use choices with oppositional children
   - Give reprimands at child's desk and privately if possible (avoids acting out as a result of embarrassment)

Classroom Behavioral Interventions

4. Rules and structure for individual child (e.g., desk placement, task sheet)

TASK SHEET

Child's Name: _____ Date: _____

Subject	Assignment (or N/A)	Order to be done	Completed Y or N	Accuracy 1st final	Homework
Reading OK?	Previous day's homework OK?				OK?
Math OK?	Previous day's homework OK?				OK?
Spelling OK?	Previous day's homework OK?				OK?
Language OK?	Previous day's homework OK?				OK?
Other ( ) OK?	Previous day's homework OK?				OK?
Health OK?	Previous day's homework OK?				OK?

Following Rules (circle one)	Unacceptable		Acceptable	Excellent		
Mr./Mrs. _____'s Class	N/A	1	2	3	4	5
Health/Gym/Art	N/A	1	2	3	4	5
Library	N/A	1	2	3	4	5
Music	N/A	1	2	3	4	5
Lunchroom	N/A	1	2	3	4	5
Recess	N/A	1	2	3	4	5

Comments if Unacceptable

_____ Teacher if assignment is written correctly, if homework is written correctly, and if previous day's homework is OK.

5. The One Necessary (thought not always sufficient) Component of Behavior Modification in Schools:

Daily Report Card from School to Home

Daily Report Card (Downloadable)

- An integral part of all of our school interventions with ADHD children; studies have shown DRCs effective in changing behavior at school
- Effective in changing ADHD children's behavior at school
- Cost little and take little teacher time
- Provide for daily communication between teachers and parents, which is critical
- Provide positive reinforcement for a child who has already been singled out by other children
- Reduce the need for notes home and phone calls to parents
- Once they are set up, DRCs reduce the amount of time that teachers must spend dealing with the child’s problematic behaviors
- Provide a tool for ongoing monitoring of the child’s progress
- Can be used to titrate the appropriate dose of medication
- Daily reports are necessary because children with ADHD need specific feedback and rewards/consequences for their behavior more frequently than once per week

Daily Report Card: Good Example

Child's Name: _____ **Date:** ____

	Special	LA	Math	Reading	SS/Sci.
Follows class rules with no more than 3 rule violations per period.	Y N	Y N	Y N	Y N	Y N
Completes assignments within the designated time.	Y N	Y N	Y N	Y N	Y N
Completes assignments at 80% accuracy.	Y N	Y N	Y N	Y N	Y N
Complies with teacher requests. (< 3 noncompliance per period)	Y N	Y N	Y N	Y N	Y N
No more than 3 teasings per period._____	Y N	Y N	Y N	Y N	Y N

OTHER

Follows lunch rules (<3 violations).	Y	N
Follows recess rules (<2 violations).	Y	N

Total Number of Yeses/Nos: _____

Teacher's Initials:

Comments: _____

_____

_____

_____

_____

Daily Report Card: Bad Example

Child Name: Date:

Ratings:

1. Follows directions ____
2. Gets along with other children ____
3. Completes work ____

KEY: 1 (needs improvement) to 5 (excellent)

Teacher Signature:_____
____

Establishing a Daily Report Card

1. Select the areas for improvement
   - Involve all school staff who work with the child in a discussion of the child's behavior.
   - Determine the child's greatest areas of impairment - areas that, if changed, would improve the child's major problems in daily life functioning and, if left unchanged, would have long-term negative consequences.
   - Key domains: Improving peer relations (particularly decreasing aggression and other negative interactions), improving academic work (task completion and accuracy), and improving classroom rule-following and relationships with adults (e.g., compliance with adult commands/requests).
   - Define the goals toward which the child should be working in terms of these areas of impairment.

Establishing a Daily Report Card

2. Determine how the goals will be defined (target behaviors)
   - Identify specific behaviors that can be changed to facilitate progress towards the goals. These will be called “target behaviors”
   - When establishing target behaviors, remember:
     - As with general goals, target behaviors must be meaningful behaviors that will help the child reach his goals.
     - Must be very clearly defined in a way that the child, teacher, and parents all understand.
     - Must be able to be observed and counted by the teacher and child.
     - A good DRC will contain between 3 and 8 target behaviors, depending on the child’s age and ability.

Classroom Problems for a Hypothetical Child: What to select for target behaviors and what to set for initial goals?

- Interrupts the teacher (12 per day)
- Doesn't follow class rules (40 violations per day)
- Doesn't finish class work (only does 1 of 3 assignments)
- Work sloppy and inaccurate (only 50% correct)
- Bothers and argues with peers (15 per day)
- Starts fights at recess (1 per day)
- Complains a lot about work and blames others (20 per day)
- Doesn't participate in group discussions (15 per day)
- Has to be reminded to get back to work (25 times per day)
- Doesn't do what the teacher asks (7 per day)
- Talks back to adults (15 per day)
- Teases/calls names to other kids (15 per day)
- Talks in halls (20 per day)
- Violates lunchroom noise rules (6 per day)
- Out of seat a lot in classroom (30 times per day)
- Fidgets and hums to self frequently in seat at desk (50 times per day)

Sample School Daily Report Card Targets

Academic Performance

Completes X assignments within the specified time

Completes X assignments with X% accuracy

Starts work X or fewer reminders

Leaves appropriate spaces between words X% of the time or assignment

Corrects assignments appropriately*

Turns in assignments appropriately*

*** "Appropriately" must always be defined by teacher for child**

Sample School Daily Report Card Targets

Following Classroom Rules

Follows class/school rules with X or fewer violations

Follows directions with X or fewer repetitions

Complies with X% of teacher commands/requests/Fewer than X non compliances per period

Stays on task with X or fewer reminders

Interrupts class less than X times per period/works quietly with X or fewer reminders/makes X or fewer inappropriate noises

Sits appropriately* in assigned area with X or fewer reminders

***Appropriately must always be defined by teach for child**

Sample School Daily Report Card Targets

Following Classroom Rules

Raises hand to speak with X or fewer reminders

Uses materials or possessions appropriately*

Respects Adults (talks back fewer than X times per period)

Has XX or fewer instances of stealing

Has XX or fewer instances of lying

Has XX or fewer instances of destroying property

Has XX or fewer instances of cursing

Teases peers X or fewer times per period/Fewer than X fights with peers

Has X or fewer instances of complaining/crying/whining

Sample School Daily Report Card Targets

Peer Relationships

Shares/helps peers when appropriate with X or fewer reminders

Accepts feedback appropriately* (no more than X arguments/X% of arguments) following feedback

Contributes X times each class discussion

Appropriately* asks an adult for help when needed

Maintains appropriate eye contact when talking to an adult with X/fewer than X prompts to maintain eye contact

Ignores negative behavior of others/Child shows no observable response to negative behavior of others

***Appropriately must always be defined by teacher for child**

Sample School Daily Report Card Targets

Peer Relationships

Speaks clearly (fewer than X prompts for mumbling)

Contributes to discussion (answers X questions orally)

Contributes to discussion (at least X unprompted, relevant, non redundant contributions)

Fewer than X negative self comments

Minds own business with XX or fewer reminders

Needs XX or fewer reminders to stop bossing peers.

Sample School Daily Report Card Targets

Behavior Outside the Classroom

Follows rules at lunch/recess/free time/gym/specials/

assemblies/bathroom/in hallaway with X or fewer rule violations

Walks in line appropriately*/Follows transition rules with X or fewer violations

Follows rules of the bus with X or fewer violations

Needs XX or fewer warnings for exhibiting bad table manners (e.g., playing with food, chewing with mouth open, throwing trash on the floor)

Changes into gym clothes school clothes with X:XX minutes

***Appropriately must always be defined by teacher for child.**

Sample School Daily Report Card Targets

Time Out Behavior

Serves time outs appropriately*

Child serves a time out without engaging in inappropriate behaviors

While serving a time out, the child exhibits no more than X instances of negative behavior

***Appropriately must always be defined by teacher for child**

Sample School Daily Report Card Targets

Responsibility for Belongings

Brings DRC to teacher for feedback before leaving for the next class/activity

Has materials necessary for class/subject area

Responsible for own belongings (has belongings at appropriate* times according to checklist/chart**)

Organizes materials and possessions according to checklist/chart**

Morning routine completed according to checklist/chart

End of day routine completed appropriately according the checklist/chart

Brings supplies to class with XX or fewer reminders/brings supplies to class according to checklist/chart

Hangs up jacket/backpack with XX or fewer reminders

Takes lunchtime pill with X or fewer reminders

***Appropriately must always be defined by teacher for child**

****** **Checklist/chart must accompany target behavior and be displayed for child**

Sample School Daily Report Card Targets

Homework

Brings completed homework to class

Writes homework in assignment book with X or fewer reminders

DRC is returned signed the next day by parent

Establishing a Daily Report Card

3. **Decide on Behaviors and Criteria for the DRC:**
    1. Estimate about how often a child is doing the target behaviors
        - Use existing records if available (e.g., assignment books, grades on assignments)
        - If a good estimate cannot be made, observe the child for a few days and make notes about how often he does the chosen target behaviors during the day.
    2. Use these guesses or records to determine which behaviors need to be included on the report and to determine the initial criteria that will be used to define success on the report.
    3. Don't include too many behaviors—3 to 8 are good to start, depending on the child's age and abilities.
    4. Target behaviors need to be evaluated at several intervals throughout the day (e.g., after each class, see sample DRC below) to give the child frequent behavioral feedback and several chances to earn yeses throughout the day.

Establishing a Daily Report Card

(cont.) Decide on Behaviors and Criteria for the DRC:

5. Only include targets that are important to the child's improvement – if records show that the child does not interrupt as often as thought, do not include interruption of other children as a target behavior.
6. Set a reasonable criterion for each target behavior. A criterion is a target level the child will have to meet in order to be receive a positive mark for that behavior.
   - A good criterion is one that the child can earn between 75% to 90% of the time.
   - Set initial criteria at a rate slightly better than what the child is doing now to encourage improvement (e.g., 20% improvement).
   - Remember that the goals need to be feasible and within reach as perceived by both the child and the teacher.
   - Set criteria to be met for each part of the day, not the overall day (e.g., "interrupts fewer than 2 times in each class period" rather than "interrupts fewer than 12 times per day").

Establishing a Daily Report Card

4. **Explain the Daily Report Card to the child**
   - Meet with teacher, parents and child.
   - Explain all aspects of the DRC to the child in a positive manner.
     - DRC will be used to help him focus on the important things during the day that are giving him problems and to learn how to overcome those problems.
     - child will be earning rewards for his behavior and performance at school to help him learn, and that he will be working with his parents to choose rewards.
     - Describe procedure that will be used with the report card.

Establishing a Daily Report Card

5. Establish a home-based reward system

- Consult with the child's parents to ensure that they have an effective reward system established at home to reinforce the child.
- Selected by the child (in consultation with the parents).
- Natural (that is, not artificially added), for example, a access to television, which was previously "free", can be made contingent.
- Fewer or less preferred rewards can be earned for fewer positive marks, and more or more desired rewards are earned for better performance
- The child should be given a menu of rewards at each level from which he can select
- Give the different levels of the system child-appropriate names (e.g., One Star Day, Two Star Day, Three Star Day).
- Establishing both daily rewards and weekly rewards for cumulative performance is often helpful.
- Long-term rewards in addition to daily and weekly rewards are a good idea.
- Some children need rewards more immediately than end-of-the-day rewards at home. In that case, in-school rewards can be employed.

Sample Child Reward Form

Child's Name: Date: _____

Daily Rewards:

Level 3 (50-74% positive marks) *Choose 1 thing from daily list*
Level 2 (75-89% positive marks) *Choose 2 things from daily list*
Level 1 (90-100% positive marks) *Choose 3 things from daily list*

Weekly Rewards

Level 3 (50-74% positive marks) *Choose 1 thing from weekly list*
Level 2 (75-89% positive marks) *Choose 2 things from weekly list*
Level 1 (90-100% positive marks) *Choose 3 things from weekly list*

Child Reward Form

Child's Name: Date: _____

Daily Rewards:

50%–69% Positive

70%–79% Positive

80%–89% Positive

90%–100% Positive

Weekly Rewards

50%–69% Positive

70%–79% Positive

80%–89% Positive

90%–100% Positive

Sample Child Reward Form

Child's Name: Date: _____

Daily Rewards:

50%–69% Positive	*Choice of desserts*
70%–79% Positive	Choice of bedtime story with mom or dad
80%–89% Positive	*30 minutes of video games OR basketball with mom, dad or friend*
90%–100% Positive	*Choose one hour of TV or video games with mom or dad*

Weekly Rewards

50%–69% Positive	*Choose video rental*
70%–79% Positive	*Go to lunch at McDonalds*
80%–89% Positive	*Select family restaurant for dinner*
90%–100% Positive	*Invite friend to spend the night*

Establishing a Daily Report Card

6. Monitor and modify the program
   - Keep daily records of how often the child is receiving Yeses on each target.
   - Shape the child into increasingly appropriate behavior by making criteria harder, or if child regularly fails to meet criteria, make criteria easier.
   - Combine the report with appropriate social reinforcement:
     - Praise the child sincerely for good days and good efforts.
     - Respond matter-of-factly (not negatively) to missed targets with an encouraging statement about the next day.
   - Once the criterion for a target is at an acceptable level and the child is consistently reaching it, drop that target behavior. Tell the child he is doing so well that he doesn't need to have the target any longer.
   - Replace it with another target if necessary.
   - If the point is reached where the child is doing so well that daily reports are unnecessary, move to a weekly report/reward system.
   - If and when the child is functioning within an appropriate range in the classroom, the report card can be stopped and reinstated if problems reoccur.

Possible Home Rewards

Daily Rewards

- Snacks
- Dessert after dinner
- Staying up X minutes beyond bedtime
- Having a bedtime story/Reading with a parent for X minutes
- Choosing radio station in car
- Extra bathtub time for X minutes
- Educational games on computer for X minutes
- Choosing family T.V. show
- Talking on phone to friend (local call)
- Video game time for X minutes
- Playing outside for X minutes
- Television time for X minutes
- Listening to radio/stereo for X minutes
- Other as suggested by child

Possible Home Rewards

Daily or Weekly Rewards

- Going over to a friend's house to play
- Having a friend come over to play
- Allowance
- Bike riding/skating/scootering/skateboarding (in neighborhood for daily reward; longer trip with family or at bike trail/skatepark for weekly reward)
- Special activity with mom or dad
- Special time with mom or dad for X minutes
- Earn day off from chores
- Game of choice with parent/family
- Other as suggested by child

Possible Home Rewards

Weekly Rewards

- Making a long distance call to relatives or friends
- Going to the video arcade at the mall
- Going fishing
- Going shopping/going to the mall
- Going to the movies
- Going to the park
- Getting ice cream
- Bowling, miniature golf
- Selecting something special at the store
- Making popcorn
- Having friend over to spend night
- Going to friend's to spend night
- Choosing family movie
- Renting movie video
- Going to a fast-food restaurant with parent and/or family
- Watching taped T.V. shows
- Other as suggested by child

Possible Reinforcers

Note: Older children could save over weeks to get a monthly (or longer) reward as long as visuals (e.g., pieces of picture of activity) are used; e.g., camping trip with parent, trip to baseball game, purchase of a videogame cartridge

Establishing a Daily Report Card

7. Trouble-shoot the Daily Report Card: If the system is not working to change the child's behavior, examine the program and make changes where appropriate.
8. Consider other treatments if not effective:
    - Consider additional behavioral components (e.g., more frequent praise, time out) and/or more powerful or intensive behavioral procedures (e.g., a point system).
    - If classroom resources make more potent behavioral interventions prohibitive and parental preferences allow it, adjunctive stimulant medication can be considered.

Classroom Behavioral Interventions

6. Premack or “when-then” contingencies (e.g., recess time contingent upon completing work, assigning less desirable work prior to more desirable assignments).
7. Response cost/reward point or token system for the target child.

Establishing a Response-Cost/Reward System

Establish a List of Target Behaviors: Decide which behaviors an individual student needs to decrease. These behaviors should state clearly how the student should behave and complete his/her assignments. Often this can be the list of classroom rules.

Make a Flip Card Apparatus: A flip card stand contains cards (e.g., note cards) which have numbers in a descending order (e.g., from 20 to 0). Both the teacher and target student have a small stand with cards on it.

Determine Rewards: The child can earn a certain amount of a reward (e.g., 20 minutes of free time or recess) for working on his target behaviors and following class rules.

Response Cost: Explain to the student that he or she will lose a portion of his reward each time he violates one of his targets or a class rule. If the student violates a rule, then the teacher should flip a card down, and the student loses a portion of the reward (e.g., one minute of free time or recess time). The child should monitor the number on the teacher's flip card stand and match it on his/her flip card.

Provide Reward: Reinforce the student with the appropriate time that remains on the flip card at the designated time.

Implement with a concurrent reward system such as a daily report card to increase behaviors such as academic task completion and accuracy.

Classroom Behavioral Interventions

8. Classwide interventions (e.g., class lottery)/group contingencies (e.g., "good behavior game", child earning a reward for the entire class); response cost/reward point or token system for the entire class.
9. Time out (classroom, office, systematic exclusion).

Classwide Response-Cost System

- Establish a List of Classroom Rules: If they do not already exist, the teacher should determine the classroom rules (e.g., 5 or 6 rules) and post them in the front of the class. These rules should state clearly how the students should behave and complete their assignments, and must be observable behaviors.
- Make a Public Point Board: A public point board (e.g., blackboard) should contain the students' names, classroom rules, and subjects. This point board should be easily accessible and observable.
- Determine Point Values: Keep in mind the number of rule violations that are occurring in the classroom and the number that can be tolerated. For example, each student could begin the class or day with 100 points and lose 10 points for each rule violated.
- Response Cost (lose points) for Behavior: Announce each rule violation and take points immediately upon each occurrence (e.g., "Johnny, you lose 10 points for talking without permission, because that breaks the rule that we raise our hand to speak"). Record the point loss on the public point board.
- Reward (earn points) for Academic Performance: Point values that students can earn for assignment completion and accuracy should be approximately equivalent to those that can be retained for following rules. Points for completion and accuracy should be weighted the same.

Classwide Response-Cost System

- Tally All Points and Give Feedback: At the end of the class period or day, add all the points earned for behavior and academics on the public point board. Then give individual feedback to each student regarding their point totals. Praise the students sincerely for good days and good efforts—and respond matter-of-factly to not-so-good days with an encouraging statement about tomorrow.
- Establish Criteria for Daily Positive Feedback: Determine the criteria for a positive day and reward these students with stickers and a predetermined number of bonus points. For example, students who earn all possible academic points for completion and accuracy and violate two or fewer rules, can earn bonus points (e.g., 50 points) and a sticker.
- Establish a Reward System: Determine the back-up reinforcers for which the children can exchange their points. Include a menu that lists the privileges and their value and a grab bag with a variety of tangibles or a class store. Therefore, the points can be used for a variety of things, depending on what is reinforcing in the teacher's class.

Class Lottery Reward System

- A class lottery is a simple and efficient procedure for improving rule-following in both the target child and in his classmates. It takes very little teacher time, costs nothing, is popular with the children, and it is often quite effective. The class lottery can be implemented with ease both in regular and in special education classrooms. Before the lottery is begun it must be explained to the class.
- Establish a brief list of class rules and post them. Tell the children that from now on, they will be earning class jobs (e.g., line monitor, office messenger, paper-hand-outer, eraser/board cleaner) according to their ability to follow class rules. Make sure that all desirable classroom jobs are included in the job pool. Encourage the children to nominate potential new jobs.
- Tell the children that you will be scanning the class at unannounced times five times daily to see who is following the rules. Selected times should especially include times when the class (and/or the target child) is least likely to be following rules.

Class Lottery Reward System

- When you have completed your brief scan (no more than 15 to 20 secs), announce to the class who was not following rules, and record those names.
- At the end of the day, allow all children who were following rules at the designated criterion level (e.g., 4 out of 5 scans initially, 5 out of 5 later on) to put their names on scraps of paper in a hat.
- Draw names from the hat one at a time. When a child's name is drawn, allow him or her to choose the class job that he or she wants to have for the following day.
- Try to have between 5 and 10 jobs that the children like to do available, so that a reasonable number of children are rewarded every day. Note that the hat passer/name drawer for the lottery is a new class job--and probably the most desired!
- Repeat the lottery daily.

Possible Rewards for use in Classroom Interventions

1. Free time for X minutes
2. Talk to best friend
3. Listen to tape player (with headphones)
4. Read a book
5. Help clean up classroom
6. Clean the erasers
7. Wash the chalkboard
8. Be teacher's helper
9. Eat lunch outside on a nice day
10. Extra time at recess
11. Write on chalk board
12. Use magic markers
13. Draw a picture
14. Choose book to read to the class
15. Read to a friend

Possible Rewards for use in Classroom Interventions

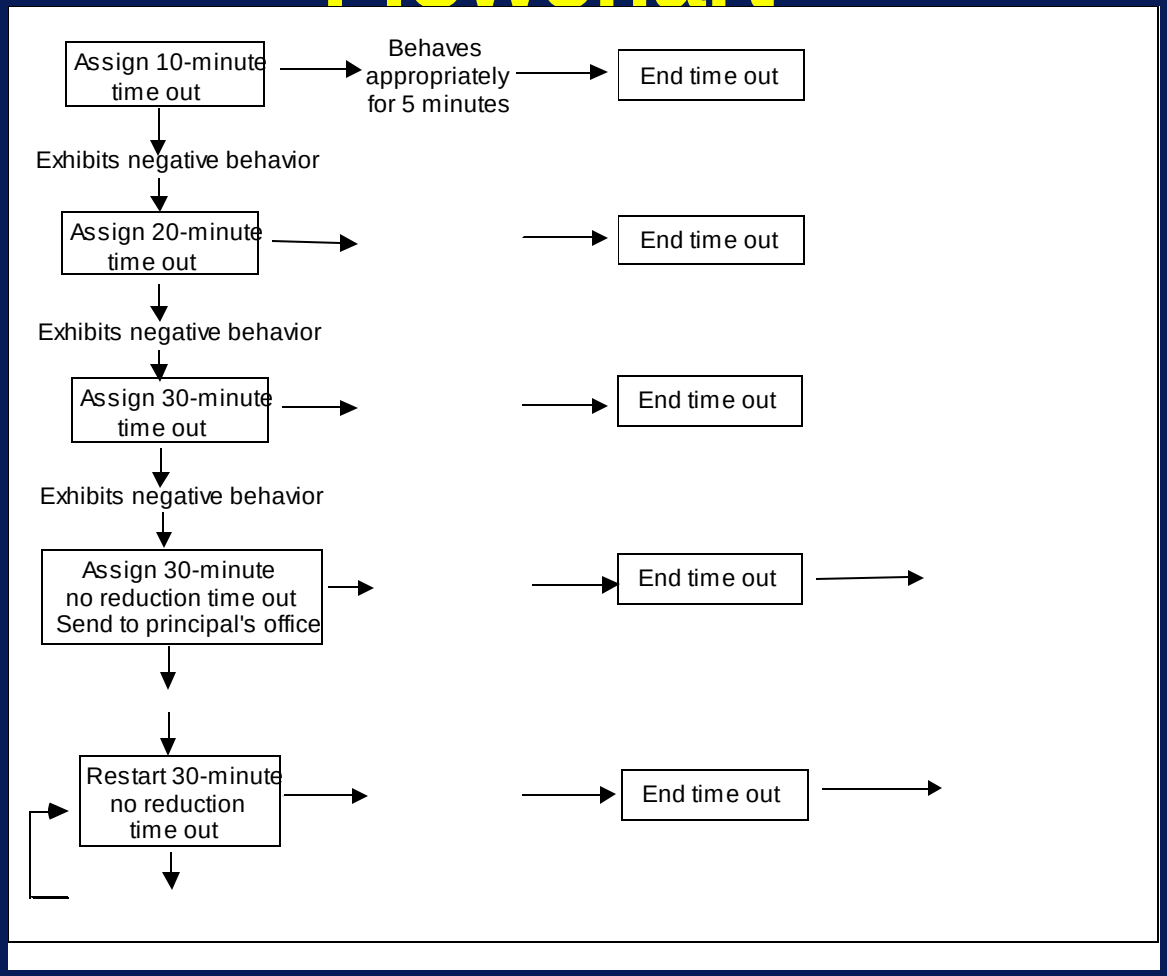
16. Read with a friend
17. Care for class animals
18. Play "teacher"
19. See a movie/filmstrip
20. Decorate bulletin board
21. Be messenger for office
22. Grade papers
23. Have treats
24. Earn class party
25. Class field trip
26. Student of the Day/Month
27. Pop popcorn
28. Be a line leader
29. Visit the janitor
30. Use the computer
31. Make ice cream sundaes

Possible Rewards for use in Classroom Interventions

32. Teach a classmate
33. Choose stickers
34. Take a good note home
35. Receive a positive phone call
36. Give lots of praise
37. Hide a special note in desk
38. Choose seat for specific time
39. Playing card games
40. Receive award certificate
41. Take Polaroid pictures
42. Draw from "grab bag"
43. Eat at special table
44. Visit the principal

*Remember that these items are usually reinforcing to most children. However, what is reinforcing to one child may not be reinforcing to another. Make sure that a child wants one of these potential reinforcers and will work for it before the reinforcer is used in a program.

School-based Time-Out Flowchart



Base times on children's ages; we suggest starting with 5 min (with comparable increases and reductions as above) for K-1 children, 10 min (as above) for grades 2-4, and 20 min for 5th grade and above.

Classroom Behavioral Interventions

10. Special class placement and special services
11. After school programs
12. Summer Programs/summer school.
13. Add cognitive interventions to powerful behavioral interventions to facilitate maintenance? Academic/social?
14. School-wide programs

School-Wide Intervention Components: the ABC Program

Pelham et al, J. Attention Disorders, 2005

- **Teacher-Training in Classroom Management**
  - Social Reinforcement
  - Commands and Reprimands
  - Classroom Rules
  - Premack Contingencies
- **School-Wide Rules and Response Cost System**
  - Classrooms
  - Transitions
  - Lunch/Recess

School-Wide Intervention Components : the ABC Program

- **School-Wide Rewards and Consequences**
  - Daily Rewards in Classrooms (e.g., classroom jobs)
  - Friday Activities
  - Time-Out Program
  - Behavior Honor Roll
- **Peer Relationships**
  - Classroom Social Skills Training
  - RECESS Programs
  - Peer Mediation/Conflict Resolution

School-Wide Intervention Components : the ABC Program

Academic Programs

- Classwide Peer Tutoring: Reading and Arithmetic
- Dynamic Assessment of Emerging Literacy Skills
- Daily Homework Assignment Sheet
- Modifications of Instructional Materials and Procedures
- Phonological awareness training

Parent Involvement

- Daily Notes (home back-up for excellent school behavior)
- Daily Homework Assignment (daily signatures)
- Individualized Programs (e.g., Daily Report Cards)
- Parent Training Programs

Ongoing Feedback, Consultation, and Monitoring

Important Clinical Guidelines-School

Primary difference between working with parents and teachers is that parents initiated the request for school-based intervention, while the teacher is being asked to implement it.

Teachers will most often be regular education teachers who may know little about ADHD and may not view treatment as their responsibility.

Stress to teachers that in the long run, the effort they put into implementing behavioral interventions in the classroom will involve less time and energy than they are currently spending in dealing with the child.

Important Clinical Guidelines-School

1. Initial contact with the school principal should always precede initial contact with a child's teacher.
2. Begin by giving the teacher information regarding ADHD, including its nature, causes, prognosis, diagnosis, and treatment. Make certain that the teacher understands clearly that medication is not a long-term solution to ADHD and that his/her involvement in treatment is absolutely essential to the child's well being.

Important Clinical Guidelines-School

3. The clear expectation should be given that because the disorder is chronic, treatment will need to be long-term. The teacher will need to make changes in the classroom and in her interactions with the ADHD child that will last for the school year. Administrators (e.g., principal) need to be made aware that treatment will likely need to continue in subsequent school years.

Important Clinical Guidelines-School

4. Many, if not most, teachers will need explicit assistance in establishing appropriate goals, monitoring progress, and implementing the interventions. Therapists should not assume that teachers' training has prepared them well for implementing behavioral interventions. At the same time, it is clear that teachers are knowledgeable about their classroom and children. Consultants should enlist their ideas and adapt techniques and interventions to what teachers are already doing in the classroom.

Important Clinical Guidelines-School

5. Consistency and shaping are critical for the success of the program. Make sure the teachers know that the child will not be cured overnight, and that they must begin with small improvements and work gradually toward long-term outcomes.
6. Age/developmental level of the child are important determinants of many aspects of treatment, including (1) target behaviors, (2) amount of incremental changes targeted at each step, and (3) the nature of intervention/procedures.

Important Clinical Guidelines-School

7. It usually takes more than one visit to develop a good classroom intervention with a teacher. After initiation, follow-up in the form of weekly visits or phone calls for some period (and then booster thereafter) are usually necessary.

   Both the student's progress and the teacher's implementation must be carefully monitored and modifications made as necessary to ensure that the program does not fail.

Important Clinical Guidelines-School

8. If possible, observe the classroom (both the child and the teacher) during assessment and while implementing the program during treatment. Direct observations sometimes yield important information different from that obtained through teacher self-report. The fidelity of the teacher-implemented program needs to be constantly monitored.

Important Clinical Guidelines - School

9. Teachers need support as well as training. The teacher is the one who spends the entire day with the child, and that he or she also may have as many as 25 other children to teach.
   Therapists/consultants/school psychologists need to use their social and clinical skills to provide this support, and teachers should be encouraged to communicate with one another about what works and doesn't work in their classroom. Teachers can provide help and advice for each other, as well as support.

Important Clinical Guidelines-School

10. To provide consistency of treatment, as many school personnel as possible (other teachers, lunchroom and recess aides) will need to be involved. Sometimes a school counselor or instructional support teacher can provide coordination among these individuals.
11. Be creative in developing programs and procedures. Teachers have different teaching styles and personalities, and what has worked in one class may not be applicable in another class.

Important Clinical Guidelines-School

12. Consultant contact with the school or teacher should not be terminated prematurely. Programming for maintenance and relapse prevention should be done. If parents are being trained to continue the program, several meetings should be scheduled in which the parent can practice teacher discussions before meeting with the teacher and can conduct early consultation sessions with the consultant, parent, and teacher present. Parent follow through needs to be monitored.

Important Clinical Guidelines-School

13. When working with ADHD adolescents, the adolescent needs to be more involved in treatment than is the case with children. For example, teachers will expect the adolescent to be more responsible for treatment than is the case with children (e.g., writing assignments in his daily notebook without reminders), so organizational strategies need to be taught to the adolescent. In addition, educational strategies such as how to take notes need to be taught. This will require explicit training following validated protocols. There is very little empirical work on psychosocial treatments with adolescents.

Important Clinical Guidelines-School

14. Therapists/consultants should be aware of ADHD children's legal rights regarding education (Section 504 of the 1973 Rehabilitation Act, the Individuals with Disabilities Education Act—IDEA) and should not hesitate to make schools aware of these rights if problems arise. Under these regulations, ADHD children are legally entitled to accommodations in regular classroom settings (section 504) or special education (IDEA).

Important Clinical Guidelines-School

15. To enhance the likelihood of system-wide impact, therapists and consultants should attempt to facilitate in-service training programs on the identification and treatment of ADHD. Several model programs have been developed and are available (see references). In addition, school-wide interventions can facilitate inclusion for all handicapping conditions, including ADHD, as well as for the nonhandicapped children.

FIU CCF Will Offer All of These School-Related Services—Both at the Level of Individual-Child Referrals and at the School/District-Wide Levels (e.g., in service trainings, school-wide trainings)

Why is it Important to Use Psychosocial Treatments for ADHD Peer Relationships?

- We have long known that impaired peer relationships in children are the best predictors of negative adult outcomes
- ADHD children have seriously impaired peer relationships
- ADHD children have the negative adult outcomes that are predicted by disturbances in peer relations
- Peer relationships arguably mediate ADHD children's adult outcomes

Peer Perceptions of ADHD Children

(Pelham & Bender, 1982)

Those who:	ADD Boys	Non-ADD Boys
Try to get other people into trouble	51	17
Play the clown and get others to laugh	40	19
Tell other children what to do	41	16
Are usually chosen last to join in group activities	27	13

- Peer Evaluation Inventory Items

Peer Perceptions of ADHD Children

(Pelham & Bender, 1982)

Those who:	ADD Boys	Non-ADD Boys
Always mess around and get into trouble	62	24
Bother people when they are trying to work	45	20
Get mad when they don't get their way	51	18
Don't pay attention to the teacher	55	25

- Peer Evaluation Inventory Items

Components of Effective, Comprehensive Treatment for ADHD

Child Intervention

- Behavioral and developmental approach
- Focus on teaching academic, recreational, and social/behavioral competencies, decreasing aggression, increasing compliance, developing close friendships, improving relationships with adults, and building self-efficacy
- Paraprofessional implemented (for cost reasons)
- Intensive treatments such as summer treatment programs (9 hours daily for 8 weeks), and/or school-year, after-school, and Saturday (6 hours) sessions
- Don’t expect instant changes--improvement (learning) often gradual
- Continued support and contact as long as necessary--multiple years or if deterioration occurs
- Program for generalization and relapse prevention (e.g., integrate with school and parent treatments--link all through home/school report card systems)
- Reestablish contact for major developmental transitions (e.g., adolescence)

Why Treat ADHD in a Summer Setting?

- Work on peer relationships in an ecologically valid setting (e.g., playing common games in peer group settings)
- Teach sports skills and knowledge and team cooperation
- Build friendships with other ADHD children
- Minimize summer learning loss that characterizes low achieving children
- Teach compliance skills to child and parents
- Teach daily report card concept to child and parents

Comprehensive and Intensive Treatment for ADHD: Summer Treatment Program

Named in 1993 as one of the country's model service delivery program for children and adolescents by the Section on Clinical Child Psychology of the American Psychological Association.

Used successfully in clinical trials at NIMH, CMHS, and NIDA

Innovative Program of the Year, 2003, CHADD

SAMHSA list of Evidence Based Programs and Practices (NREPP), 2005

Summer Treatment Program Overview

Pelham et al, 1995, 2005, 2010

- Eight-week program, 9 hours daily
- Children grouped by age into groups of 12
- Groups stay together throughout the day
- 5 counselors work with each group all day outside of the classroom
- One teacher and an aide staff the classroom for each group
- Treatment implemented in context of recreational and academic activities

Typical STP Schedule

Time	Activity
7:30-8:00	Arrivals
8:00-8:15	Social Skills Training
8:15-9:00	Soccer Skills Training
9:15-10:15	Soccer Game
10:30-11:30	Art Class
11:45-12:00	Lunch
12:00-12:15	Recess
12:15-2:15	Academic/computer class
2:30-3:30	Softball Game
3:30-4:30	Swimming
4:45-5:00	Recess
5:00-5:30	Departures

Summer Treatment Program Overview
(Pelham et al, 1995, 2005, 2010)

Treatment Components:

Point System

Social Skills Training, Cooperative Tasks,

Team Membership, and Close Friendships

Group Problem Solving

Time out

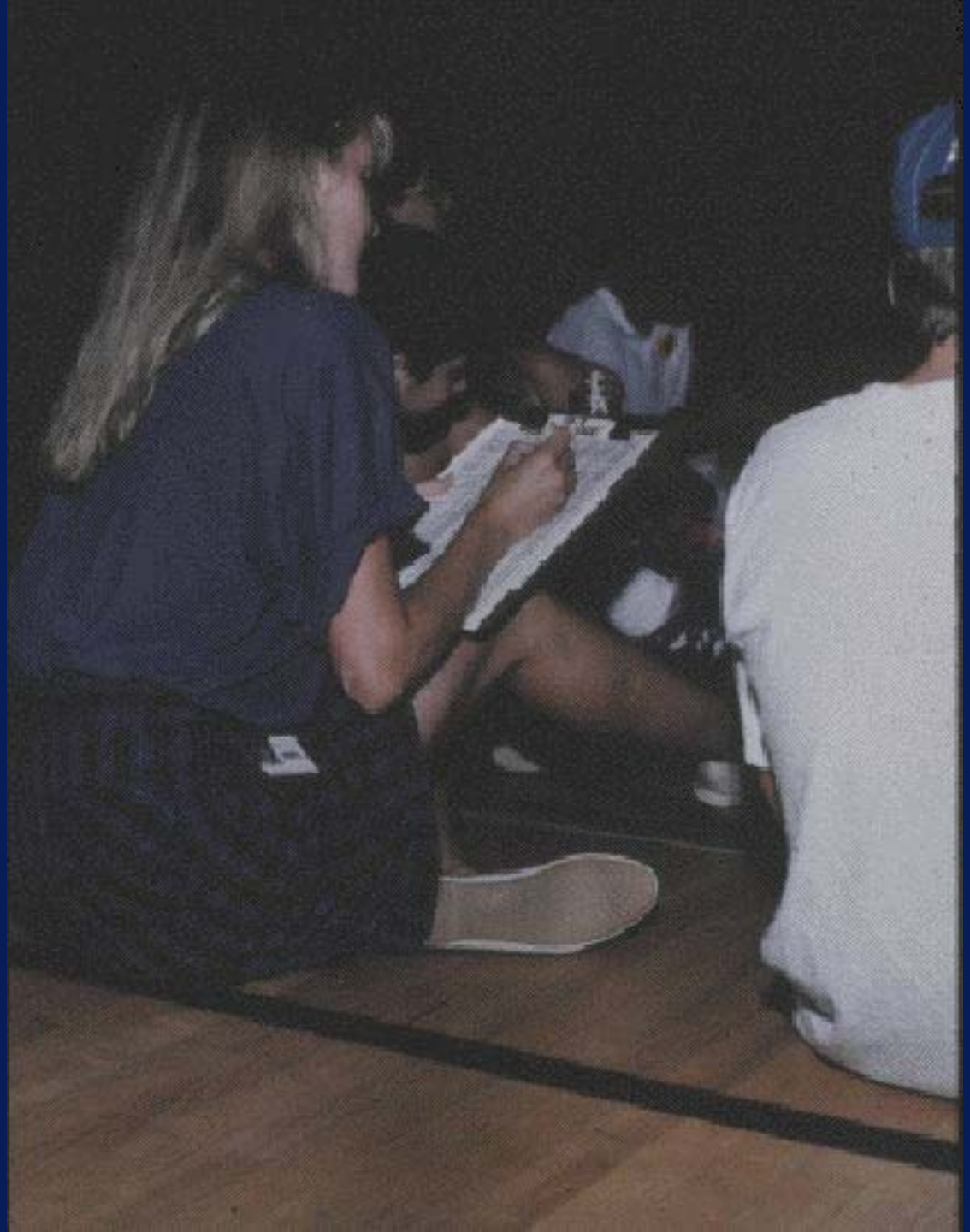
Daily Report Cards

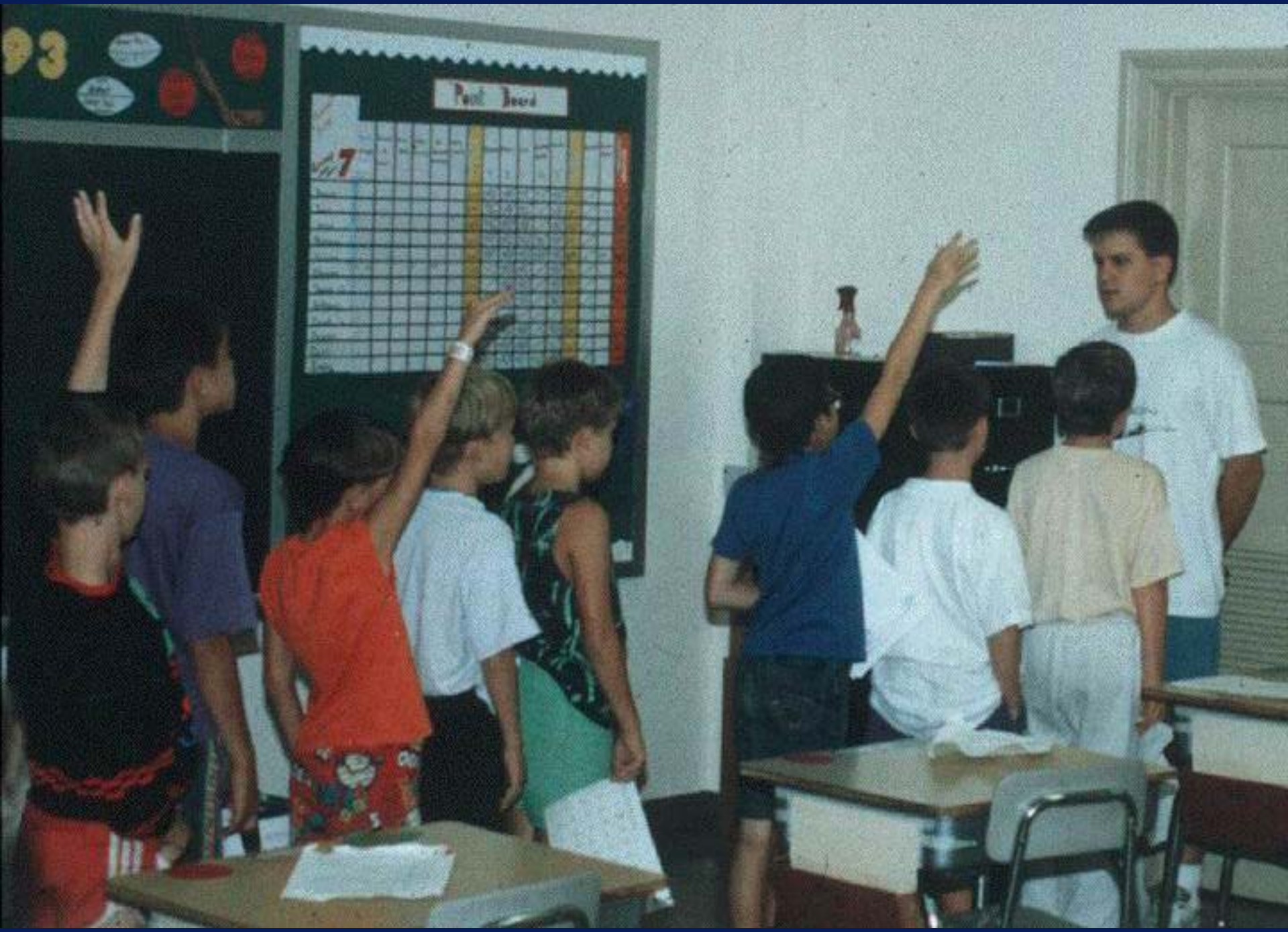
Sports Skills Training and Recreation

Summer Treatment Program Overview 2

Treatment Components:

- Positive Reinforcement & Appropriate Commands
- Classrooms--Regular, Peer Tutoring, Computer, and Art
- Individualized Programs
- Parent Training
- Medication Assessments
- Adolescent Program




93
Point Board

Major Benefits of the STP

(Pelham et al, 2005, 2010; Pelham & Fabiano, 2008)

- **360 hours of treatment (equivalent to seven years worth of weekly social skills training sessions) in an 8-week period**
- **Produces large improvements in multiple functional domains**
- **Teaches skills (e.g., sports) not taught in other interventions and provides on-line practice**
- **Parents have daily contact with treatment staff**
- **Extremely low dropout rate (3%) compared with up to 50% in other outpatient studies**
- **High parent attendance at parent training meetings**
- **Supportive "community" environment for child and family provided by an 8-week daily treatment program**
- **Unusually high level of parent and child satisfaction with treatment--critical for long-term palatability and implementation**
- **Maintains academic gains/prevents summer loss**
- **Addresses the three key psychosocial predictors--parenting, peer relationships, and academics**

STP Documentation

- **STP Manual: 429 pages, describes procedures and treatment components in detail**
- **Child Binder: Provides clinical data tracking forms to monitor each child's progress in key areas and individualized target behavior graphs**
- **Group Binder: Provides group-based tracking forms and materials used in treatment**

Treatment Integrity and Fidelity

- Point system and learning center reliability (checks on the accuracy of staff members' reporting and classifying behaviors)
- Weekly reliability quizzes for counselors and learning center staff members
- Supervisors complete daily observations using TIF forms (see below) and provide daily feedback and remediation as necessary for staff members

Dissemination

- All STP procedures manualized and available on one CD ($199 US)
- Training available annually in Latrobe PA and Miami, FL (very low cost) or on site by arrangement
- After first summer, maintained by agency staff
- Adapted for many settings/uses (e.g., after school (UCLA, Cleveland Clinic, Buffalo Public Schools), summer school (Buffalo), city recreation departments (Chicago), Boy's and Girls's Clubs (Buffalo, Niagara Falls), day school and wrap-around (Johnstown, NYC)

STP Sites

- Buffalo (UB)
- New York City (NYU Medical Center)
- Cleveland, OH (Cleveland Clinic)
- Irvine, CA (UCI)
- Birmingham AL (UAB Medical Center)
- Boston (Harvard/JBCC)
- Chicago (UICC IJR/community parks and UICC Psychiatry)
- Kansas City (U of Kansas Medical Center)
- Kurume, Japan (Kurume University and Kurume schools)
- Erie, Johnstown, and Indiana PA (3 Community Agencies with 29 different sites)
- Community sites in SC, Utah, WVA, NJ, NYC (Staten Island MH Society), WNY (Chatauqua County MH, Niagara Falls and Buffalo Boy's & Girl's Clubs), and WA
- Smaller, shorter camps in many U.S. cities that use parts of STP
- COMING TO MIAMI AT FIU IN 2010 !

First STP in Miami

FIU Main Campus

June 16-August 11

Call CCF at 305-348-0477
For information or to Apply

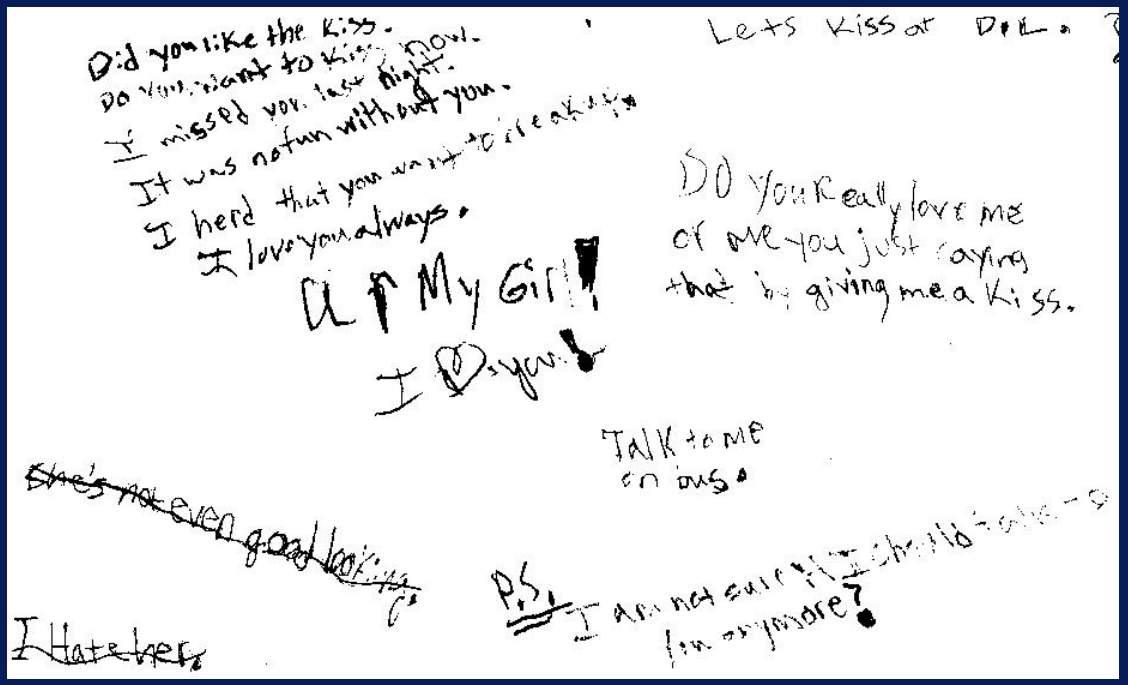
Information and Application materials also on website at http://ccf.FIU.edu

Maggie Sibley, M.A.
Coordinator of Adolescent Services at the CCF

ADHD in Adolescence

- Changes to school environment
- Increased value on social relationships
- Desire for autonomy
- Driving
- Dating
- Jobs

Inattention and Impulsivity



At increased risk for:

- –School Drop-out
- –Absenteeism
- –Disciplinary Problems
- –Peer Rejection
- –Car Accidents
- –Conflict with Parents
- –Vocational Problems

Class Failure

Risky Sex

Substance Abuse

Delinquency

Barkley et al., 2007; Kent et al., under review; Mannuzza, Gittelman-Klein, Bessler, Malloy & LaPadula, 1993; Molina et al., 2007; Sibley et al., under review; Thompson, Molina,

Pittsburgh ADHD Longitudinal Study (PALS)

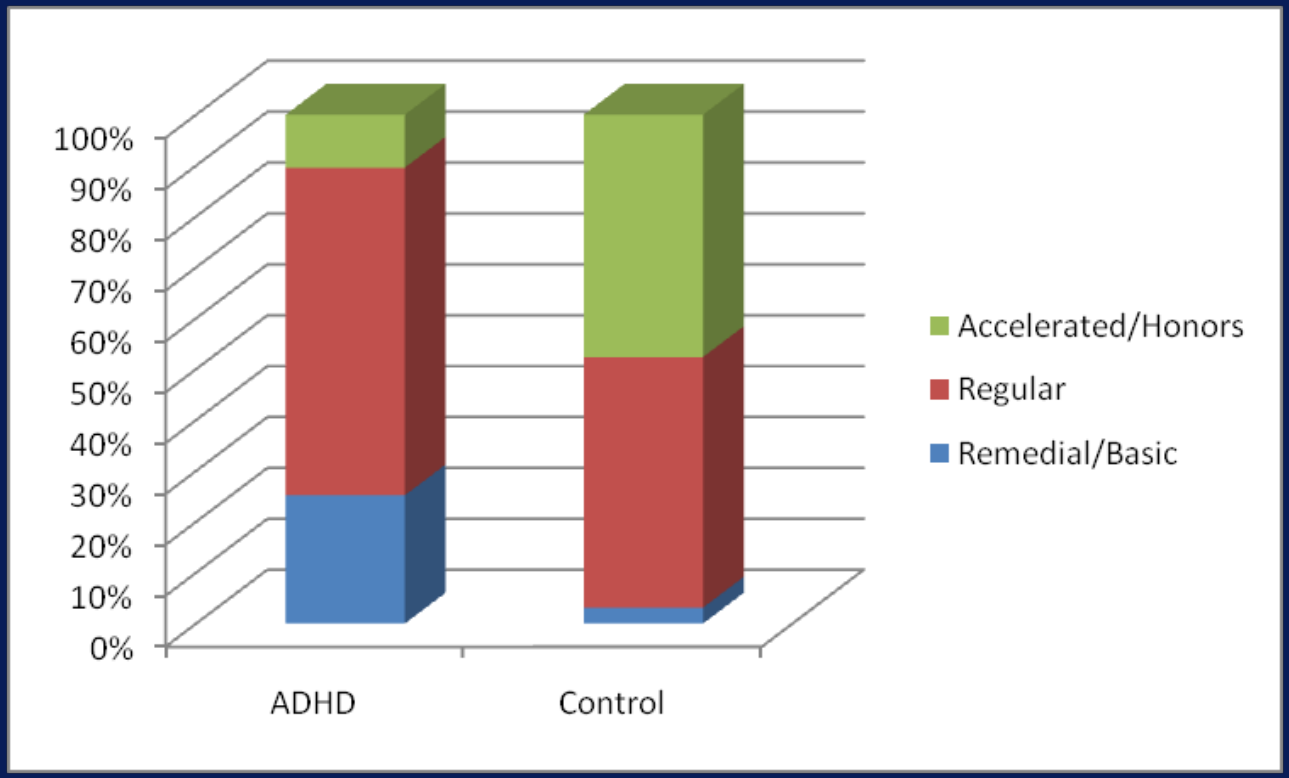
(Molina and Pelham)

- NIAAA/NIDA-funded
- N=365 ADHD and 240 Controls
- Half adolescents and half young adults
- ADHD subjects obtained in childhood (ages 5 to 14) from treatment clinic at WPIC
- Extensive childhood data available
- Follow up began an average of 8 years later (12-22)
- Annual assessments of substance abuse, psychopathology, criminal behavior, and multiple domains of individual and family functioning
- Lifetime histories of treatment, school functioning

Pittsburgh ADHD Longitudinal Study

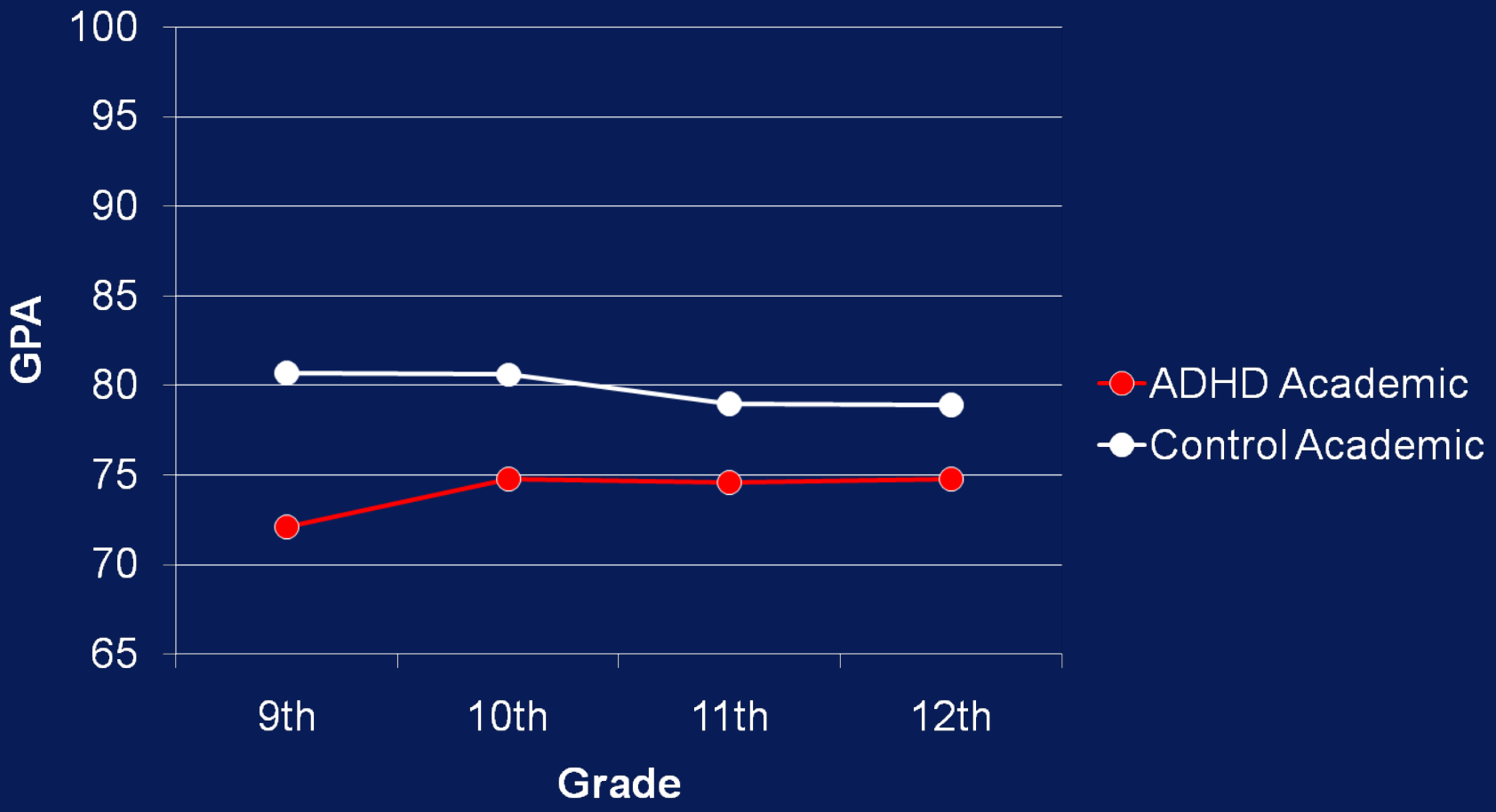
- **Findings:**
  - Higher rates of binge drinking
  - Higher rates of daily marijuana use
  - Higher rates of daily cigarette smoking
  - Higher rates of other illicit drug use
  - Earlier start of alcohol, cigarettes, and marijuana
  - Higher rates of special education use
  - Very high rates of disciplinary problems in school
  - Very high rates of delinquency
  - Continued severe impairment in multiple domains into young adulthood, including work, finances, romantic and family relationships, and legal difficulties

10th Grade Class Placement*

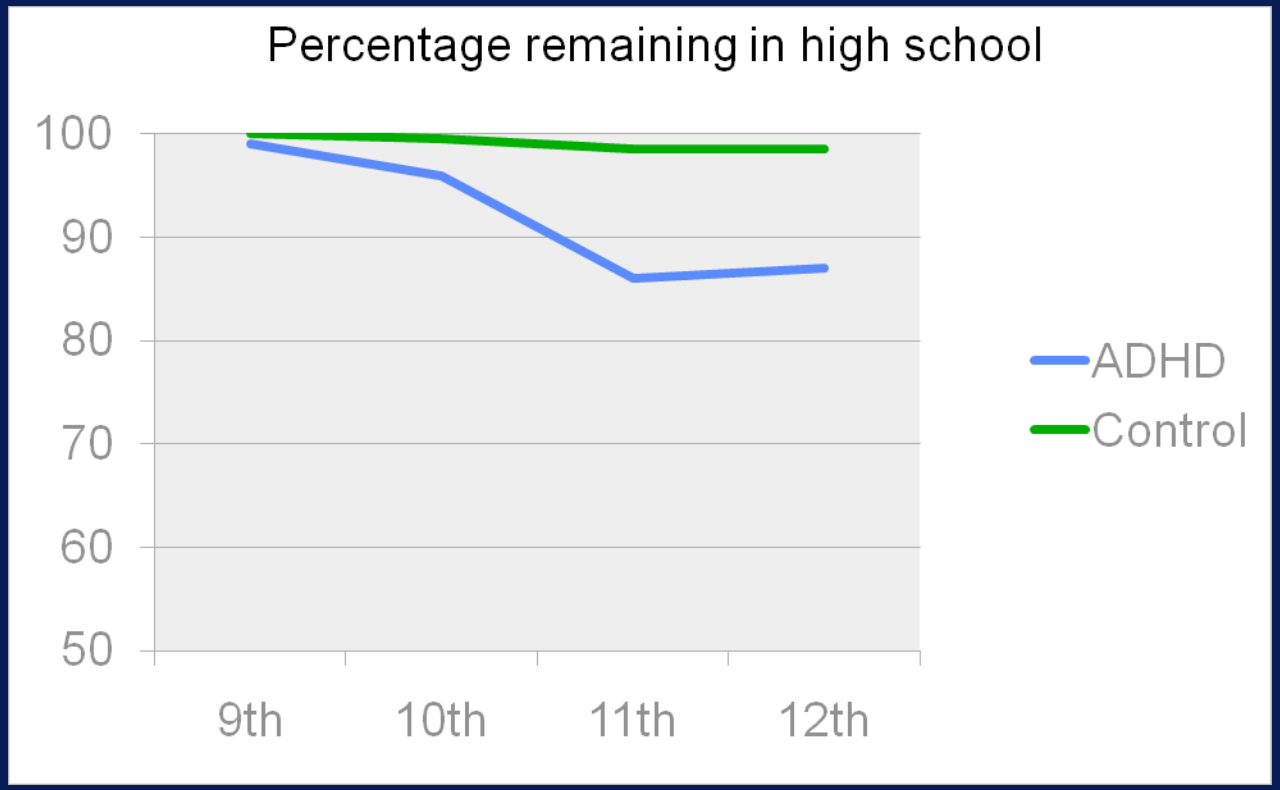


*p < .01

High School GPA



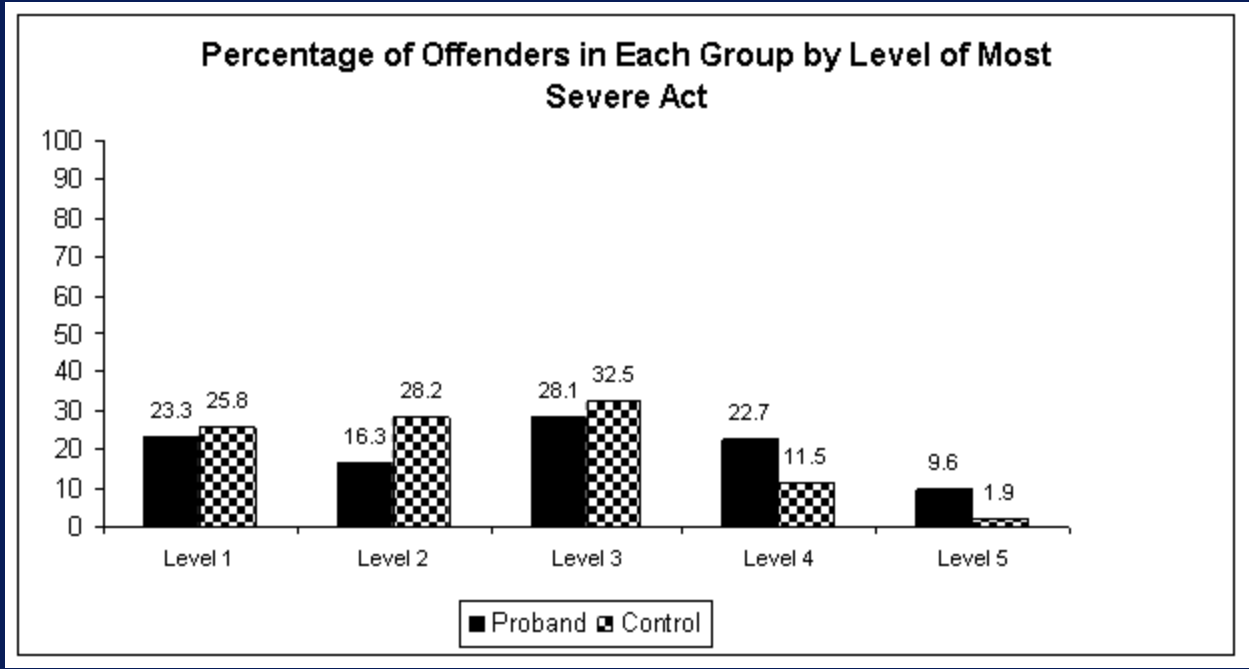
High School Drop-Out



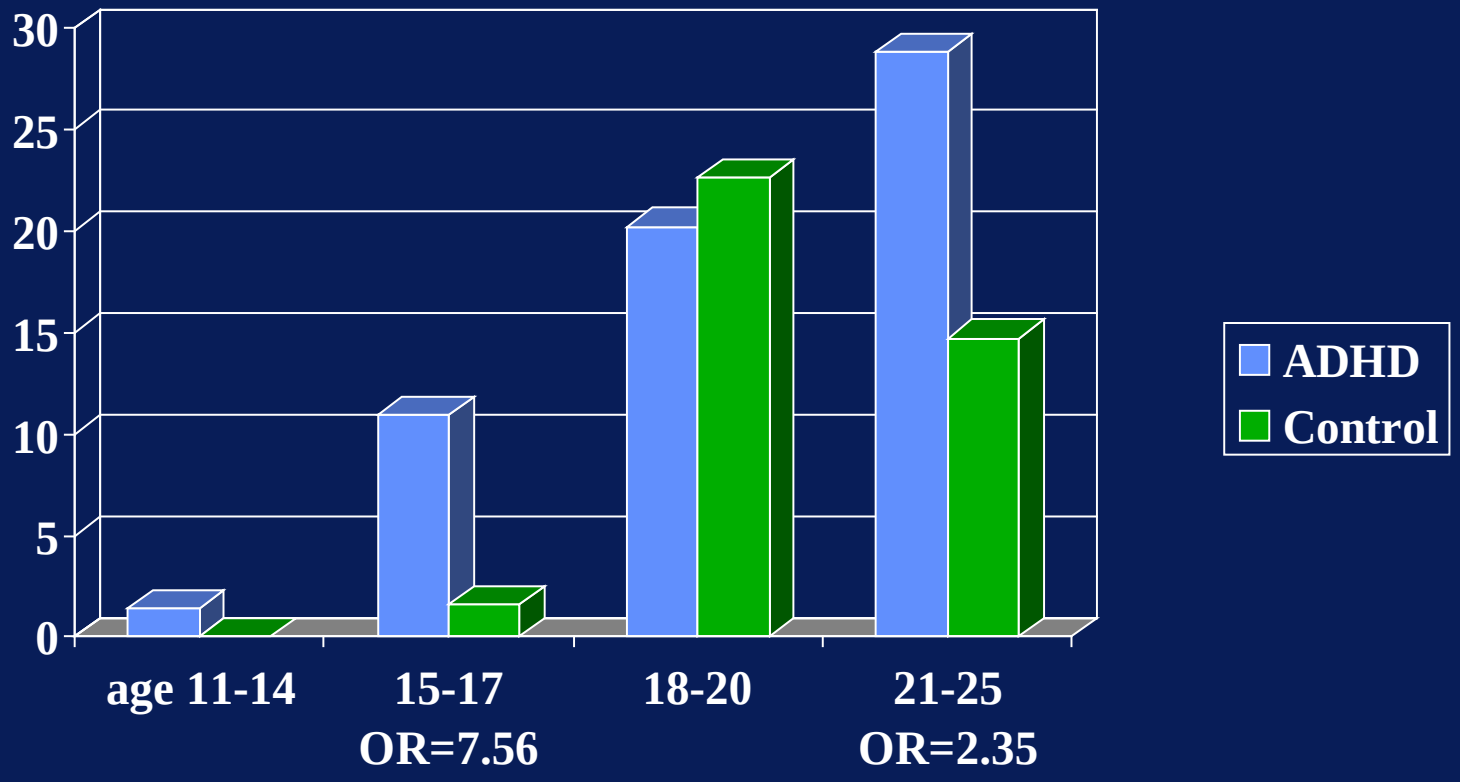
Conclusions
What does an adolescent with ADHD look like in High School?

- Academic GPA ~ 75.3
- Each school year, they are absent ~17 days and tardy ~11 days
- They complete and turn in only ~65% of their school work
- Likely to have lower class placement and more likely to fail their courses
- Over 2 times more likely to drop out of school than non-ADHD peers

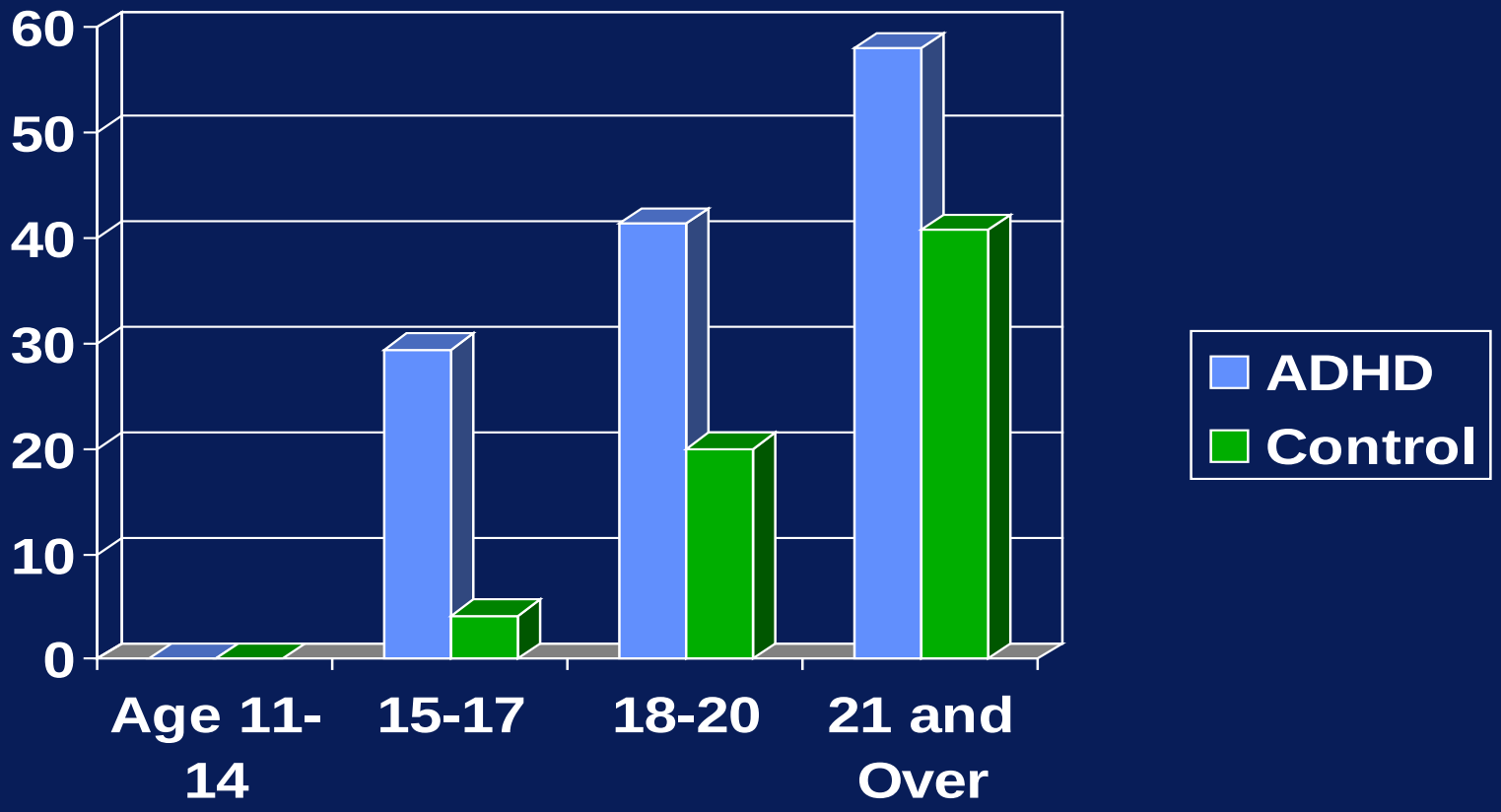
Delinquent Offending



% Reporting Weekly Binge Drinking (≥5 Drinks Per Occasion)

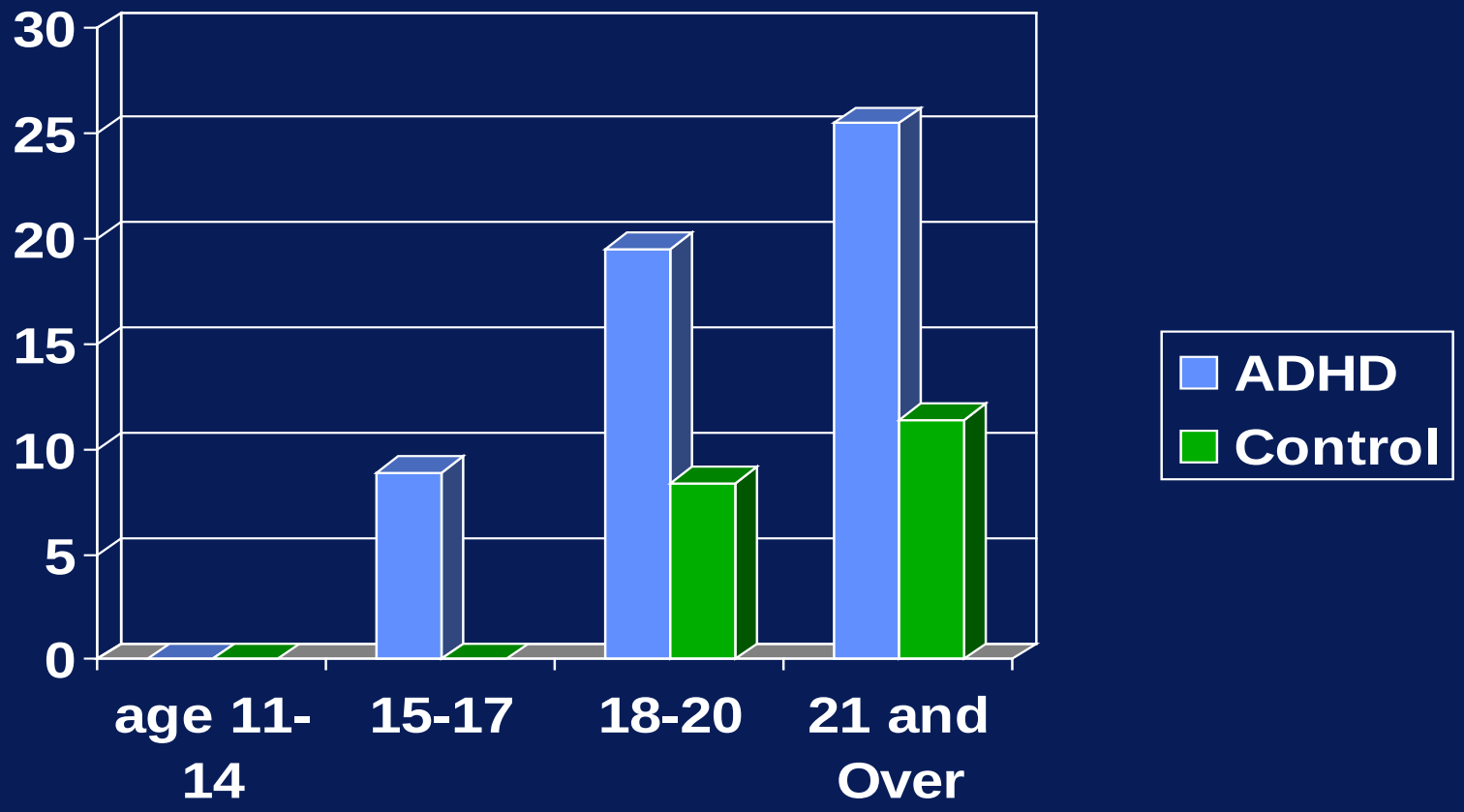


Percentage Smoking At Least 1/2 Pack a Day



N = 201 ADHD and 109 control subjects who report ever smoking

Percentage Using Marijuana Daily

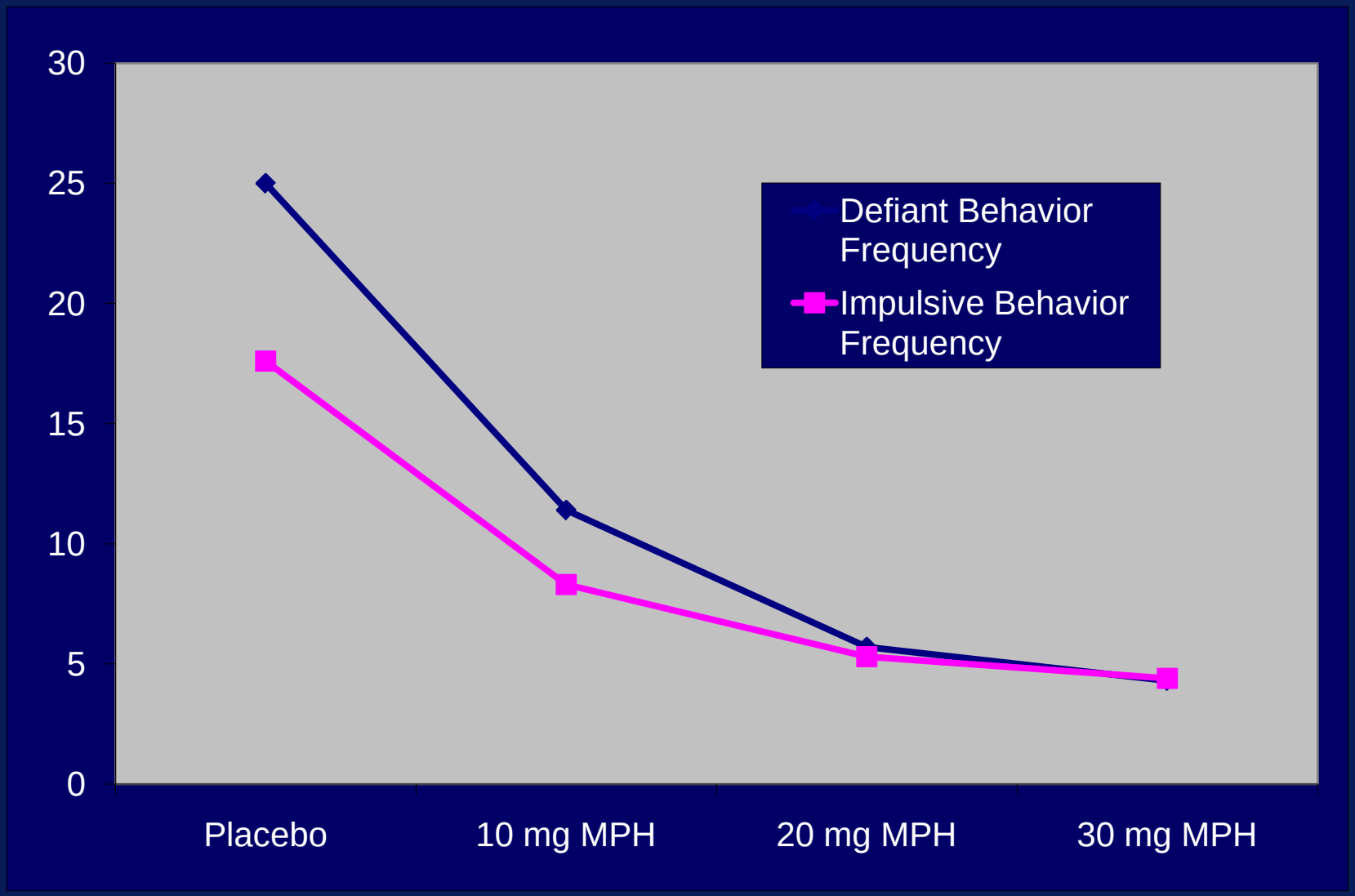


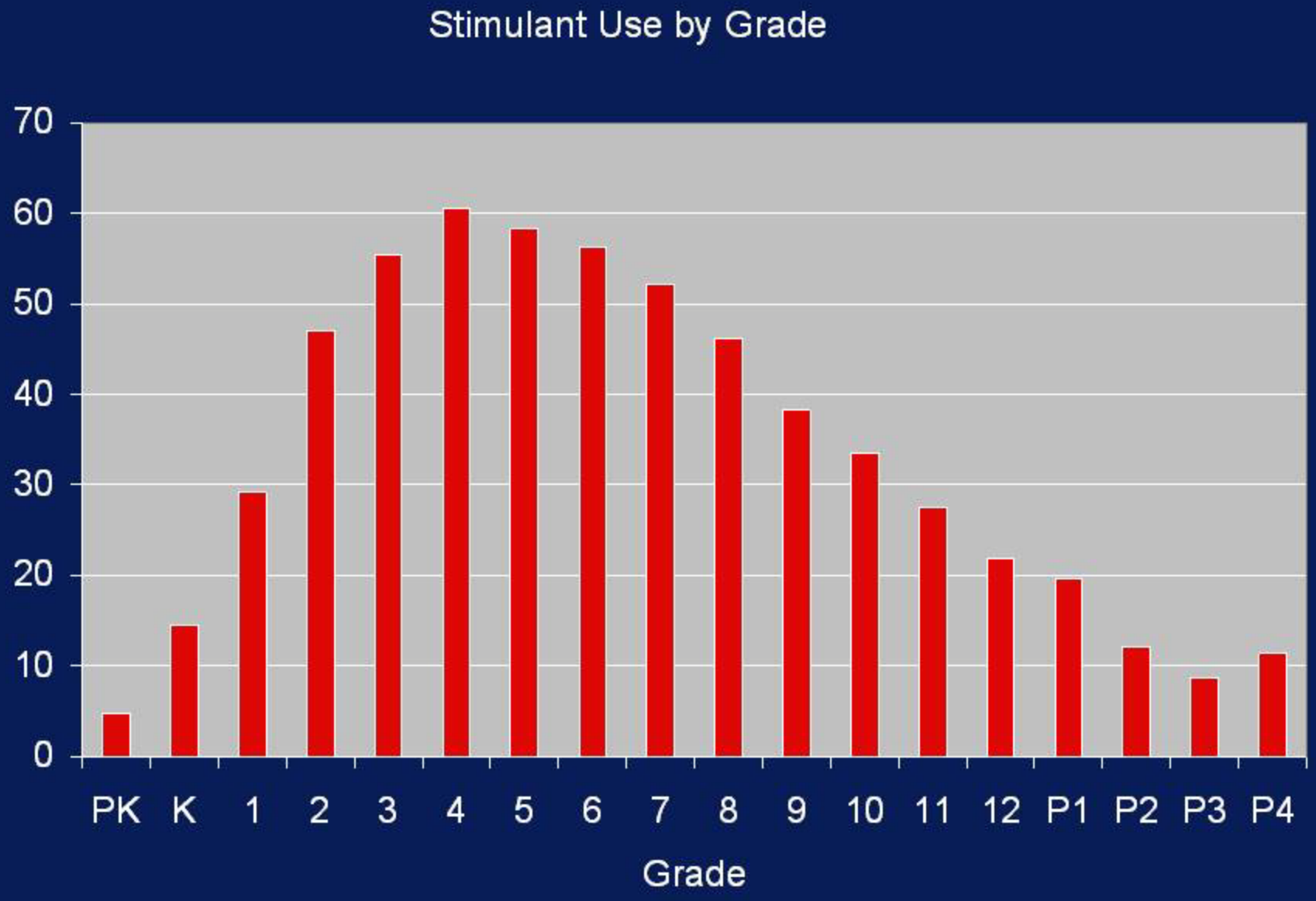
N = 184 ADHD and 92 Control subjects who report ever using marijuana

Treating ADHD in Adolescence

Methylphenidate Treatment in Adolescents

Smith et al, 1998




Stimulant Use by Grade
70
60
50
40
30
20
10
0
PK
K
1
2
3
4
5
6
7
8
9
10
11
12
P1
P2
P3
P4
Grade

Psychosocial Treatments: Adolescent Adaptations

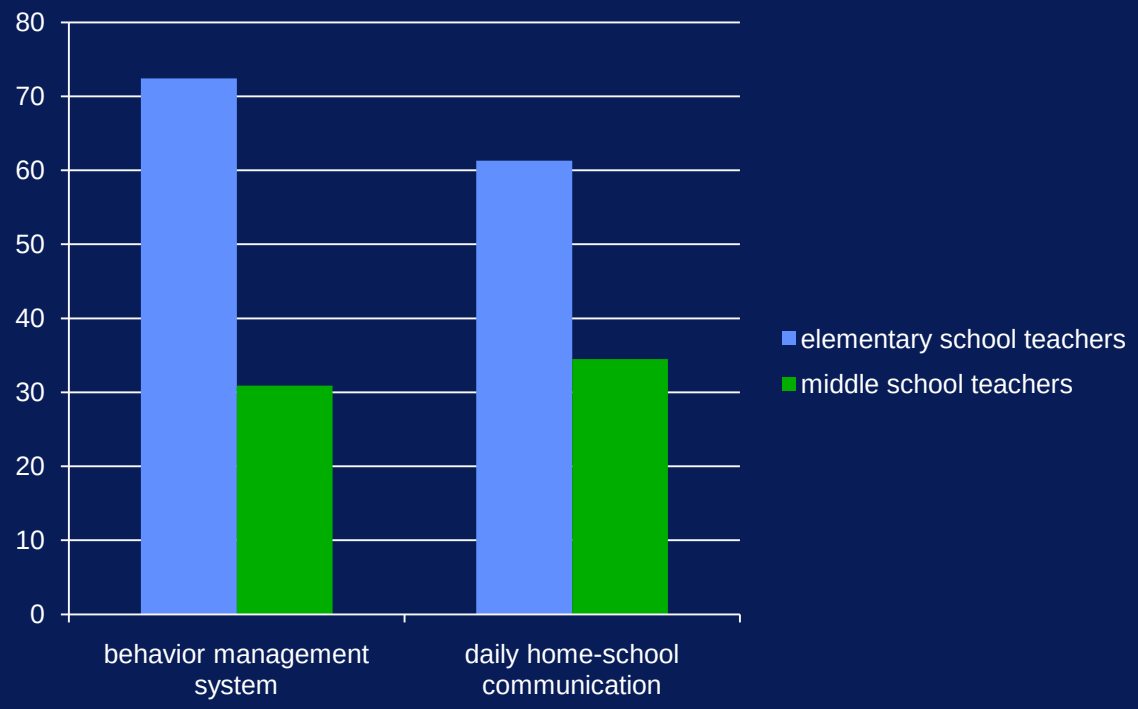
*<15 studies of adolescent psychosocial treatments

- **Parent Training**
  - Focus on adolescent issues
  - Parent-teen collaboration
- **School Interventions**
  - Focus on organization impairments and turning in assignments
  - After-school programs
  - Parent-teen-teacher collaborative model
- **Intensive Adolescent-focused Interventions**
  - Summer Treatment Program for Adolescents (STP-A)
  - Teaching skills to overcome ADHD-related problems of adolescence

Parent Training

- **Curriculum:**
  - Monitoring
  - Privilege Removal
  - Grounding
  - Increasing Home-School Communication
  - Homework time and Organization
  - Teaching Parent-Teen Contract Negotiation Skills

School Interventions



School Interventions

- **Supporting Teens' Academic Needs Daily (STAND)**
- **Parent-teen-teacher collaborative intervention**
- **Targets ADHD and related academic impairment in middle school**
- **Teaches parents:**
  - To monitor academic goals at home
  - To communicate effectively with teachers about academic goals at school
  - To reinforce success on these goals with a comprehensive home privilege program
  - To involve adolescents in their own treatment

Parent-Teen-Teacher Collaboration

- **Each party can play an important role in treatment**
- **Collaboration improves academics and behavior in middle school students with school problems**
- **Technology can facilitate collaboration**
- **Soliciting teacher input in treatment planning increases teacher buy-in.**
- **Treatment individualization will enhance compliance**

Forgatch & Ramsey, 1994; Schumaker et al., 1977; Dolezal et al., 2007; Hutchins et al., 1989; Kaufman & O'Leary, 1972; Shapiro et al., 1996

School interventions

Daily Privilege Program-**Zach**

1.	Catches the bus in the morning.	Y	N
2.	Writes down all homework properly in daily planner.	Y	N
3.	Turns in all homework.	Y	N
4.	Arrives on time and prepared to at least 4 of 5 classes.	Y	N
5.	Receives at least 80% on binder organization checklist.	Y	N
6.	Completes all homework neatly and thoroughly.	Y	N
7.	Studies 15 minutes for Latin using flashcards.	Y	N

Daily Privileges:

In order to be eligible for Level 1 Zach must meet at least 6 daily goals (see above):

Level 1 Privileges: Unlimited television, facebook, and cell phone use after all homework is completed.

In order to be eligible for Level 2 Zach must meet at least 5 daily goals (see above):

Level 2 Privileges: One hour of television, facebook, and/or cell phone use after all homework is completed.

If Zach meets 4 or less daily goals, he will be assigned to Level 3:

Level 3 Restrictions: No television, facebook, and/or cell phone use for the evening.

LEVEL: _____

Weekly Privileges:

If Zach obtains Level 1 status for 4 or more days during the week, he will earn:

A weekend social outing (movie theatre, arcade, mall, Lasertron, skate park) with up to two friends.

If Zach obtains at least Level 2 status for 4 or more days during the week, he will earn:

One video game or movie rental of his choice during the weekend.

School Interventions

ORGANIZATION CHECKLIST	date								
1. Planner is secured by three rings so that it is the first thing you see when you open your binder.									
2. Binder is free of loose papers (are all papers secured in folder pockets or attached by three rings)?									
3. Homework Folder attached by three rings behind your planner.									
4. Inside the homework folder: homework assignments for A-Days are in the A-Day pocket.									
5. Inside the homework folder: homework assignments for B-days are in the B-day pocket.									
6. There is a folder for each class you are taking *attached by three rings*? (1. Health, 2. Science, 3. History, 4. Creative Writing)?									
7. Within each subject folder: All non-homework papers for that subject are securely in the pocket of the folder.									
8. The notes from each subject are organized and *secured by the three-rings* in the binder.									
9. All papers are in the correct section of the binder (no papers in the wrong section).									
10. All the papers that are in the binder are classroom related (no drawings, scrap paper, etc.)									
11. All belongings in bookbag are STP-appropriate.									
12. Bookbag is free from unnecessary clothing.									
13. Bookbag is free from loose papers and objects (pens, toys, magazines, etc).									
14. The books are neatly stacked (or shelved) with the spines facing out so that you can easily grab one in between classes.									
15. Your locker is free of loose objects (papers, pencils, pens, toys, magazines, etc.).									
16. Your locker is locked with a combination lock?									
What percent of your belongings are organized? Divide the number of Y's by 16 and then multiply by 100.									

STP-A

Time	A-Day	Time	B-Day
8:00-8:15	Arrivals	8:00-8:15	Arrivals
8:15-8:20	Transition	8:15-8:20	Transition
8:20-9:10	Classroom 1 (Health)	8:20-9:10	Classroom 3 (English)
9:10-9:15	Transition	9:10-9:15	Transition
9:15-10:05	Classroom 2 (History)	9:15-10:05	Classroom 4 (Science)
10:05-10:10	Transition	10:05-10:10	Transition
10:10-10:40	Organization Skills Training	10:10-10:40	Organization Skills Training
10:40-10:50	Transition	10:40-10:50	Transition
10:50-11:50	Sports Game	10:50-11:50	Sports Game
11:50-11:55	Transition	11:50-11:55	Transition
11:55-12:15	Free Lunch/ Detention	11:55-12:15	Free Lunch/ Detention
12:15-12:25	Transition	12:15-12:25	Transition
12:25-12:55	Business	12:25-12:55	Business
12:55-1:05	Transition	12:55-1:05	Transition
1:05-2:35	Jobs	1:05-2:05	Skill Drills
2:35-2:45	Transition	2:05-2:15	Transition
2:45-3:45	Skill Drills	2:15-2:45	Study Hall
3:45-3:55	Transition	2:45-2:55	Transition
3:55-4:25	Study Hall	2:55-4:25	Jobs
4:25-4:30	Transition	4:25-4:30	Transition
4:30-4:55	Daily Feedback/Free Time	4:30-4:55	Daily Feedback/ Free Time
4:55-5:00	Transition to Departure	4:55-5:00	Transition to Departure
5:00	Departures	5:00	Departures

Adolescent Program Secretary's Minutes

Date: 30th June

Chairman - Jordan

Shift manager - Grey

Business assistant - Sophia

accountant - Blake

advertising Representure - Mica

secretary - Darrel

Supplies -

Candy - Skittles, Chalate

Milk Shakes, - Milk, ice cream, Strawberries (fruit)

Movies, Combo meal,

Tickets.

JOB DAILY RATING FORM

Arrives on time at the appropriate place for work, follows general job rules and specific job description: (insert a job description from above)

On 7/22 (date), CJ (name) 3 (Level)

(Circle one)

1	2	3	4	5
Far Below	Slightly Below	Met	Slightly Above	Far Above Job Expectations

Reason for job performance rating: Had to repeatedly remind CJ to focus + behave, Not being productive

Performed Contract Tracking System Negative Behavior	Frequency:		
Aggression Toward a Peer or Toward a Staff Member	0	1	Over 1
Destruction of Property	0	1	Over 1
Repeated Noncompliance	0	1	Over 1
Stealing	0	1	Over 1
Leaving Job Site without Permission	0	1	Over 1
Lying	0	1	Over 1
Verbal Abuse to Staff	0	1	Over 1
Name Calling/Teasing	0	1	(Over 1)
Cursing/Swearing	0	1	Over 1
Interruption	0	1	Over 1
Complaining/Whining	0	1	Over 1

Comments:

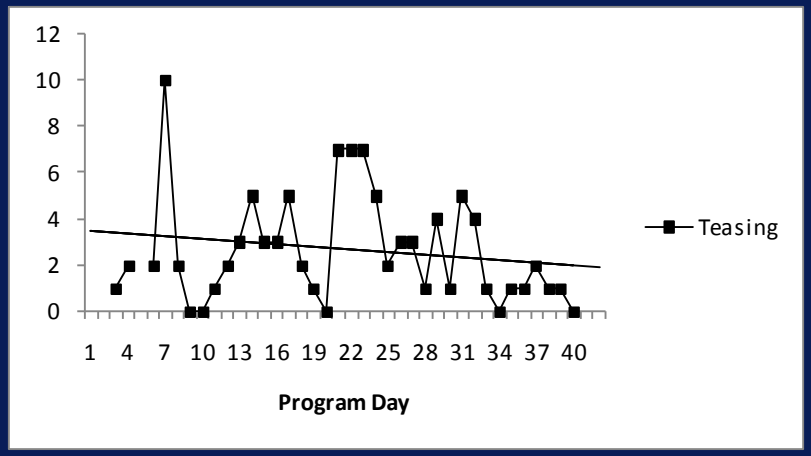
Earnings:

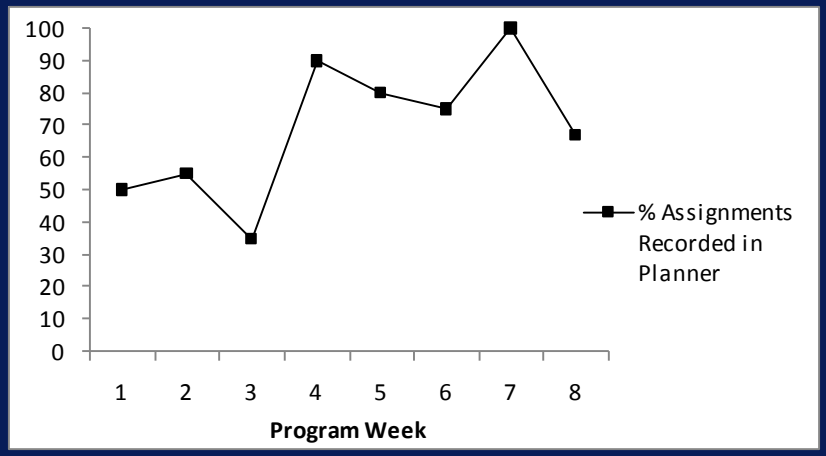
Rating:	1	2	3	4	5
Level 2	($0.50)	$1.00	$2.00	$3.00	$4.00
Level 1/Honors	$1.00	$2.00	$3.00	$4.00	$5.00

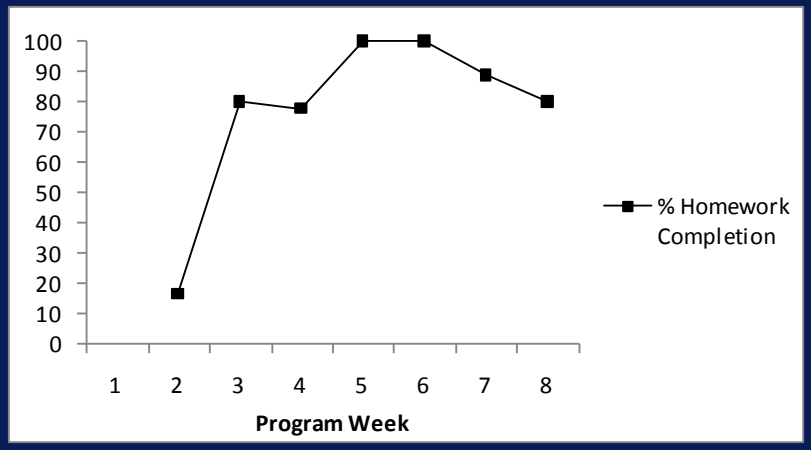
Success during STP-A

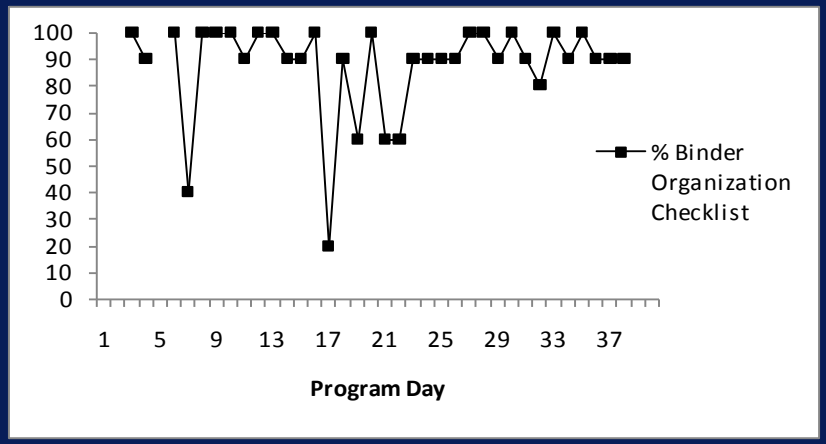
Benchmarks for Success during Final Three Weeks of STP-A	
	% meeting criteria
Recorded History notes with at least 80% or higher accuracy (on average)	68.4
Received a C average or higher on quizzes[a]	36.8
Received a 3 or higher on the final Creative Writing draft[b]	80.0
Turned in at least 80% of homework assignments	89.5
Received at least 80% on binder organization checklist (on average)	100.0
Recorded at least 80% of week's assignments in planner (on average)	89.5
Stayed on-task for at least 80% of study hall (on average)	67.7
Exceeded Daily Job expectations (on average)	89.5
Received a 90% or higher success ratio (on average)	67.7

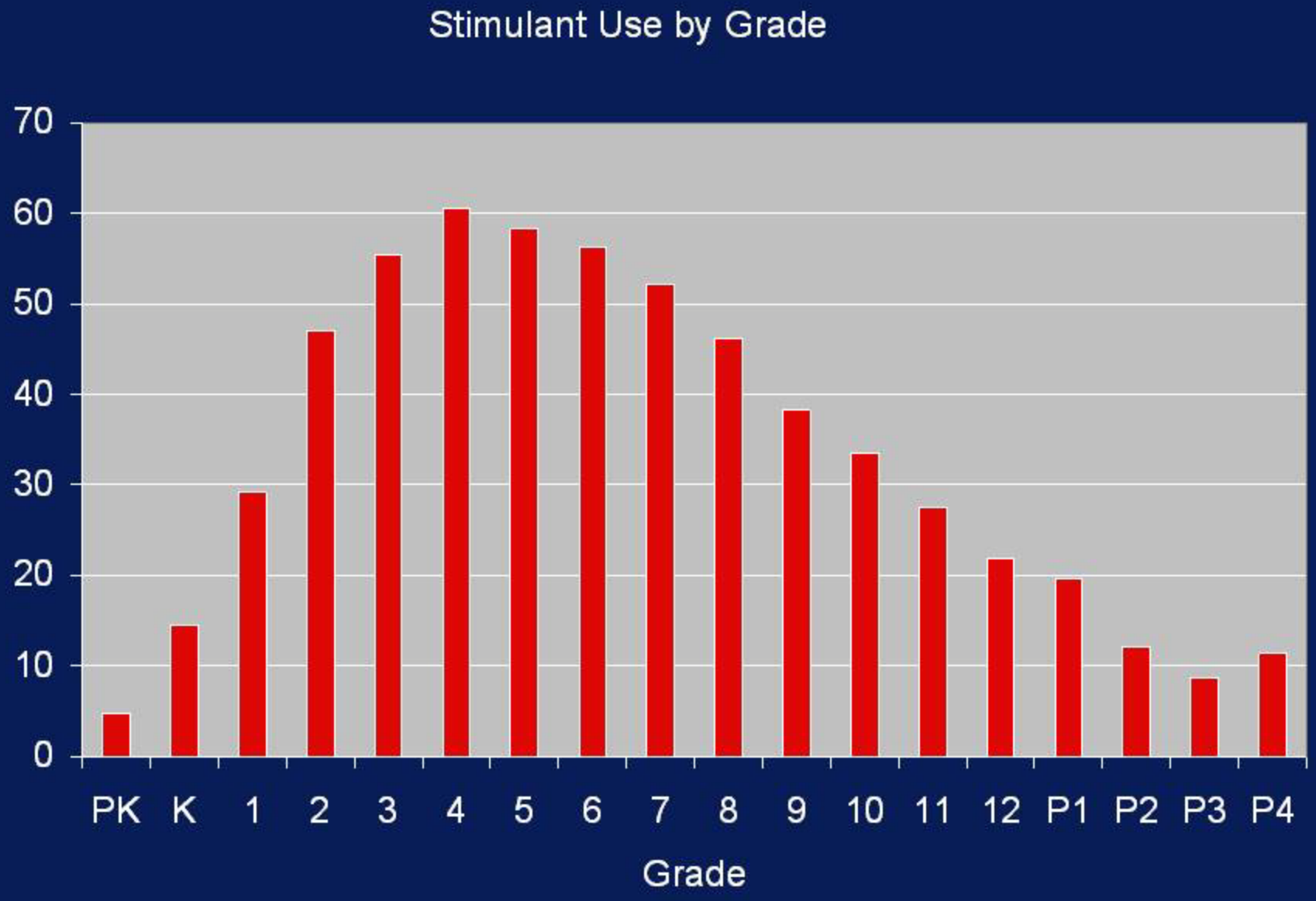
Success during STP-A










Stimulant Use by Grade
70
60
50
40
30
20
10
0
PK
K
1
2
3
4
5
6
7
8
9
10
11
12
P1
P2
P3
P4
Grade

Summary: Components of Effective, Evidence-based, Comprehensive Treatment

- Parent Training--Use always
- School Intervention--Use always
- Child Intervention--Use when indicated
- Medication--Use when needed

Questions the Treatment Research Field Has Not Yet Answered

How to decide what treatments a child needs?

Should behavioral treatment begin before medication (parent preference) or vice versa (physician practice) or should they be implemented simultaneously (as in the MTA Study).

What are the best “doses” of psychosocial, pharmacological, and combined treatments?

If one or the other modality is begun first, how long should it be conducted and at what dose before adding in the second modality?

What are the implications of different doses and sequences for treatment dosing, benefit, and risk of side effects?

These are the questions that families, practitioners, and educators face daily, but they have not been studied.

Our Program of Research 2002-2009

Four studies funded by NIMH and IES that examine dose effects and sequencing effects:

(1) Controlled examination of 3 levels of behavior modification (none, low intensity, high intensity) crossed with 4 doses of medication in a summer program setting and at home

(2) Follow up to (1): School-year evaluation of effectiveness and need for medication after beginning the year on one of 3 behavior modification levels (none, low intensity, high intensity)

(3) Evaluation of effectiveness and need for medication in young ADHD children beginning treatment (home, school, peers, academic) with one of the same behavior modification levels as above (with adaptive components) and continuing without fading for 3 years (to pass peak period for medication use)

(4) SMART (sequential, multiple, adaptive, randomized trial) design to examine whether to begin treatment with medication or behavior therapy and, when nonresponse, whether to add the other modality or increase the intensity of initial modality

What about Multimodal Treatments that Combine Behavior Modification and Medication?

Dose-Response Effects of Behavior Modification, Medication, and their Combination in ADHD Children in a Summer Setting

Pelham, Burrows-McLean, Gnagy, Fabiano, Coles, Hoffman, Massetti, Waxmonsky, Waschbusch, Chacko, Walker, Wymbs, Robb, Arnold, Garefino

(NIMH 2001-2006)

Study 1 Design

48-52 ADHD children per summer for 3 summers

4 Medication conditions: placebo and 3 doses of methylphenidate (.15mg/kg, .3 mg/kg, .6 mg/kg, t.i.,d.), with order varying daily within child for 9 weeks

3 Behavioral Modification conditions: No behavioral treatment (NBM), low-intensity (LBM) treatment, and high-intensity (HBM) treatment (BM), varying triweekly in random order by treatment group

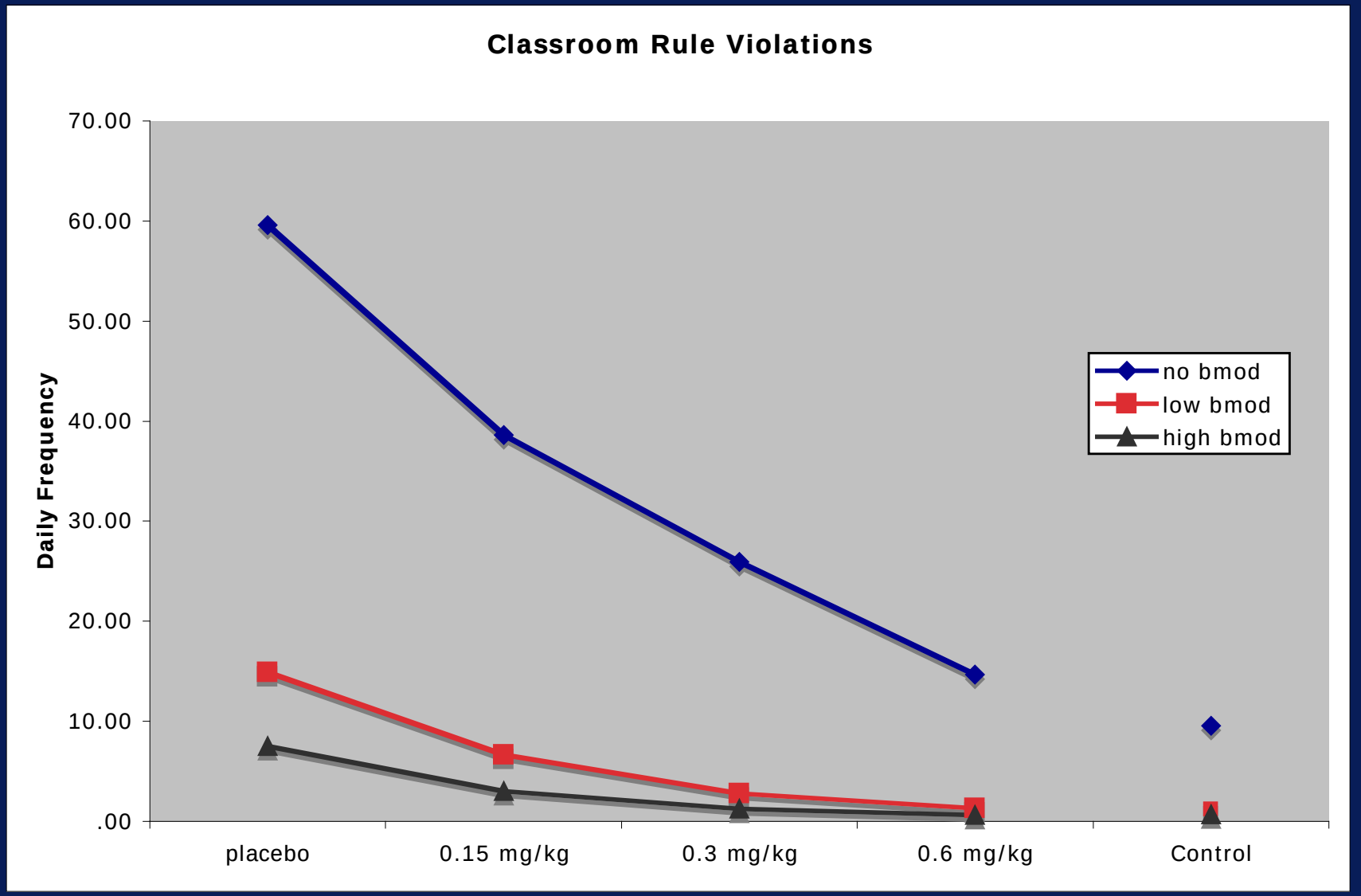
3-4 days per medication X Bmod condition.

NonADHD comparison group (24/summer).

Comparative and Combined Treatments for ADHD

3, 3-week Behavior Modification conditions assigned randomly:

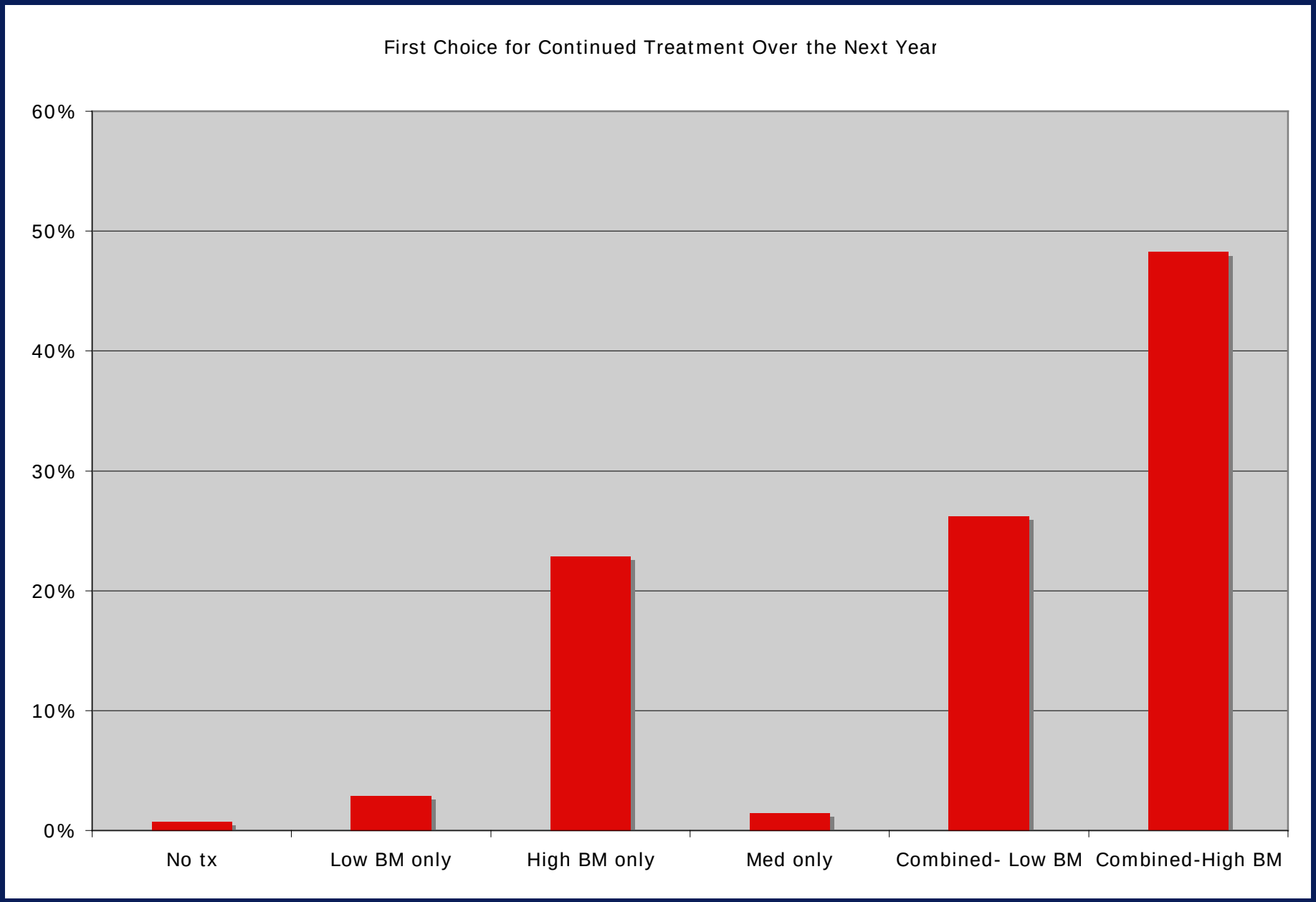
High Intensity BMod	Low Intensity BMod	No BMod
Daily Crossover of 4 Med conditions: Placebo .15 mg/kg MPH .3 mg/kg MPH .6 mg/kg MPH	Daily Crossover of 4 Med conditions: Placebo .15 mg/kg MPH .3 mg/kg MPH .6 mg/kg MPH	Daily Crossover of 4 Med conditions: Placebo .15 mg/kg MPH .3 mg/kg MPH .6 mg/kg MPH



(Fabiano et al, School Psychology Review, 2007)

Percentages of ADHD Children Within 2 SDs of Control Mean in Each Treatment Condition.

	Rule Viol.	Interr-uption	Neg. Verbal.	Class Rule Viol.	Work Completion
Placebo					
NBM	37.5%	39.5%	39.5%	34.2%	23.7%
LBM	56.6%	55.3%	53.3%	66.4%	56.6%
HBM	62.5%	66.4%	66.4%	73.0%	64.5%
.15 mg/kg					
NBM	59.2%	54.6%	55.9%	55.3%	55.3%
LBM	74.3%	74.3%	74.3%	83.6%	75.7%
HBM	83.6%	85.5%	82.9%	90.8%	88.2%
.3 mg/kg					
NBM	73.7%	70.4%	65.1%	63.2%	60.5%
LBM	83.6%	84.9%	81.6%	94.7%	86.8%
HBM	88.2%	92.8%	88.2%	97.4%	90.8%
.6 mg/kg					
NBM	82.2%	78.9%	73.0%	80.9%	65.8%
LBM	92.8%	91.4%	87.5%	98.0%	85.5%
HBM	93.4%	95.4%	94.1%	99.3%	90.1%


First Choice for Continued Treatment Over the Next Year
60%
50%
40%
30%
20%
10%
0%
No tx
Low BM only
High BM only
Med only
Combined- Low BM
Combined-High BM

Conclusions

Both medication and behavioral treatment produced significant and generally comparable effects (moderate to large effect sizes) on nearly all measures of functioning in recreational and classroom settings.

On most measures, the combination of the lowest dose of medication (a very low dose) and LBM produced as much and sometimes more change than did the four-times-higher doses of medication in the NBM condition and more change than LBM and HBM alone.

There were no side effects at this low dose and many side effects at the higher doses.

Thus, combined treatment allows low doses of medication

Conclusions

The highest dose, which was necessary to optimize effects in the absence of BM, was twice that utilized in the MTA combined treatment group and 50% greater than the Medmgt group, suggesting that optimal doses of medication in the absence of all behavioral treatments requires very high doses.

Notably, at the high dose levels of *either* condition, there were little incremental benefits of adding the *other* intervention. High doses of either treatment make the other unnecessary.

Finally, parents strongly preferred psychosocial approaches or combined approaches, never medication alone.

Limitation: Analogue setting and treatments were implemented simultaneously. What would have happened in natural settings and if BM were implemented first?

School-based Behavioral Interventions Following a Summer Treatment Program for Children with ADHD: Impact on Need for Medication

Coles, Fabiano, Pelham, Burrows-McLean, Gnagy, Hoffman, Massetti, Waxmonsky, Waschbusch, Chacko, Walker, Wymbs, Robb, Arnold, Garefino

(NIMH 2003-2007)

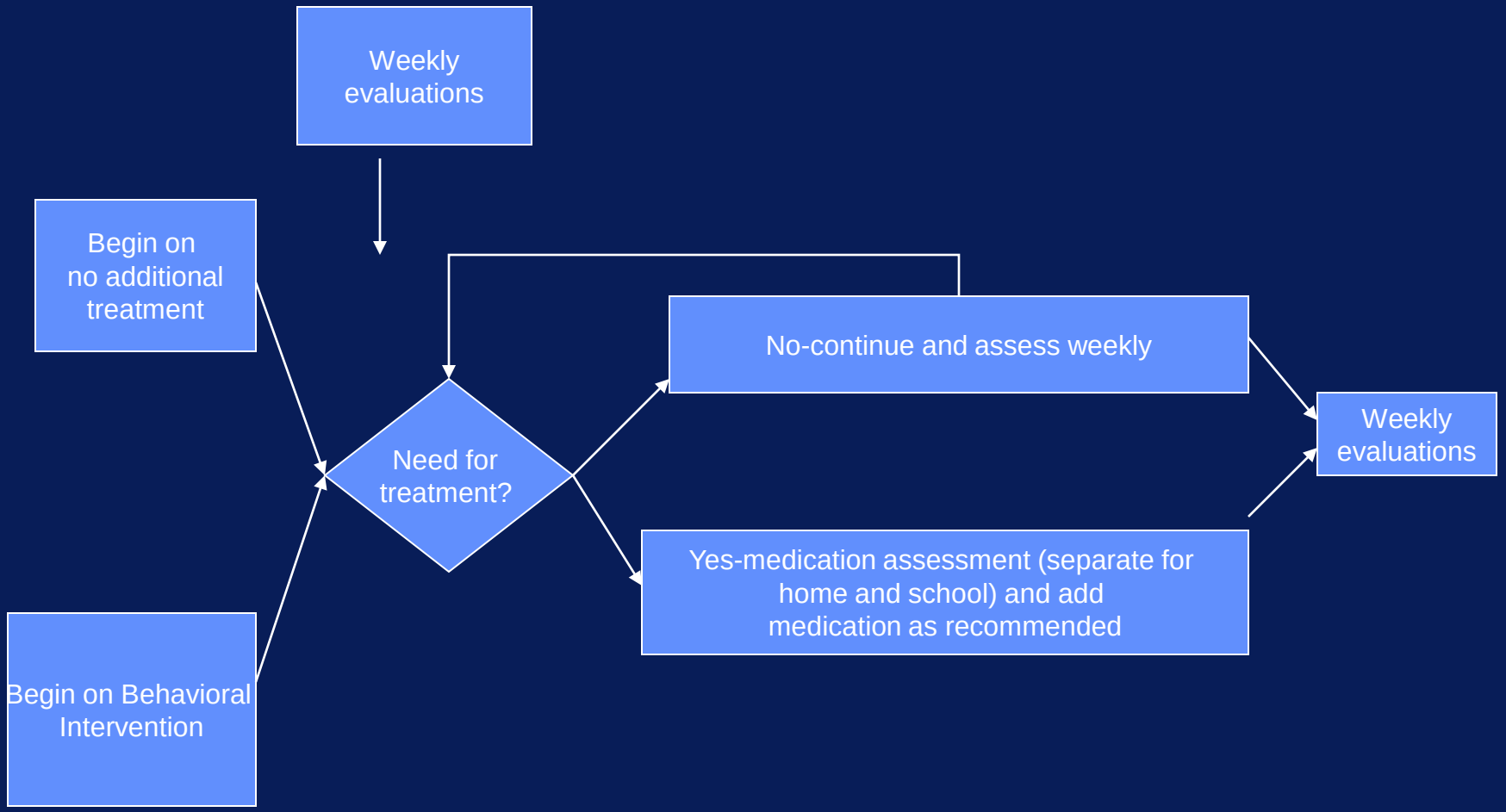
Study 2 Design

128 participants from the Study 1 were randomly assigned to one of two groups for follow-up treatment:

Behavior modification consultation (BM; N=87)

No behavior modification consultation (NBC; N=41)

School Year Follow-Up



Procedures

BC group: teachers received three initial consultation visits at the beginning of the school year aimed to improve existing classroom behavior modification programs and to institute a daily report card.

Parents also received monthly group booster parent training meetings.

Teachers and parents eligible to receive additional individual meetings if behavior ratings indicated impairment or as otherwise needed.

NBC group: received no consultation from the study staff.

Procedures

Teachers and parents in both groups completed weekly ratings of ADHD symptoms and impairment.

If ratings indicated the need for additional treatment or special services for two weeks in a row, and both parents and teachers agreed that medication was indicated, a medication assessment (Pelham, 1993) was conducted to select the optimal dose and children began a medication regimen.

Medication was introduced in a step-wise manner. Only after a medication regimen was established in school could a medication trial be initiated in the home.

How Did We Assess Functioning Weekly?

- **Individualized Target Behavior Evaluation**
  - DRC for children in the behavioral condition
  - Same form done by teacher in NoBemod condition but no feedback to child/parents
- **Impairment Rating Scale**
  - Adapted for ongoing evaluation of need for additional treatment

Daily Report Card/Individualized Target Behavior Evaluation

Child's Name: _____ **Date:** ____

	LA		Math		Reading		SS		Sci.	
Follows class rules with no more than 3 rule violations per period.	Y	N	Y	N	Y	N	Y	N	Y	N
Completes assignments within the designated time.	Y	N	Y	N	Y	N	Y	N	Y	N
Completes assignments at 80% accuracy.	Y	N	Y	N	Y	N	Y	N	Y	N
Complies with teacher requests. (< 3 noncompliance per period)	Y	N	Y	N	Y	N	Y	N	Y	N
No more than 3 teasings per period.	Y	N	Y	N	Y	N	Y	N	Y	N

OTHER

Follows lunch rules (<3 violations).	Y	N
Follows recess rules (<2 violations).	Y	N

Total Number of Yeses/Nos: _____
Teacher's Initials:

Comments: _____

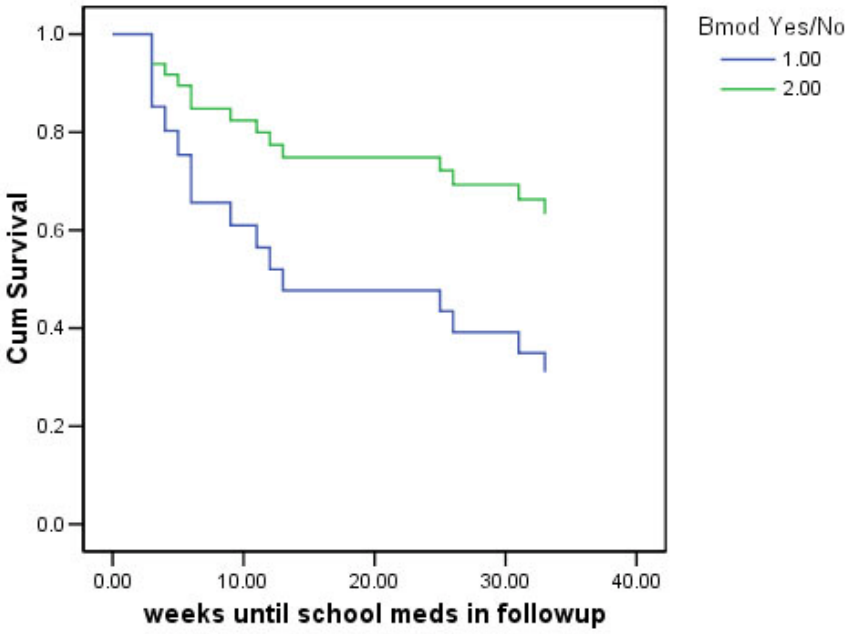
_____

_____

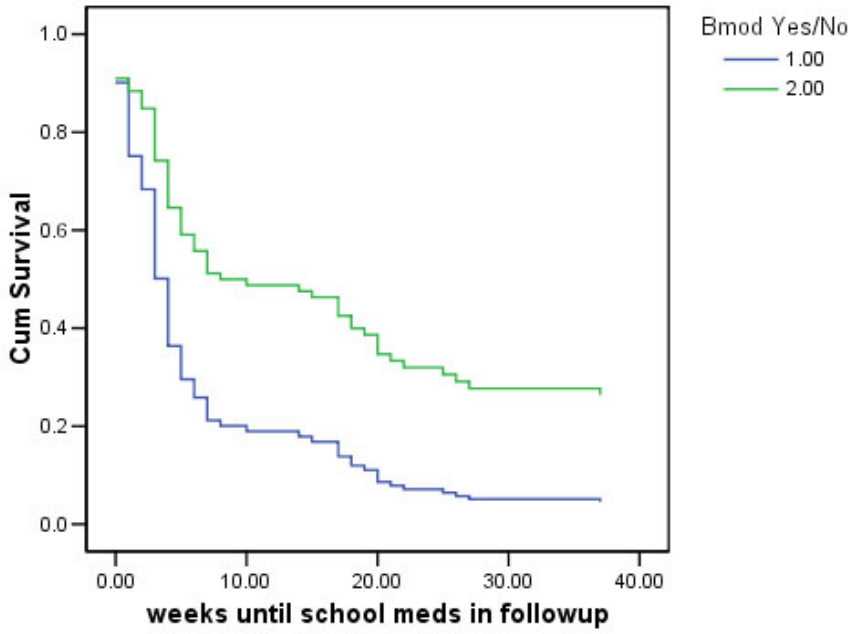
School Survival Curves

Coles et al, NCDEU, 2008

No Previous School Medication



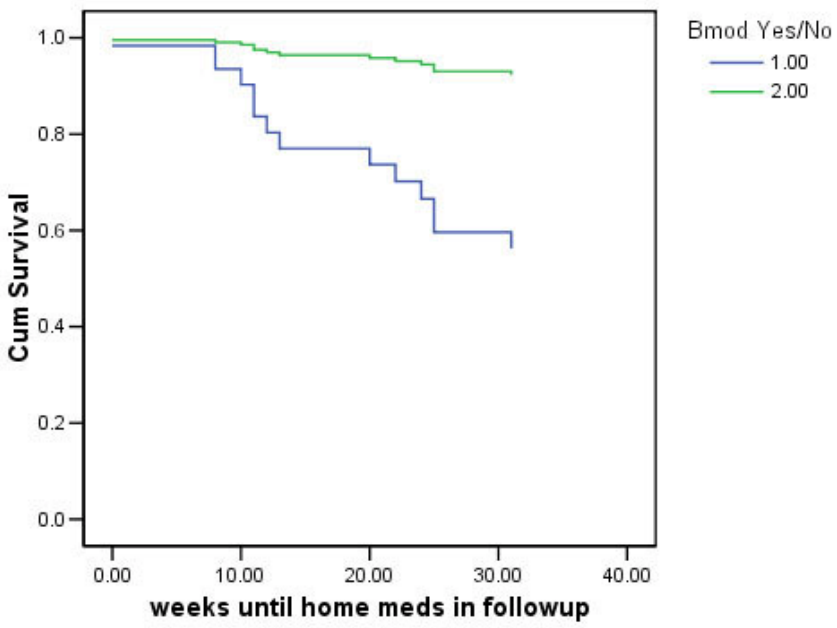
Previous School Medication



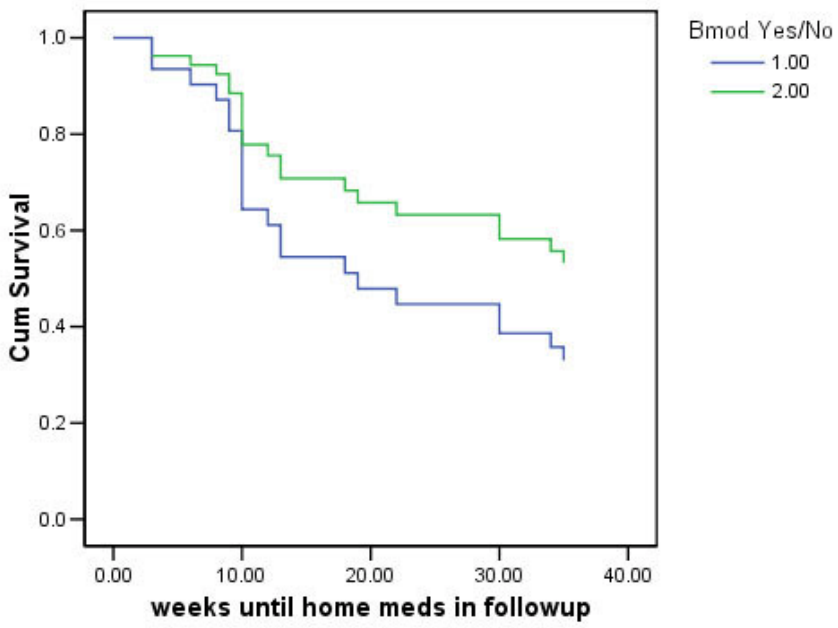
Home Survival Curves

Coles et al, NCDEU, 2008

No Previous Home Medication



Previous Home Medication



Conclusions

During the Fall, nearly twice as many children--60% vs 30%--were maintained off medication in the behavioral consultation groups compared to no consultation.

With only one additional teacher consultation being used per group, it is not surprising that more children were medicated at school as the school year progressed.

The majority of children who received parent training (booster group parent sessions) remained off medication in the home setting—even most of those who received summer behavioral parent training without further follow-up remained medication-free at home.

Children who had been medicated prior to the summer study were far less likely to survive medication-free than medication naïve children—the only predictor of survival.

The majority of medication naïve children survived both at home and at school without medication

Limitations

All children had received both medication and intensive behavior modification (STP and BPT) in the summer (Study 1); the majority of children had been medicated prior to the STP and during the STP

As discussed above, individual behavioral consultations following the initial few were driven (after the first few sessions) by teacher/parent request, rather than therapist-determined, and most parents and teachers used few additional services.

Could these behavioral strategies prevent need for and use of medication over a long time period, is more flexibility needed to adapt the behavioral strategies to the child's need over time, and is it necessary to have medication naïve children in studies like this?

Adaptive Pharmacological and Behavioral Treatments for Children with ADHD: Sequencing, Combining, and Escalating Doses

William E. Pelham, Jr., Lisa Burrows-MacLean, James Waxmonsky, Greta Massetti, Daniel Waschbusch, Gregory Fabiano, Martin Hoffman, Susan Murphy, E. Michael Foster, Randy Carter, Elizabeth Gnagy, Jihnhee Yu

(IES 2006-2010)

Specific Aims

1) How does an initial treatment strategy that includes either medication or behavior modification influence response to treatment and need for additional treatment?

2) When additional treatment is needed, what are the relative benefits of increasing the dosage of the initial treatment versus adding the other treatment modality?

3) Is dosage in medication usage reduced as a function of treatment strategy?

4) Is intensity of behavior modification reduced as a function of treatment strategy?

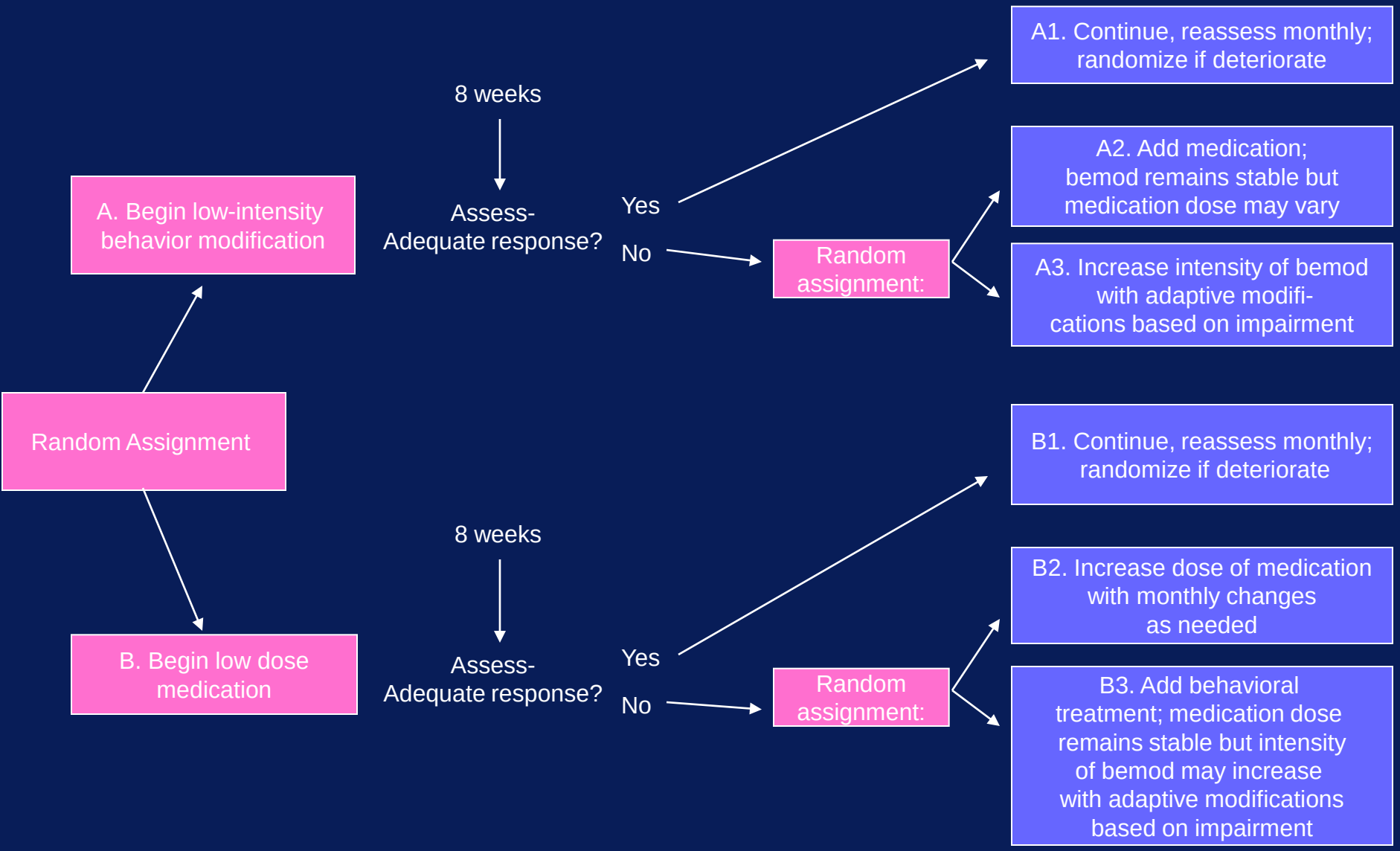
Specific Aims

5) Do these strategies differentially impact parent satisfaction with treatment and future use of treatments?

6) In what way do individual difference variables (e.g., severity of impairment, comorbid child psychopathology, prior medication history, parent and teacher treatment acceptability, parental characteristics, SES) influence the answers to questions addressed above?

7) What is the relative cost-effectiveness of these treatment strategies?

Study Design



Indicator of Need for Additional Treatment at 8-week and Subsequent Assessments:

(1) Average performance on the ITB is less than 75% AND

(2) Rating by parents or teachers as impaired (i.e., greater than 3) on the IRS in at least one domain.

Treatment decisions and content are tailored to the specific domains of impairment rated on the IRS

Preliminary Outcomes
(Pelham, Fabiano et al, 2008)

HOME SETTING
•By the end of the school year, 85% of children in Medication first and 76% in Bemod first were rerandomized—that is, required intervention beyond no medication or a low dose of behavioral treatment (8 group PT sessions).

SCHOOL SETTING:
•By the end of the school year, 49%% of Med First and 64% in Bemod first were rerandomized (that is required intervention beyond a .15 mg/kg dose b.i.d. of MPH or a Daily Report Card)

Preliminary Outcomes

(Pelham, Fabiano et al, 2008)

- Of participants assigned to receive medication first, 12% refused medication.

- Of participants assigned to receive behavioral treatment first, no one refused behavioral treatment; 97% attended at least one and 69% attended at least 75% of 8 assigned parent training sessions; 100% of children had the school intervention implemented.

Preliminary Outcomes

(Pelham, Fabiano et al, 2008)

- Of children rerandomized to receive medication after the initial course of BMOD, 25% refused medication.

- Of children rerandomized to receive BMOD after the initial course of medication, only 41% of families attended at least one and 16% at least 75% of 8 assigned group parent training sessions. None refused the school intervention.

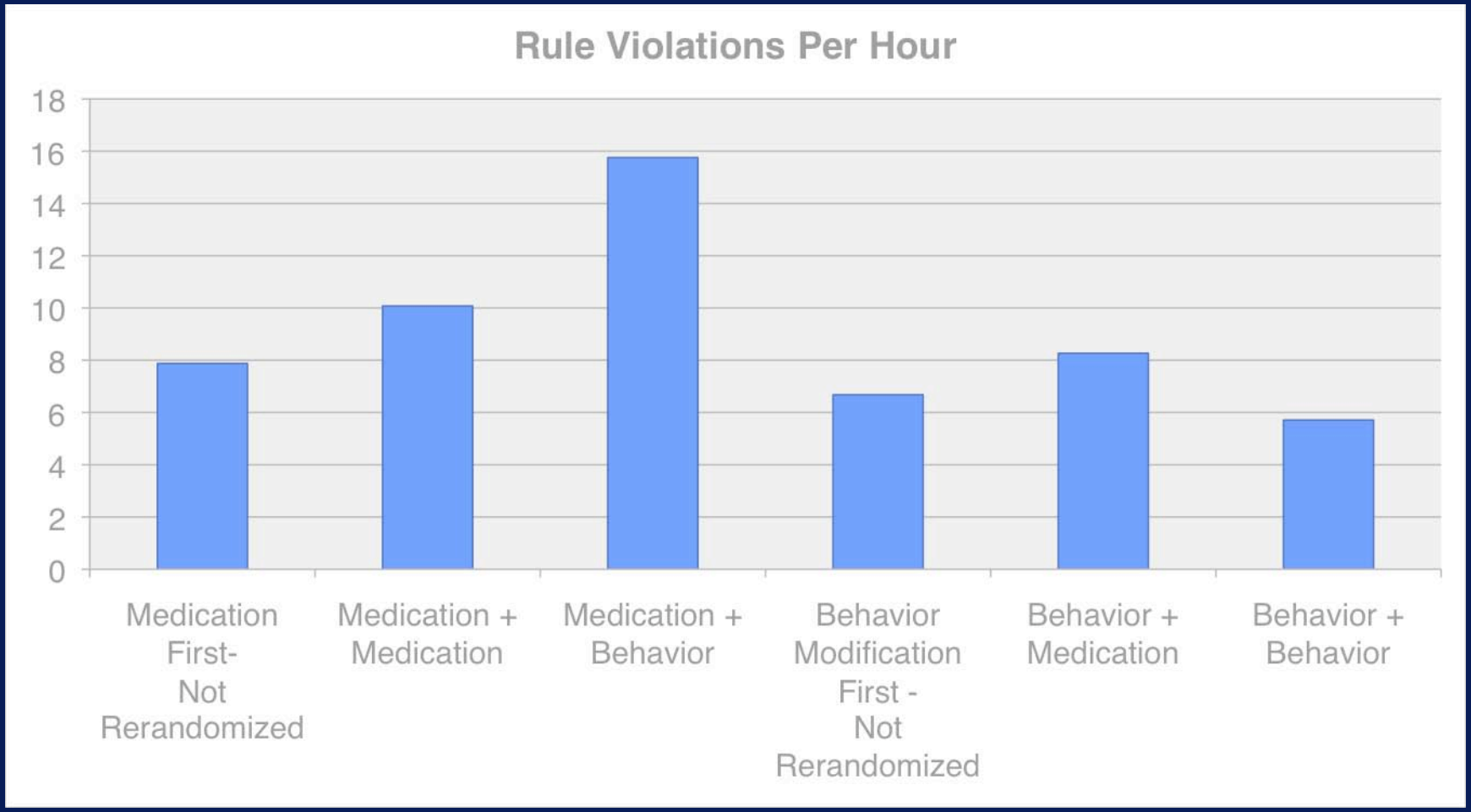
Adaptive Treatment

- **Groups at End of Treatment**
  A. Medication responders N = 38
  B. Medication – increase dose N = 19
  C. Medication – add BMOD N = 16
  D. BMOD responders N = 24
  E. BMOD – increase intensity N = 25
  F. BMOD – add medication N = 23

Adaptive Treatment Analysis Strategy

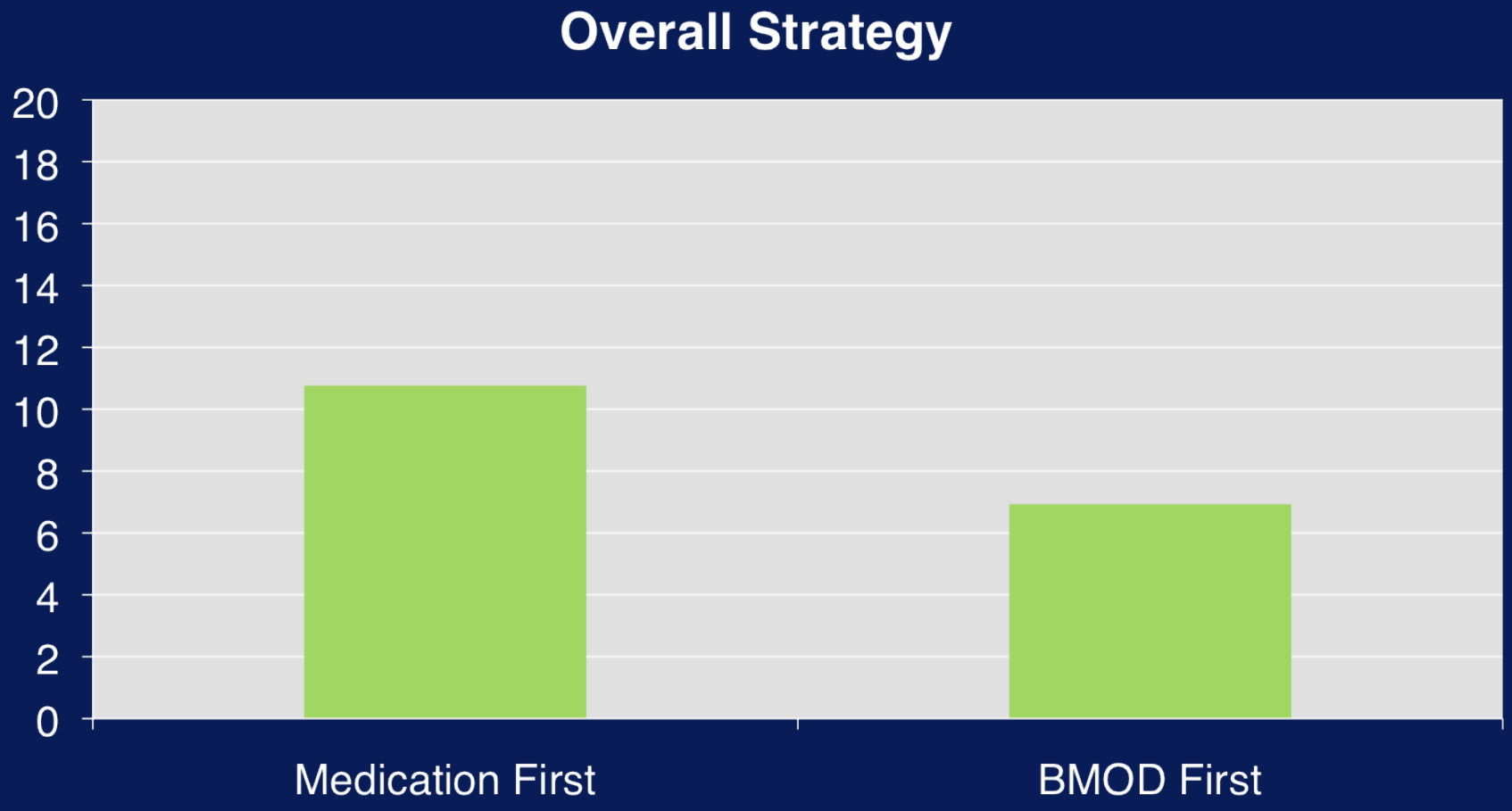
- All analyses include initial treatment responders
- Compare overall strategy of beginning treatment with medication vs. behavior modification (ABC vs. DEF)
- Compare increasing dose/intensity of medication vs. behavior modification (AB vs. DE)
- Compare sequencing of adding BMOD to med vs. adding med to BMOD (AC vs. DF)
- Within initial treatment strategies, compare increasing dose/intensity of treatment vs. switching to combined treatment (B vs. C; E vs. F)

Adaptive Treatment Classroom Observations



Overall mean = 8.39 violations per hour

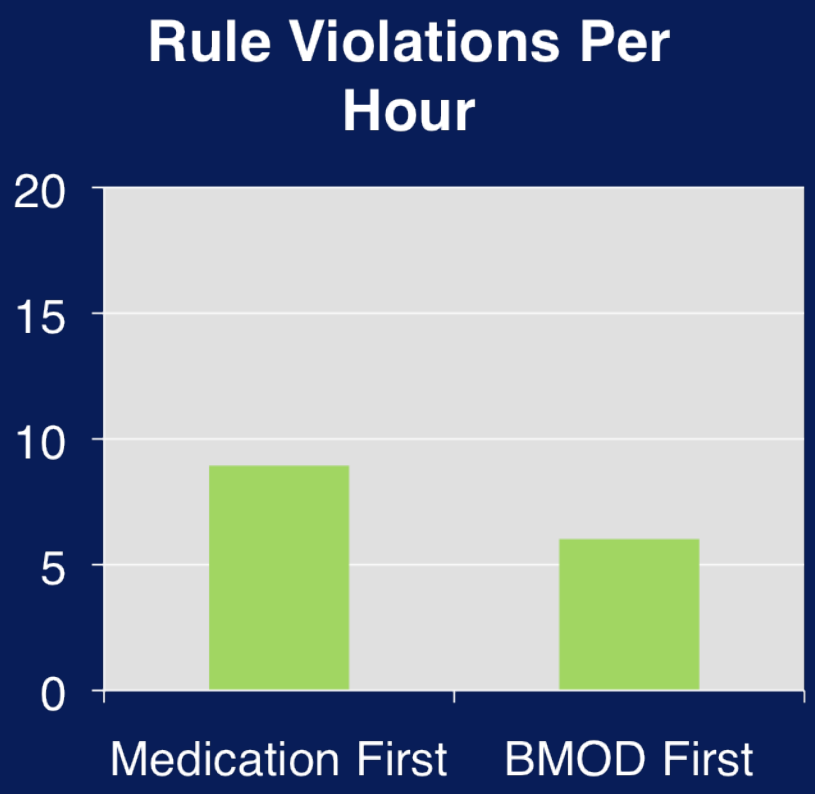
Adaptive Treatment Classroom Observations



$p < .05$

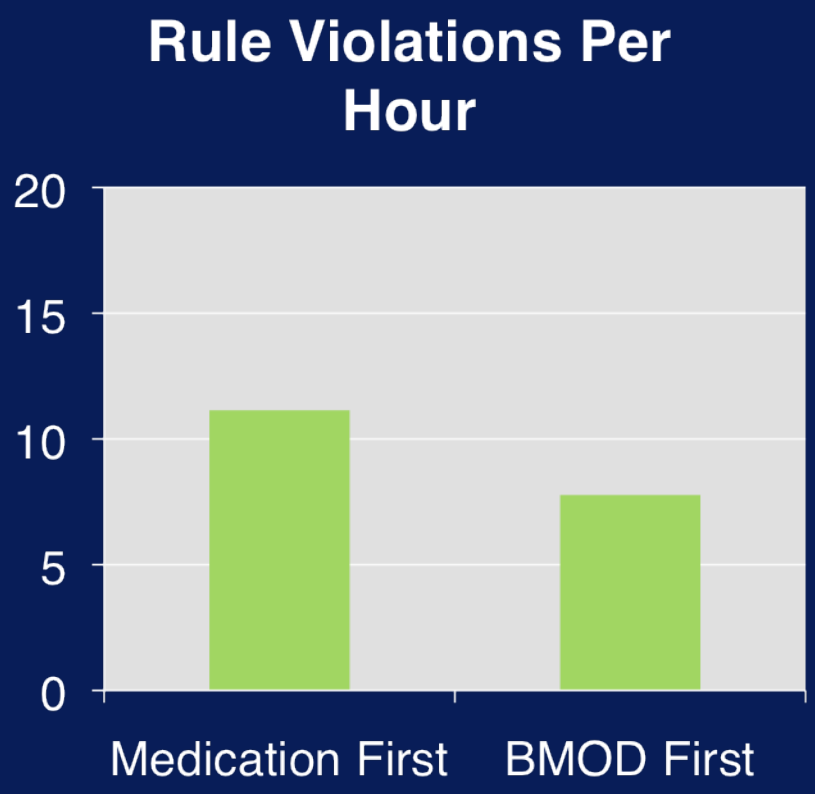
Adaptive Treatment Classroom Observations

Increased Initial Treatment



$p < .10$

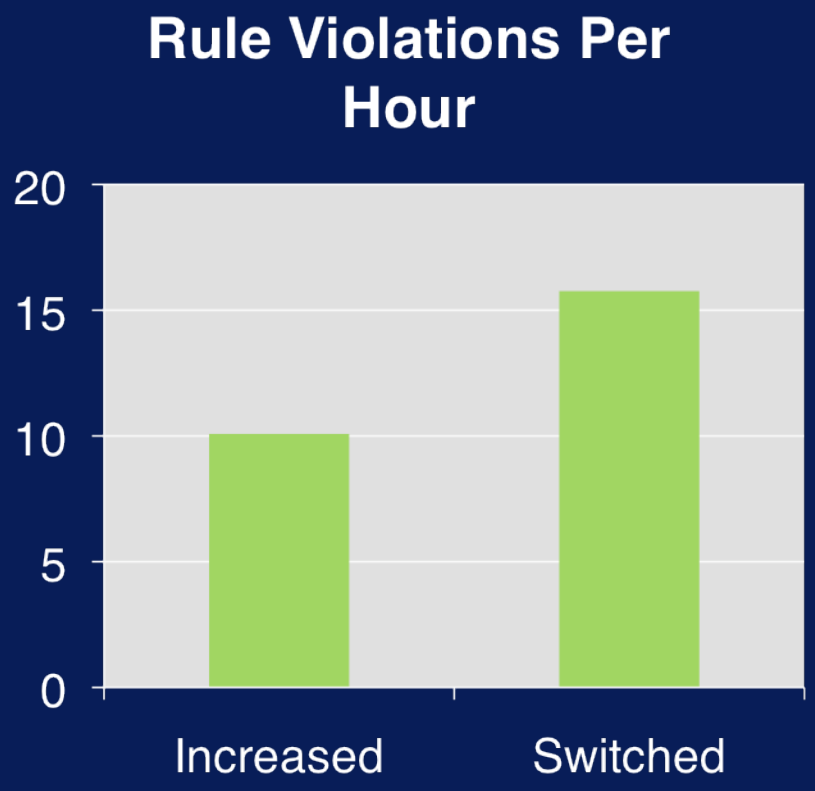
Switched to Combined Treatment



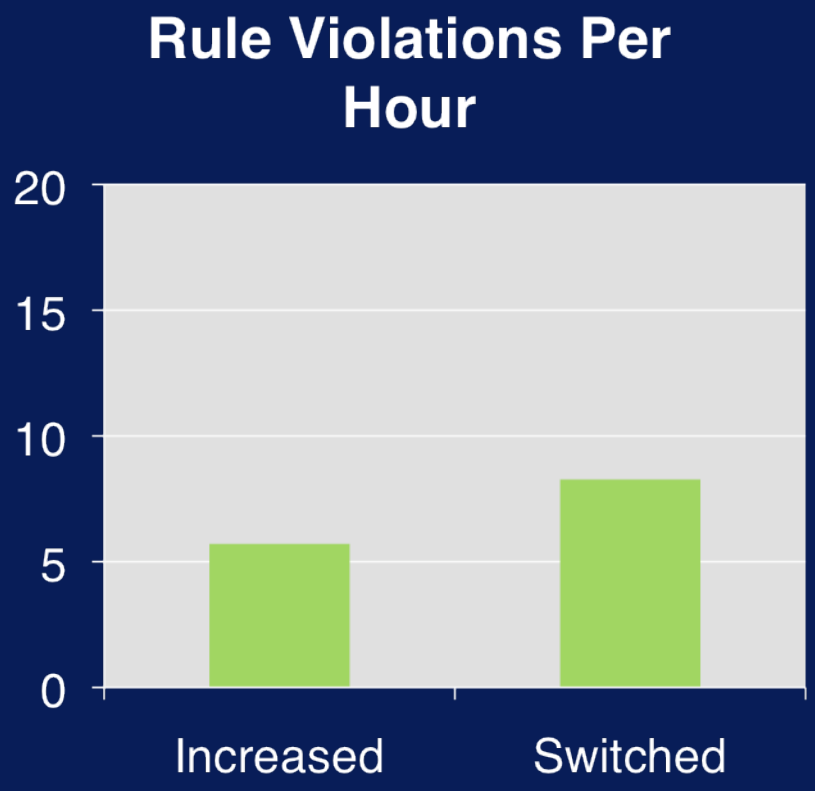
$p = .059$

Adaptive Treatment Classroom Observations

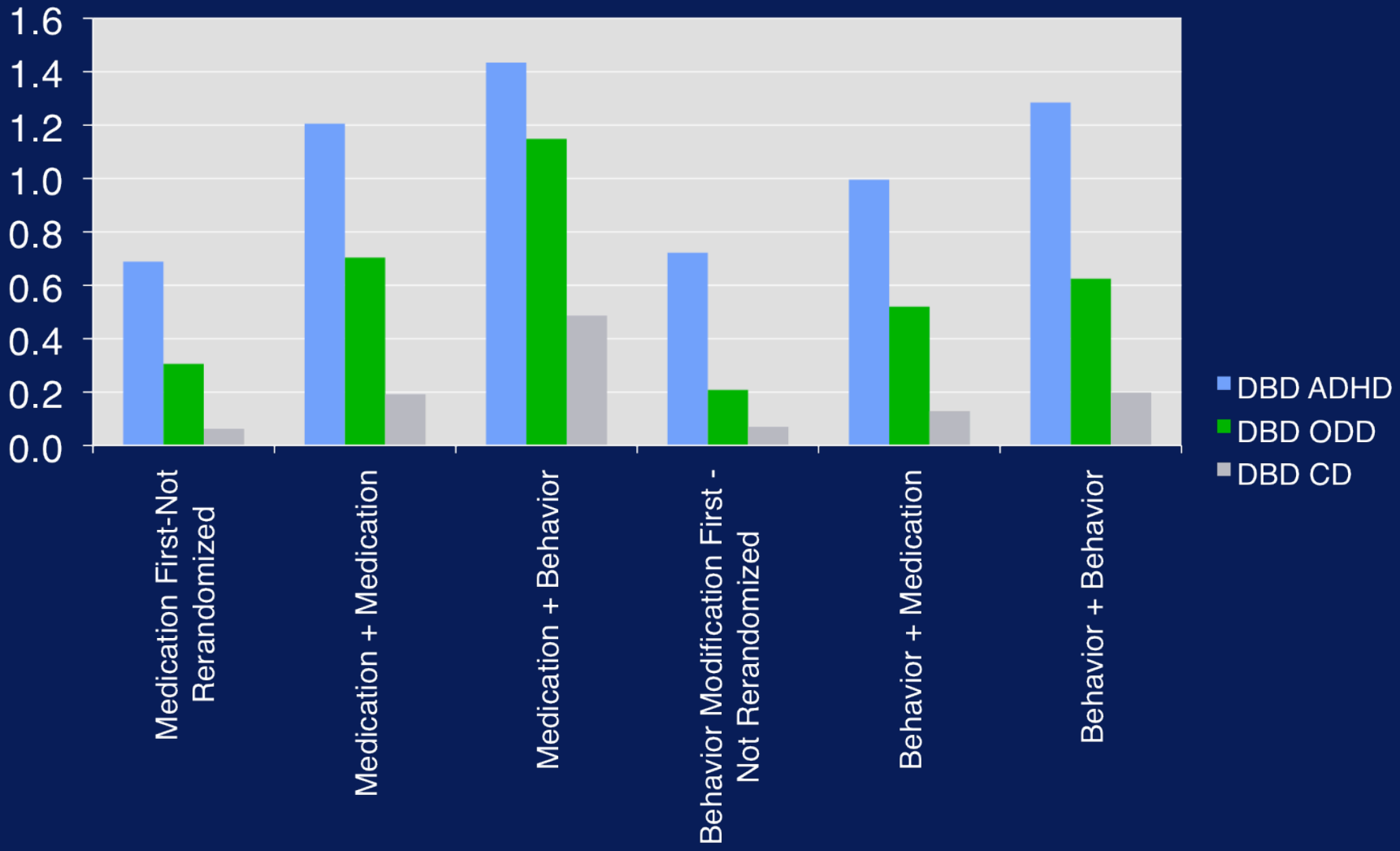
Within Medication-First



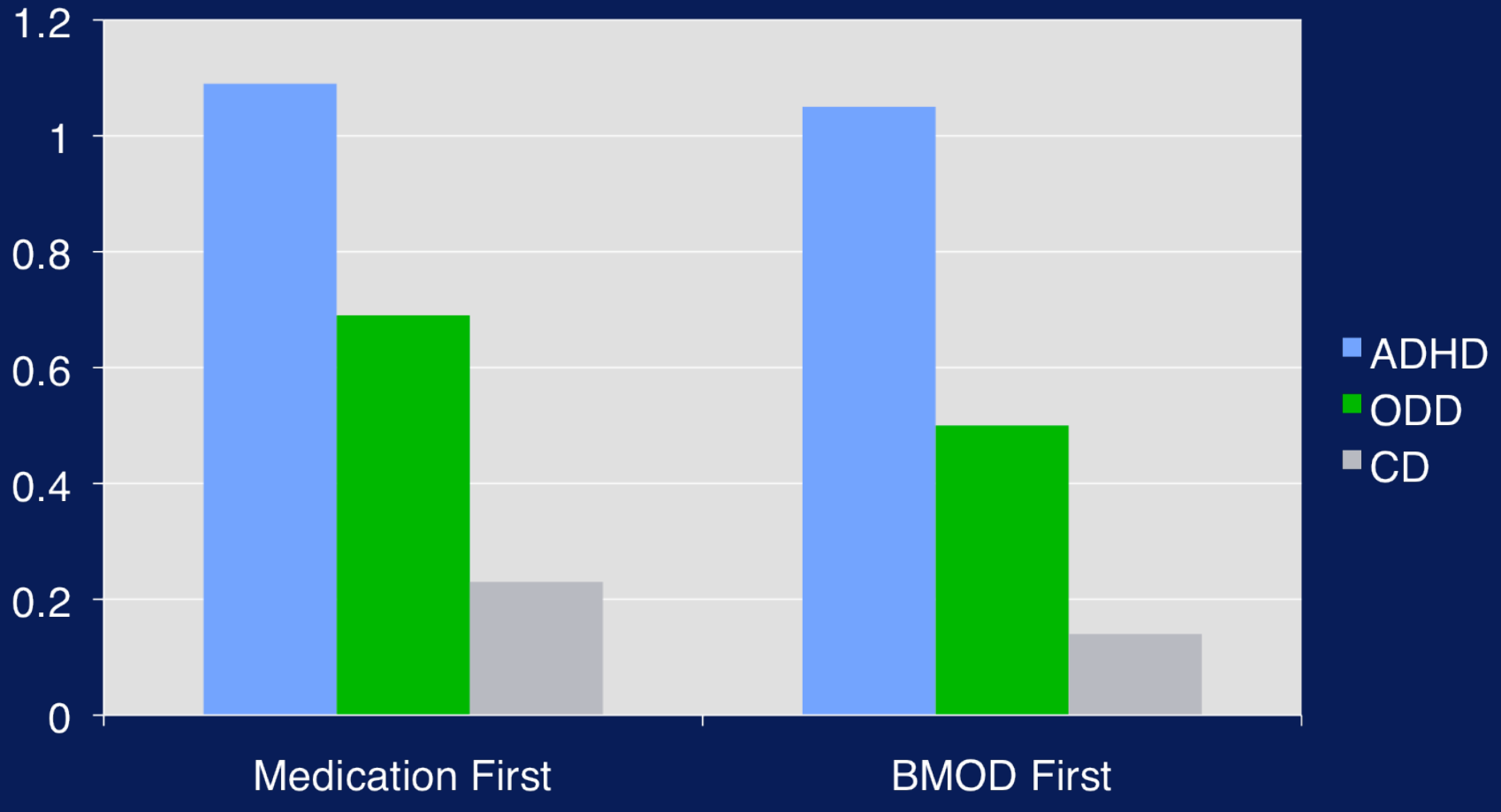
Within BMOD-First



Adaptive Treatment
Endpoint Teacher Ratings



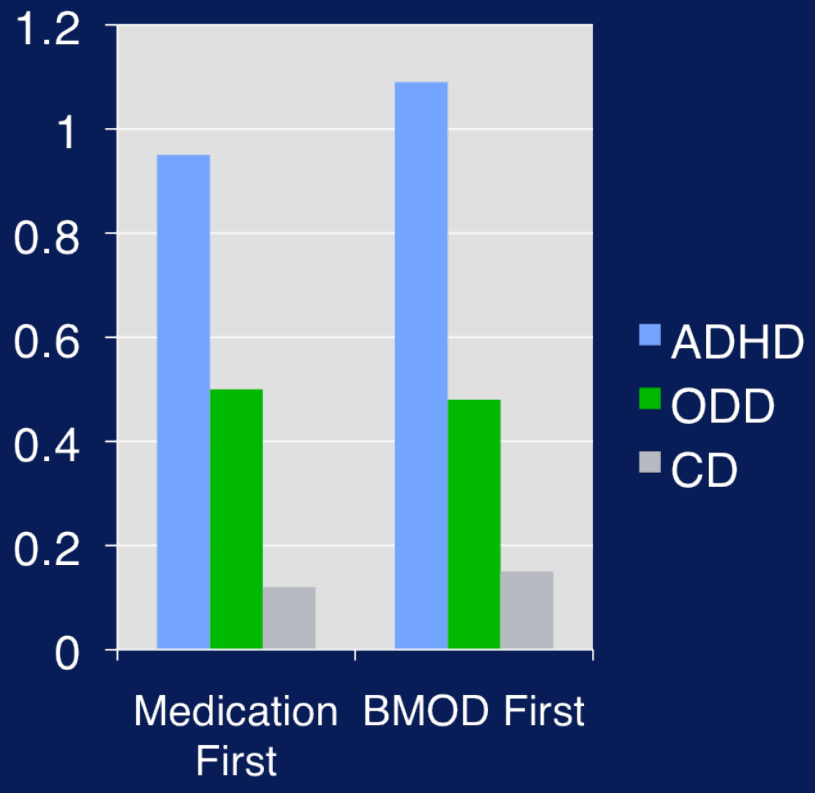
Adaptive Treatment
Endpoint Teacher Ratings



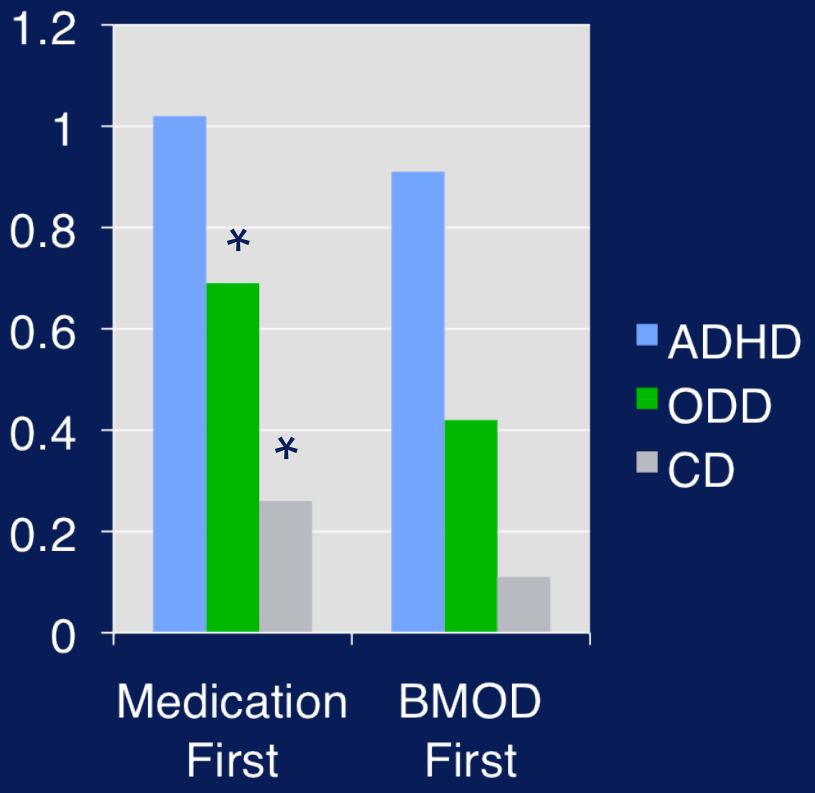
P=.057

Adaptive Treatment Endpoint Teacher Ratings

Increased Initial Treatment



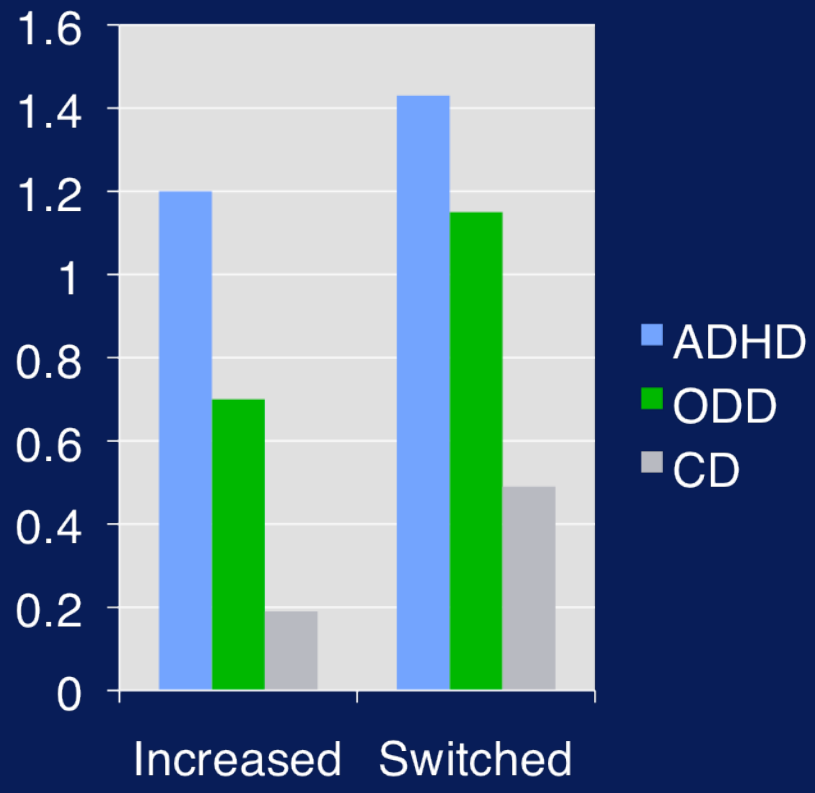
Switched to Combined Treatment



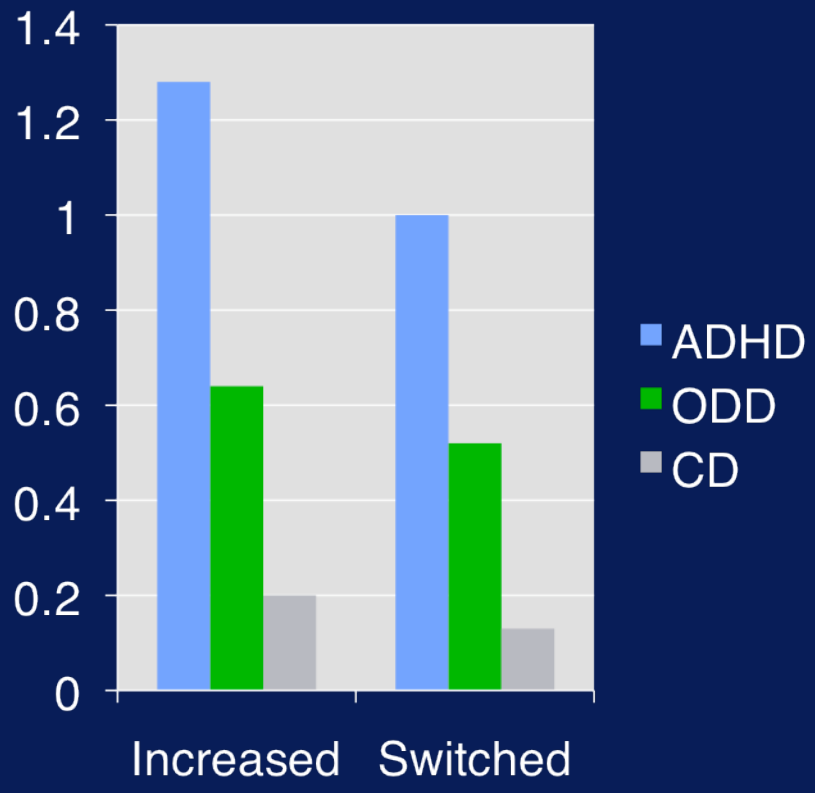
*p<.05

Adaptive Treatment
Endpoint Teacher Ratings

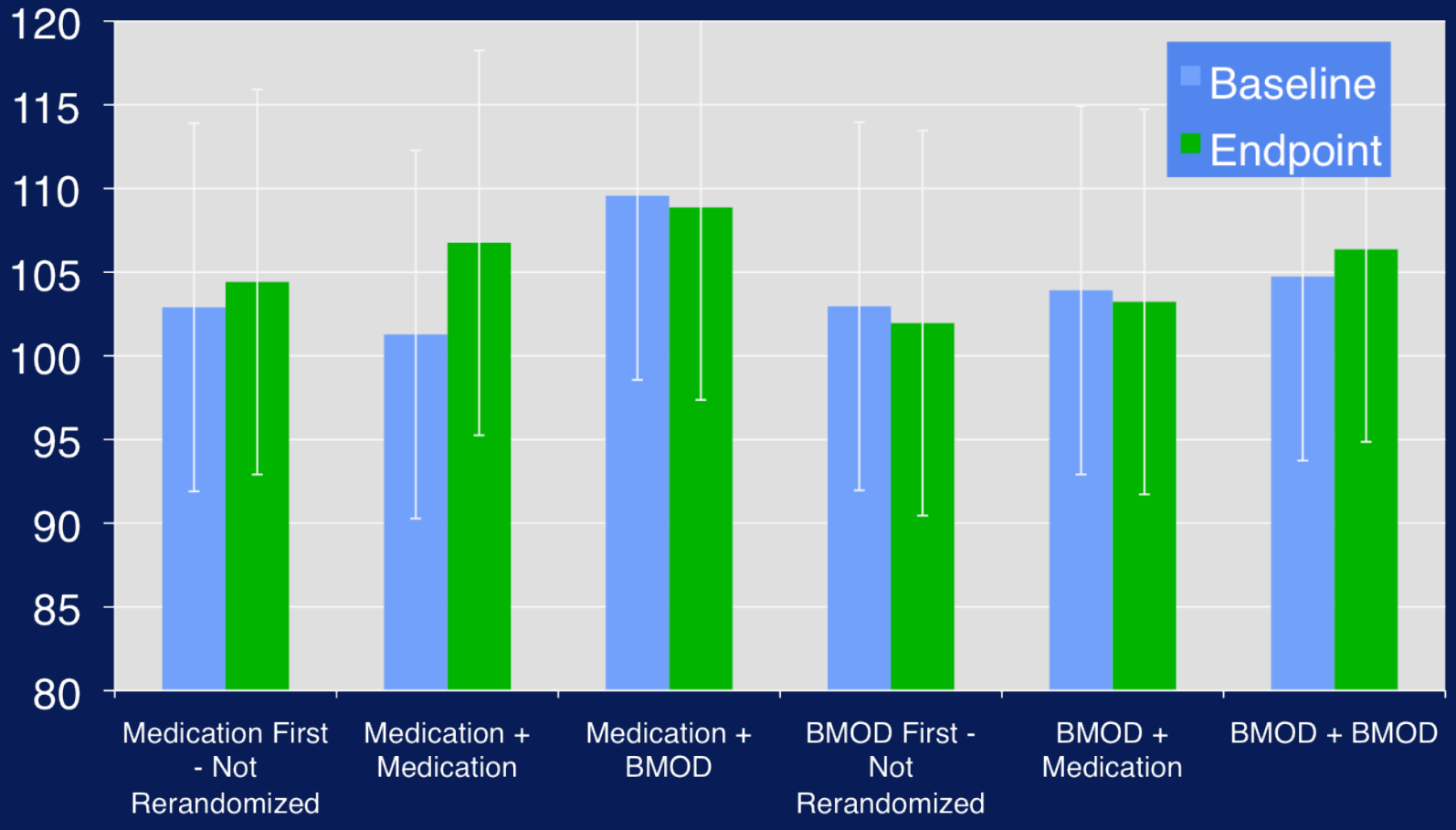
Within Medication-First



Within BMOD-First



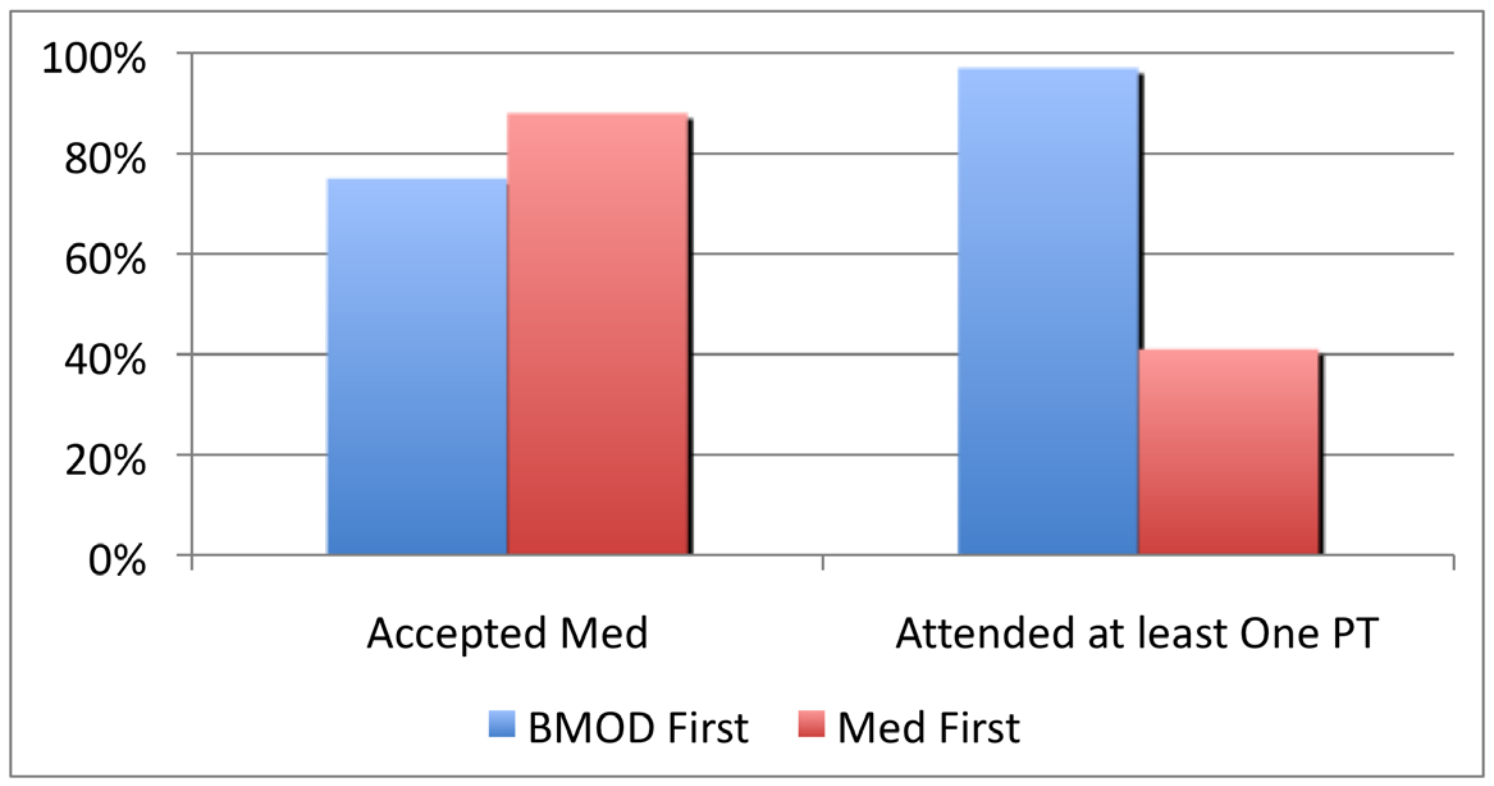
Adaptive Treatment
WJIII Academic Skills Composite



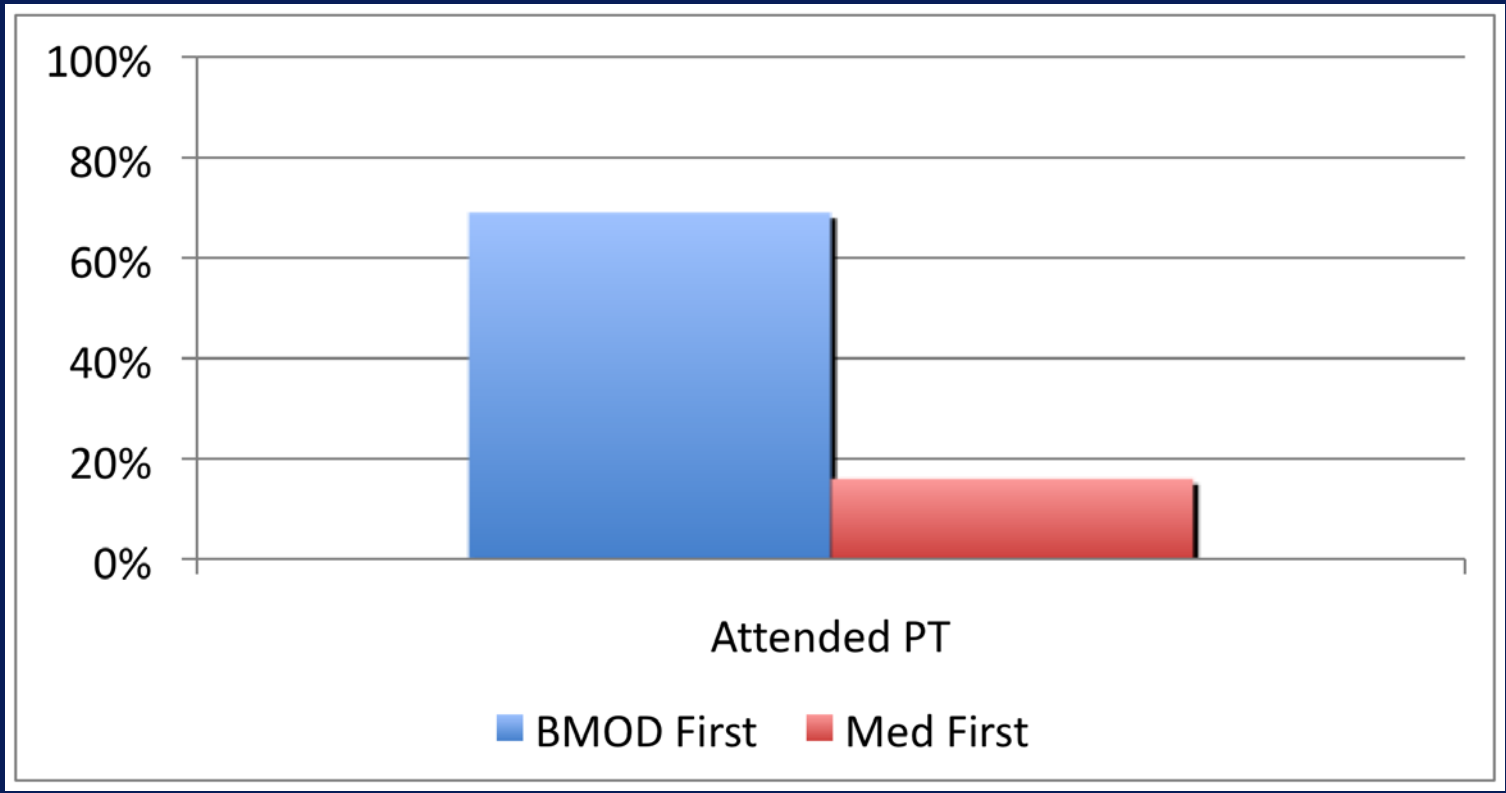
No significant differences in strategy comparisons

Why Is BMOD-MED Sequence Superior to MED-BMOD Sequence?

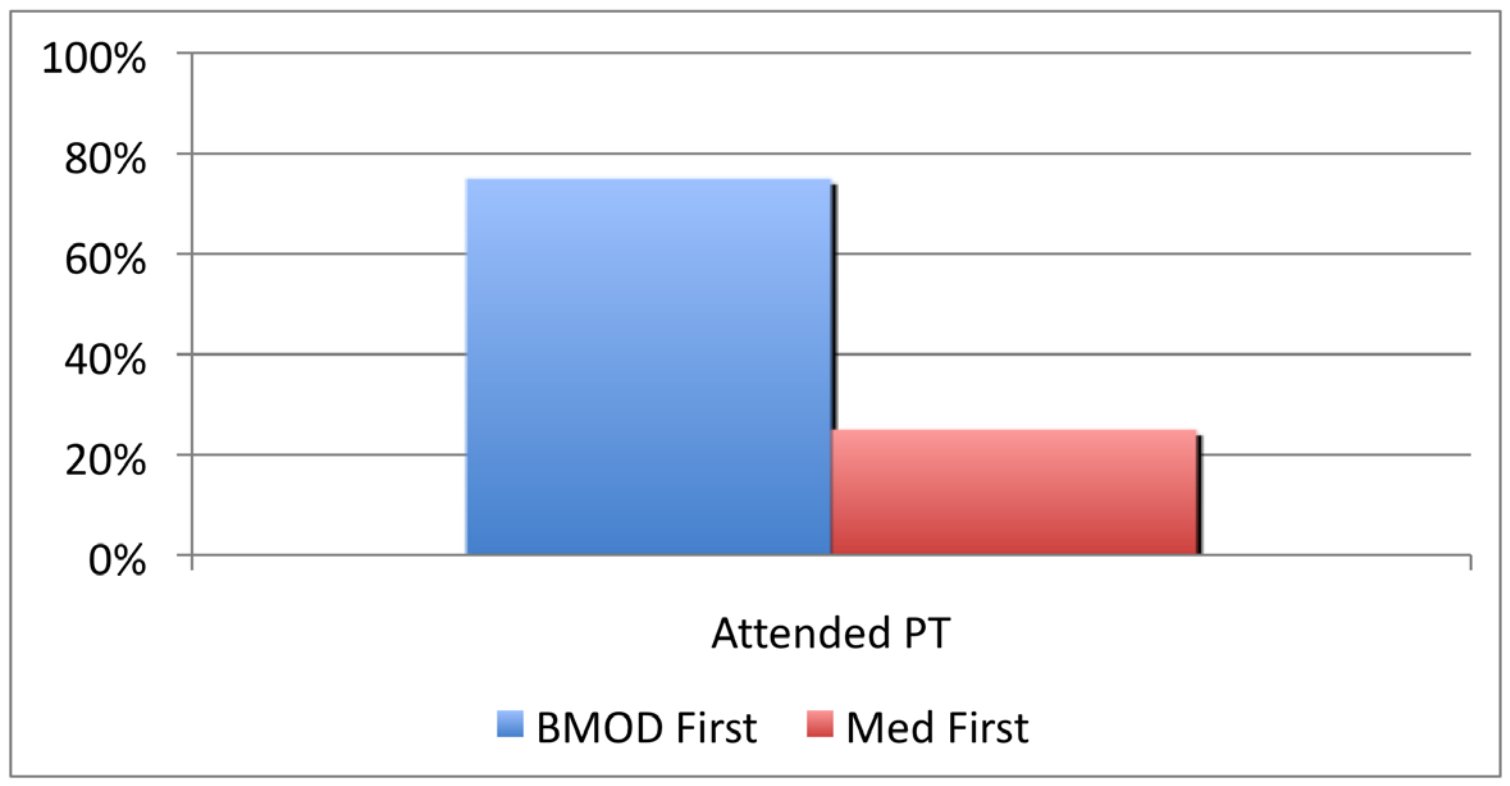
Treatment Acceptance as a Function of First Treatment



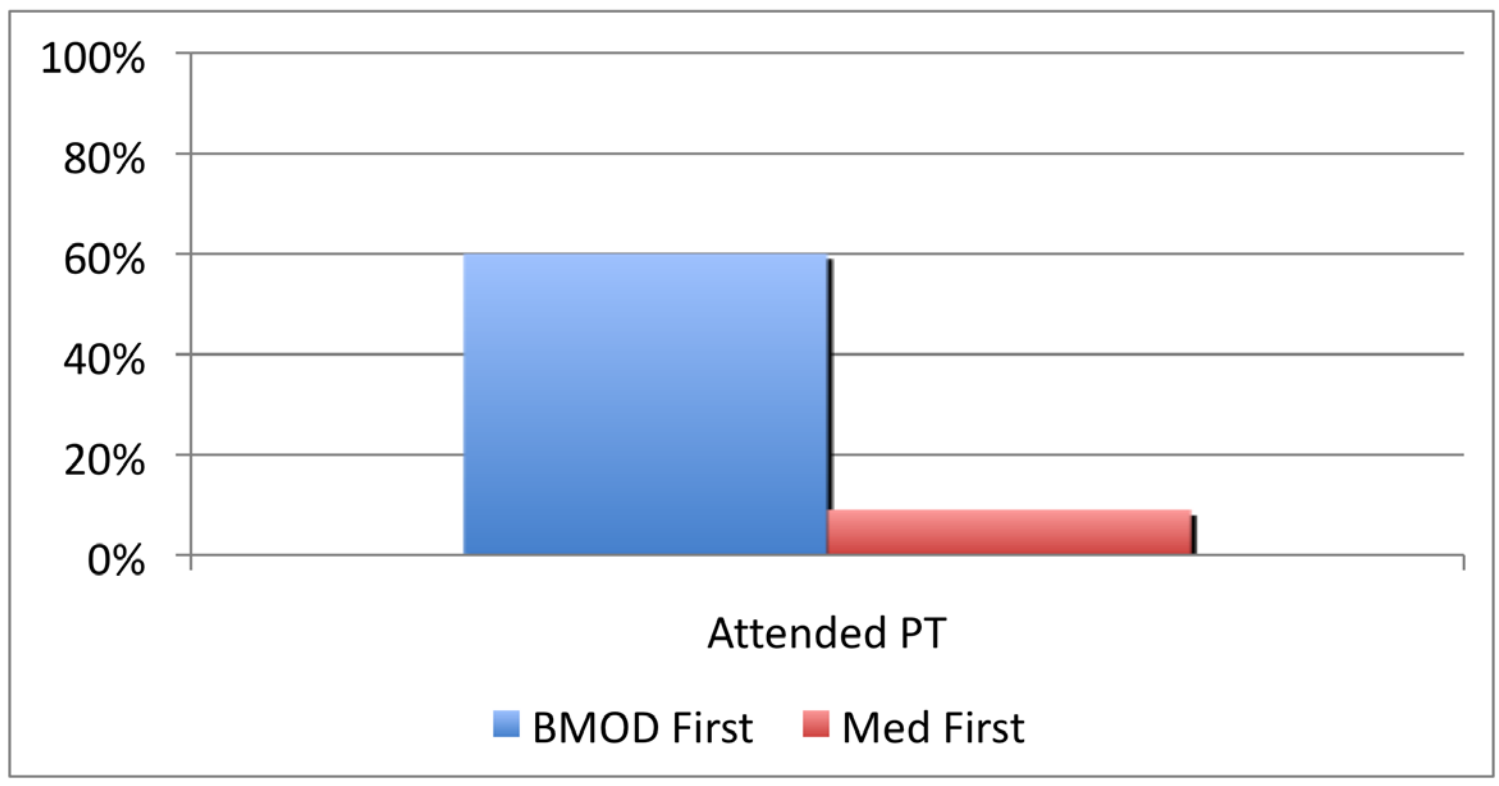
Parent Training Adequate Dose (at least 75% of sessions) as a Function of First Treatment



Mean PT Attendance as a Function of First Treatment



Attended at least one Booster as a Function of First Treatment



Preliminary Conclusions

- BMOD-First sequence superior to MED-First sequence on teacher ratings of ODD and CD and direct observations of classroom rule violations
- No strategy differences in academic achievement—slight NS improvement across groups (all of which received treatment)
- MED doses equivalent between MED-BMOD and BMOD-MED sequences
- Combined condition school-based doses less than half of the MED-MED doses

Preliminary Conclusions
(Pelham, Fabiano, et al, 2008)

•The sequence of treatment impacts uptake of adjunctive treatments—especially the Med-Beh sequence

•Behavioral treatment THEN medication resulted in much better uptake of behavioral parent training when needed.

•Thus, parental involvement with the children's schools (e.g., backing up the DRC, communicating with teachers) was reduced dramaticallly when medication was begun first

•When provided at treatment onset, 8 sessions of group PT (typical clinical intervention) is sufficient for 24%-36% of ADHD children; **the rest** need either more group or individual sessions but do better with increased BDMOD than with added medication

•Very low dose of medication alone (.15 mg/kg b.i.d.) is sufficient for 51% of ADHD children at school for the entire year—much lower dose than MTA dose and half of the most common community dose—there are no side effects at this does—most importantly no growth suppression

Conclusions from Series of Studies

- Over past 8 years, studies of 6 cohorts of one-year treatment (300 families) and one cohort of 3 years of treatment (150 families)—by far the largest ADHD intervention research program in the USA

- **Dose** of treatment is important in comparative and combined studies; BMOD dramatically reduces concurrent medication dose and therefore side effects

- At high doses of either treatment, there is no additive value of combined treatment.

- Under optimal conditions with appropriate controls, BEH and MED have comparable effects

- **Sequencing** of treatments is important; providing behavioral treatment first reduces need for and dose of medication; providing medication first reduces parental uptake of behavioral treatment

Conclusions from Series of Studies

•Parents strongly prefer psychosocial or combined treatment approaches. Parental preference is important because it may affect long term adherence, a problem with both modalities.

•Most ADHD children can be maintained with good functioning at home and school with relatively simple behavioral treatments and without medication; another large group can be treated with slightly more intensive behavioral interventions or added small amounts of medication

•Very low doses of stimulants are effective, particularly in combination with behavioral treatments when Bemod is insufficient

•Prior medication is the only predictor of surviving a year off medication for ADHD children—prior treatment reduces survival without medication

Conclusions from Series of Studies

Dose and sequencing questions utilizing SMART designs with ongoing monitoring and adaptive treatment decisions mimic the questions that face practitioners daily and are the next wave of treatment outcome research in ADHD and other child MH problems

At the same time, we suggest that the field consider the question of whether the sole focus should be on the child and family for treatment tailoring in personalized treatment

Alternatively, we can ask whether it is the child MH system that needs to be changed to adapt to the needs of children and families and to fit with what we know about EBTs

Examples: COACHES, BGC/School-basd STPs, Community based PT, School-based interventions, Saturday recreational programs, child care, respite evenings/days

Most ADHD Children Can be Satisfactorily Maintained without Medication if Intervention is begun with Behavioral Treatment.

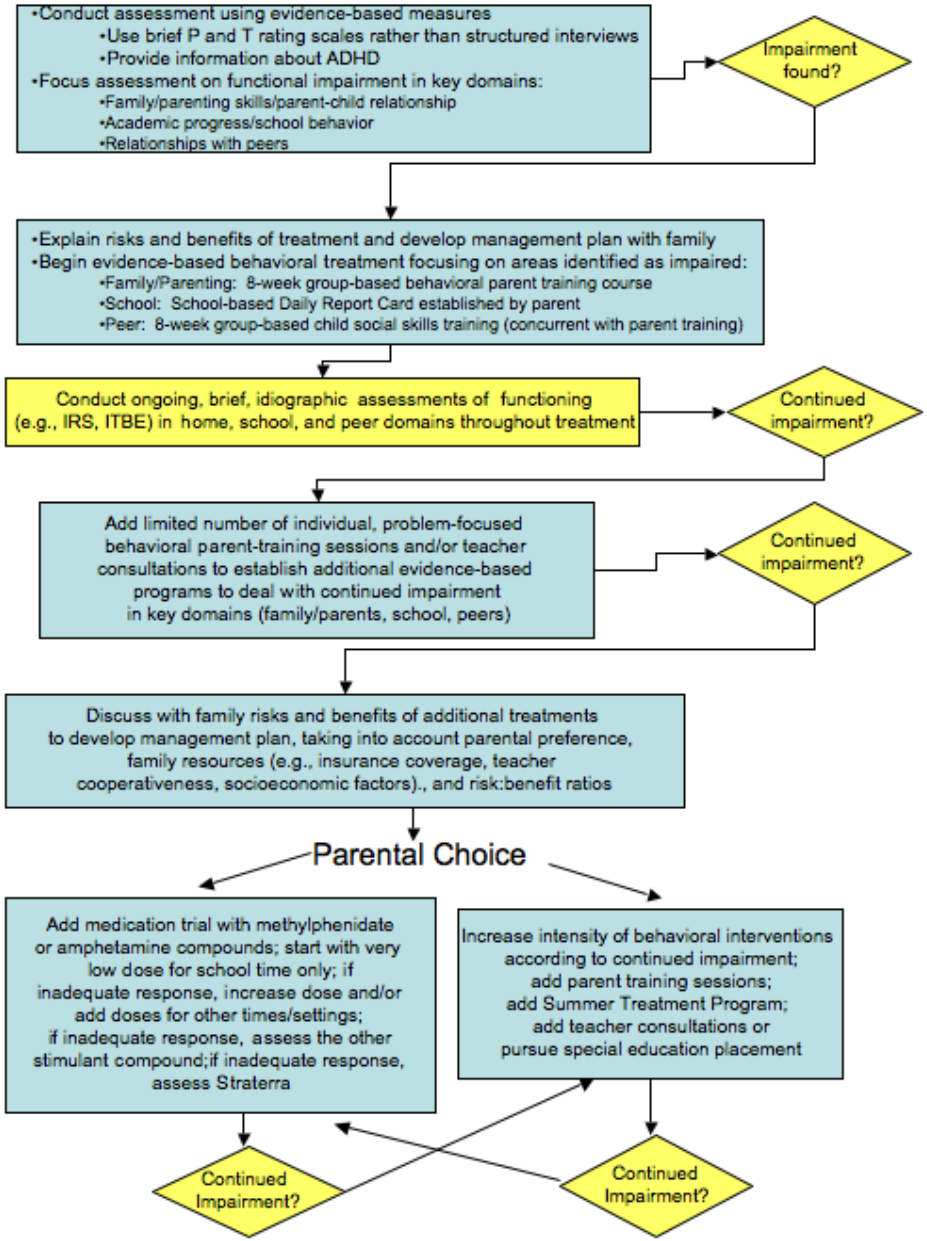
Will the Use of Medication for ADHD Decrease?

What About Other Disorders?

Clinical Recommendations for ADHD

- Focus on impairment in daily life functioning rather than symptoms and monitor impairment to monitor treatment effects
- Depending on severity, start with behavioral treatment and add medication only when impairment is not minimized and parents prefer medication or resources limit more intensive behavioral treatments
- Dose meds low (not optimally) so as not to remove need for behavioral and educational treatments and to minimize SEs
- Minimize lifetime dose of medication to minimize SE and risks
- Treat for settings and domains of impairment (Use 12-hr evening and weekend meds only when necessary)
- Stay in regular contact with family to monitor both behavioral treatments and medication--chronic condition model of treatment
- Start psychosocial treatments early and continue--reading and social behavior examples
- Interventions need to be feasible for and palatable for families so they will be maintained in the long run
- Effective treatment requires systems cooperation (e.g., collaboration between families, schools, mental health clinics, primary care)

Buffalo Treatment Algorithm for ADHD




I HIT A HOME RUN IN THE NINTH INNING, AND WE WON! I WAS THE HERO!!
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- **Services will include clinic-based parent training, child treatments, Saturday and Summer programs, and school-based consultations/interventions for individual referred children**
- **Training and consultation will be offered to schools (e.g., in service presentations) and mental health/child welfare agencies**

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Upcoming Events

First Day of Summmer Treatment Program
Jun 16, 2010
The Summer Treatment Program (STP) begins on June 16th and runs until Augus...

Respite Days and Evenings
Dec 1, 2010
Dear CCF Families:The CCF is pleased to announce that we will soon be pr...

Contact Us

Center for Children and Families
11200 SW 8th Street
HLS 1 Rm. 146
Miami, Florida 33199

Ph: (305) 348-0477

Downloadable Materials (Free) on our Website (http://ccf.FIU.edu)

Instruments

Impairment Rating Scales (Parent and Teacher)

Disruptive Behavior Disorder Symptom Rating Scale (Parent and Teacher)

Pittsburgh Side Effect Rating Scale

DBD Structured Interview

Parent Application Packet and Clinical Intake Outline

Initial Teacher Interview

Information

What Parents and Teachers Should Know about ADHD

Medication Fact Sheet for Parents and Teachers

Psychosocial Treatment Fact Sheet for Parents and Teachers

Many reprints

Videos of lectures on child treatments

"How to" Handouts

How to Establish a School-Based Daily Report Card

How to Conduct a School-based Medication Assessment

How to Establish a Home-Based Daily Report Card

How to Begin a Summer Treatment Program

Thank you!

LEAVE FOLLOWING SLIDES IN HERE IN CASE QUESTIONS ARISE ABOUT THE MTA DURING Q and A BUT WE WON”T DO OTHERWISE

Comprehensive Psychosocial and Pharmacological Treatment for ADHD: The NIMH/USOE Multimodal Treatment Study

(MTACG, Archives of General Psychiatry, 1999)

Randomized Clinical Trial of four treatments:

- Community Comparison Control
- Psychosocial Alone
- Pharmacological Alone
- Combined Psychosocial and Pharmacological

576 subjects, recruited from community, entered between January and May of three consecutive years across six sites

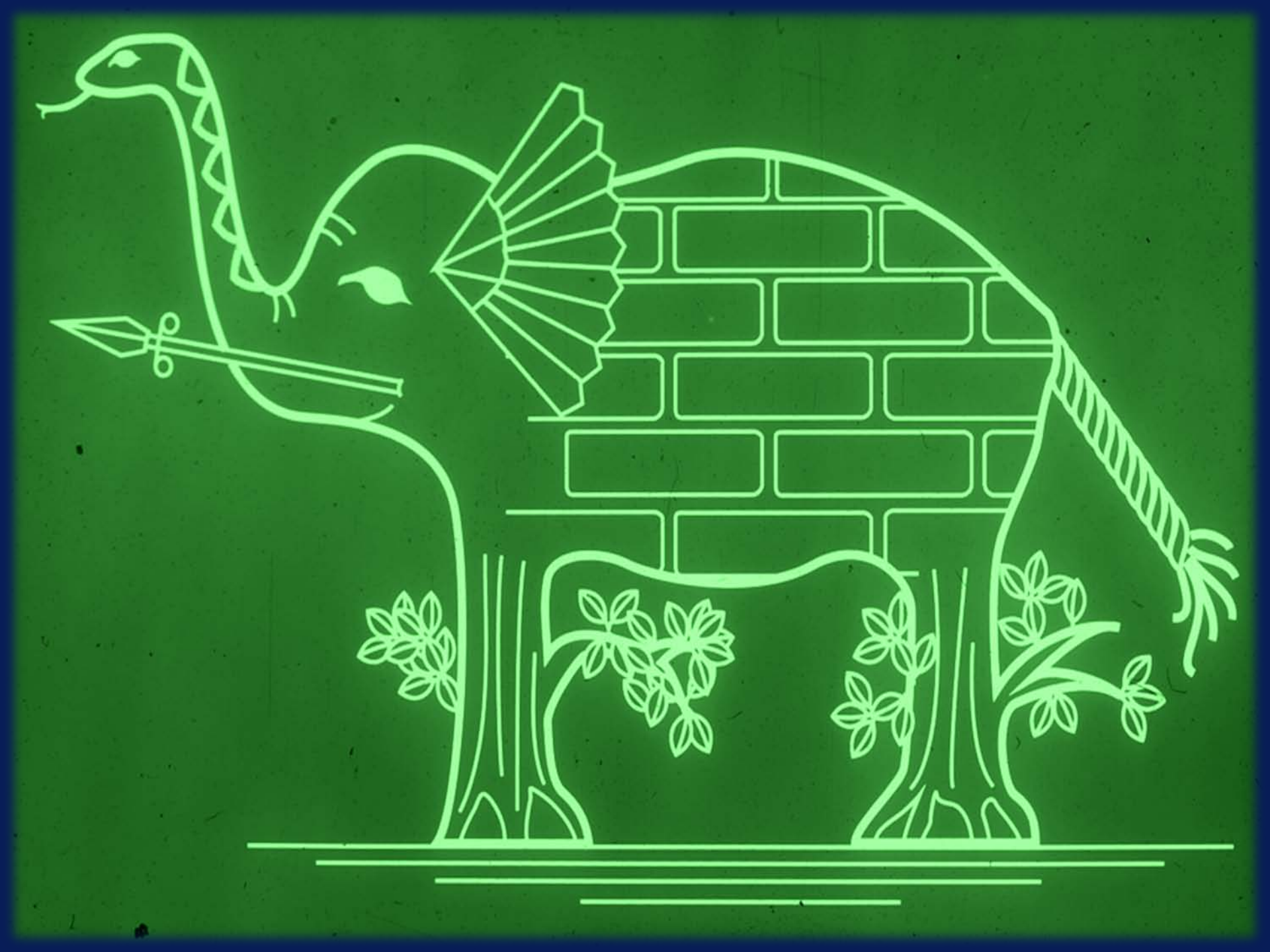
144 subjects per group overall; 24 per group per site

Treatment for 14 months; follow-up for 10 months

Extensive manualization and standardization of treatment:

- 1000+ pages of treatment manuals
- Coordinated staff training across sites
- Extensive measures of treatment fidelity for all components
- 10+ hours of weekly conference calls to standardize protocol

What Does the MTA Study Tell us about Treating ADHD?



Summary of MTA Results at 14 Months

- All four groups improved dramatically with time
- Active Med (study: 39 mg MPH/day) was superior to faded Beh on ADHD symptom measures and some measures of impairment
- 75% of Beh group were maintained off medication
- Combined (31 mg MPH/day) was superior to Beh on all measures and to Med on most measures of impairment but not significantly on symptoms
- Comb (and sometimes Med) were superior to CC and Beh was equivalent (70% of CC medicated; 24 mg MPH/day)
- Combined produced more normalization at lower doses (and lower rates of increase in dose) than Med and was much preferred by parents

Change in Presenting Problems

Pelham & MTA Cooperative Group, under review

	Medmgt	Comb	Beh
Declined/dropped out	12%	4%	0%
Worse/Unchanged	6%	6%	5%
Slightly improved	22%	11%	22%
Improved	38%	37%	43%
Much improved	22%	41%	30%

Would Parent Recommend Treatment?

(Pelham & MTA Coop. Group, under review)

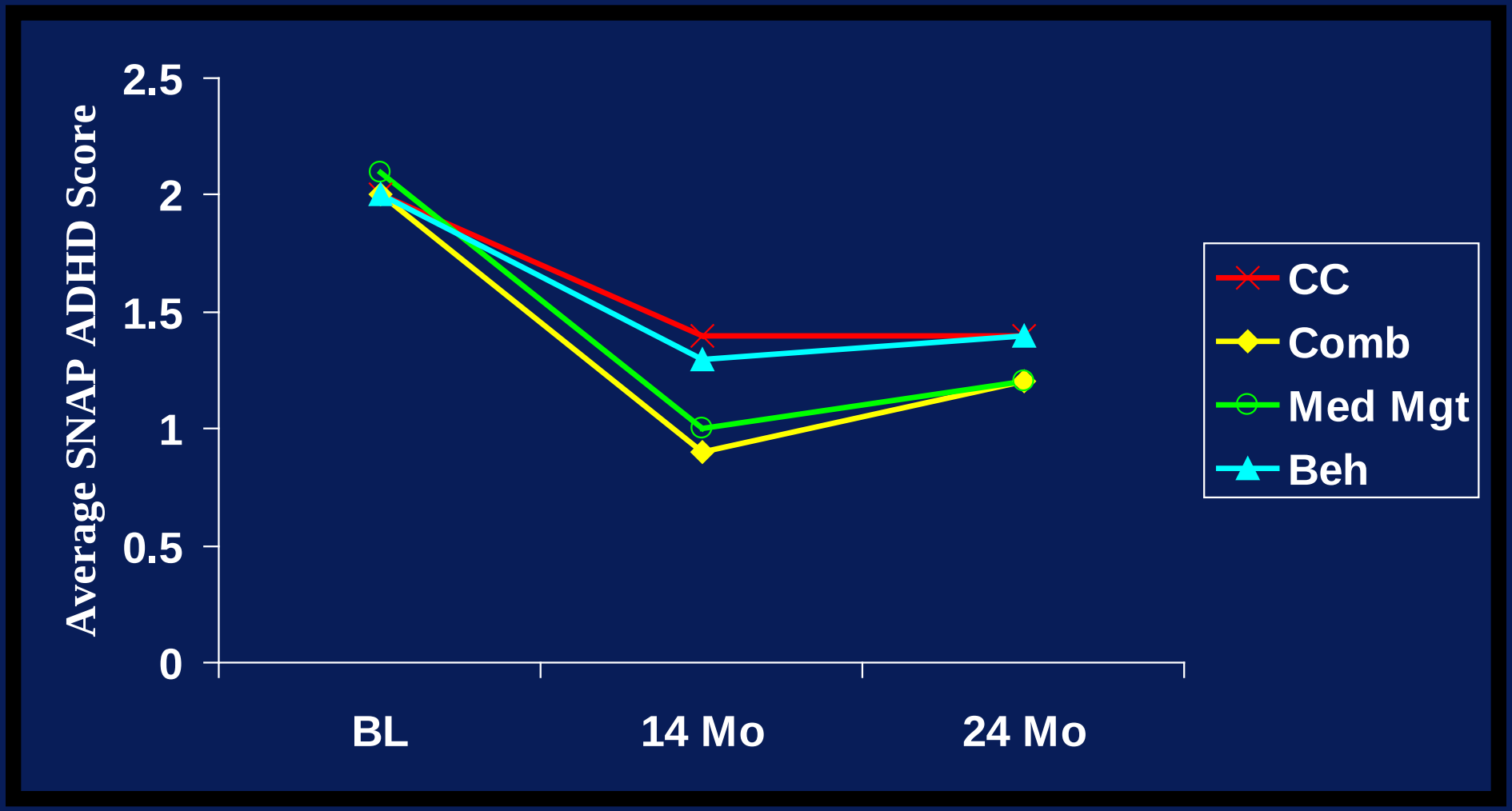
	Medmgt	Comb	Beh
Declined/dropped out	12%	4%	0%
Not recommend	8%	3%	5%
Neutral	8%	1%	2%
Slightly Recommend	4%	2%	2%
Recommend	31%	15%	24%
Strongly recommend	38%	76%	67%

What happened at follow-up?

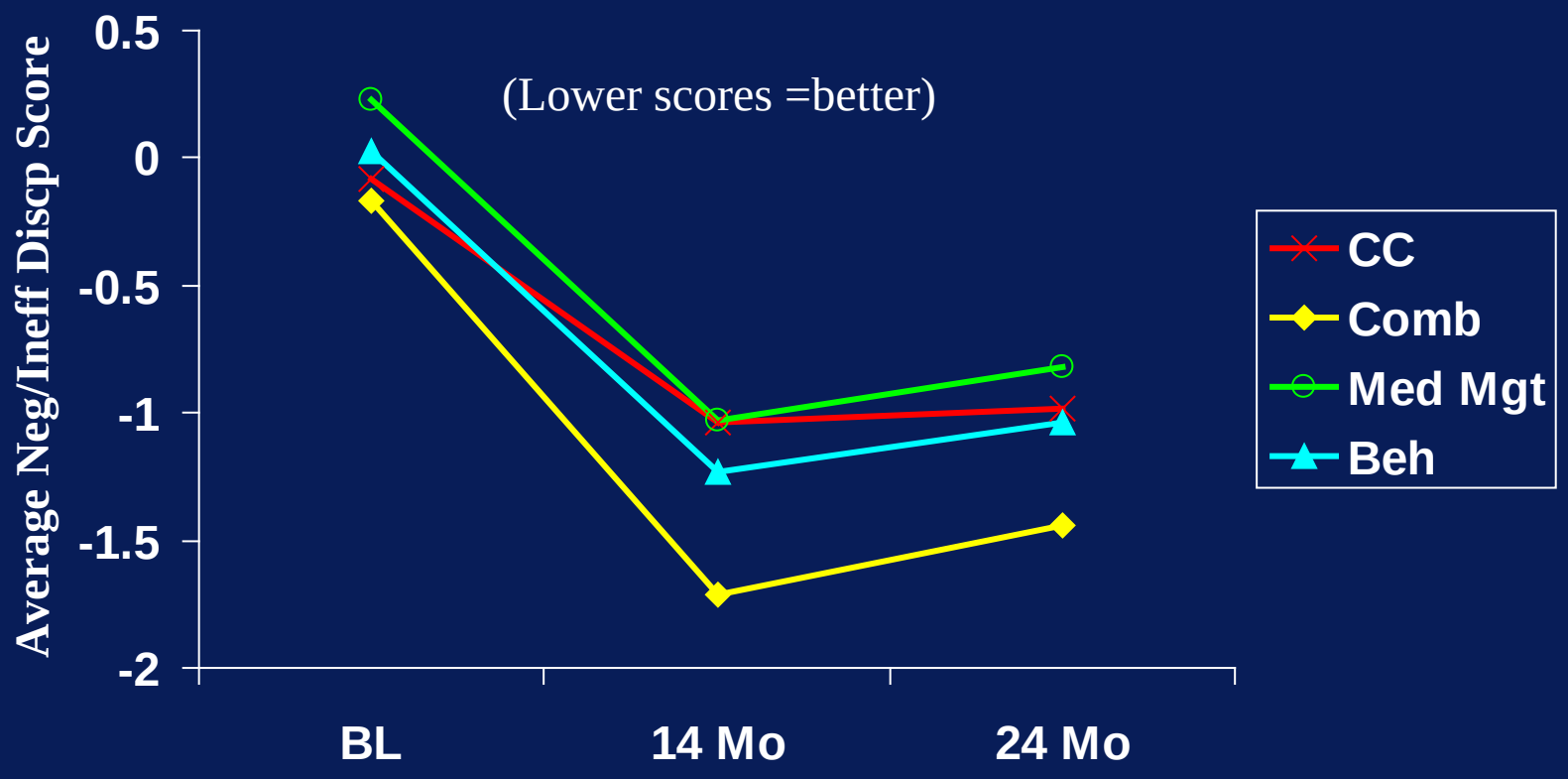
- Data reported by the MTACG in Pediatrics, 2004
- All groups better than at baseline
- Loss of 50% of incremental beneficial medication effects
- No differences among groups on beneficial outcomes other than Sx ratings
- Adverse medication effects on growth

SNAP-ADHD (Parent/Teacher):

Treatment Group Outcomes across 24 Months (Lower score better)

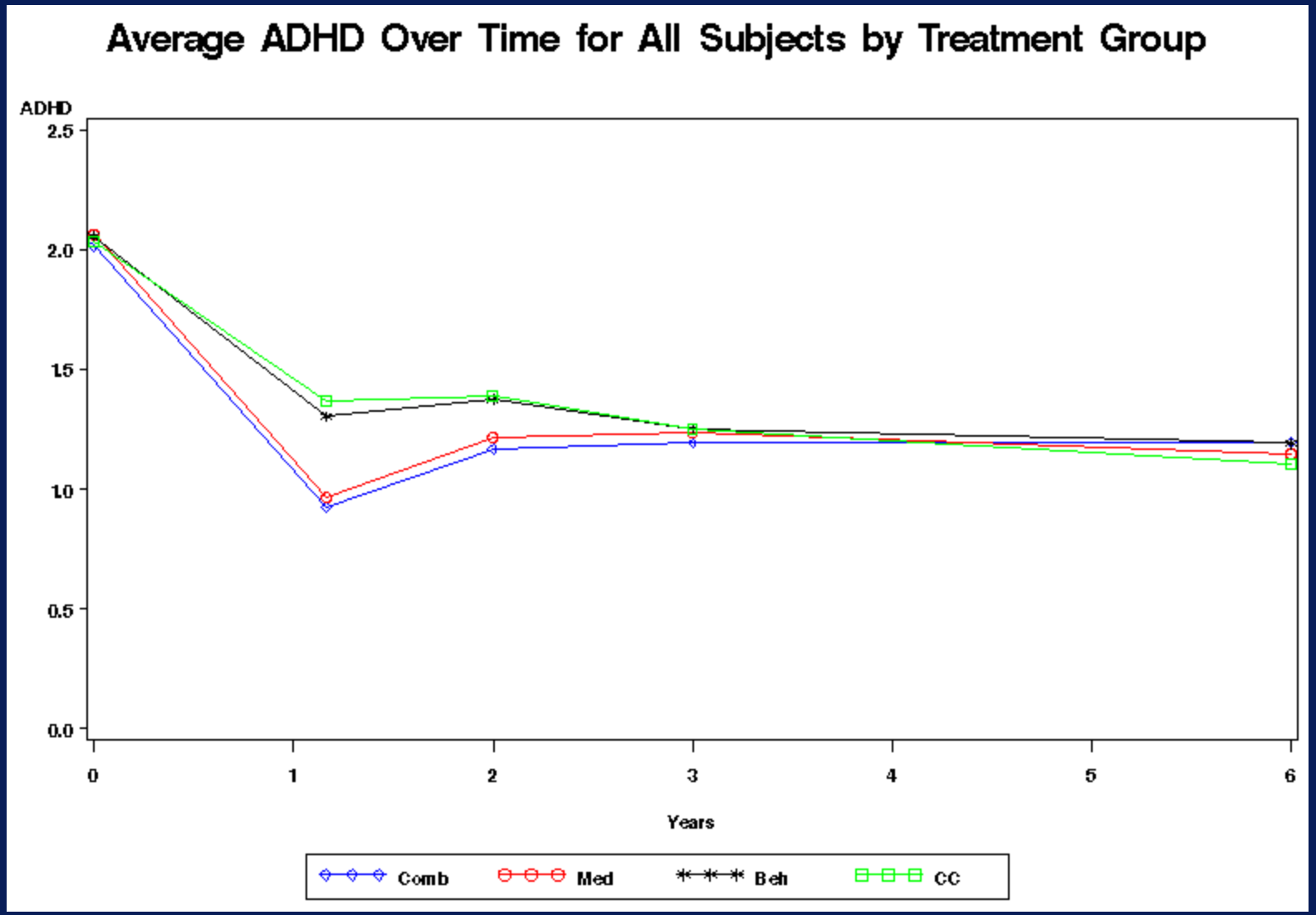


Negative/Ineffective Discipline:
Treatment Group Outcomes across 24 Months



What happened at follow-ups 1 and 5 years later?

- Data reported in J. American Academy of Child and Adolescent Psychiatry, August, 2007 and March, 2009
- All groups better than at baseline
- No differences among original groups on beneficial outcomes
- No detectable beneficial effects of medication in primary or secondary analyses but adverse effects on growth


Average ADHD Over Time for All Subjects by Treatment Group
ADHD
2.5
2.0
1.5
1.0
0.5
0.0
0
1
2
3
4
5
6
Years
Comb
Med
Beh
CC

But What do the MTA Investigators say About These Outcomes?