

## Workgroup III: Behavioral Health (focus on ADHD)

*The third session of the Arkansas Healthcare Payment Improvement Initiative Behavioral Health Workgroup convened on March 7th, 2012 to discuss payment innovation in Arkansas, with an emphasis on episode-based payment for Attention Deficit Hyperactivity Disorder (“ADHD”).*

*Approximately 100 Arkansas patients, primary care physicians, psychiatrists, psychologists, mental health professionals, provider executives, family members, and government administrators attended in Little Rock as well as at videoconference locations in Fort Smith, Jonesboro, Texarkana, Fayetteville, and Pine Bluff.*

*The workgroup discussion documents can be accessed online at <<http://humanservices.arkansas.gov/director/Pages/Behavioral-Health-Workgroup.aspx>>. Key components of the discussion are summarized below.*

### **KEY COMPONENTS OF WORKGROUP III DISCUSSION**

- The third workgroup session focused on:
  - Reviewing the ADHD episode clinical foundation and ‘version 1.0’ episode structure
  - Reviewing the detailed design decisions for ‘version 1.0’
  - Discussing historical data for ADHD episodes
  - Briefly discussing episode design dimensions common across all episodes
- The workgroup established that version 1.0 would address ADHD without behavioral health comorbid conditions and would be limited to the school-aged and adolescent population (ages 6 – 17)
- The workgroup discussed the treatment for ADHD recommended by the American Academy of Pediatrics, American Academy of Child and Adolescent Psychiatry and other evidence-based guidelines
  - Workgroup members agreed with the recommendations, but emphasized that provider flexibility to choose treatment must be maintained
- The workgroup then discussed the ‘version 1.0’ approach for an ADHD episode focused on patients aged 6 – 17 without comorbid conditions
  - Two progressive levels of treatment will exist, with certifications required to enter episode or progress to level two severity
  - The workgroup discussed questions from providers on treatment in the ED, on caring for children who don’t receive medication, and how to provision parent / teacher administered support

- The workgroup co-chairs emphasized that providers will be free provide and prescribe any treatment desired, but that providers will be expected to certify guideline-concordant care or provide rationale for non-concordant care
- Several participants raised questions about the role of medication as a first-line treatment of ADHD; the relevant extracts from the American Academy of Pediatrics and American Academy of Child and Adolescent Psychiatry guidelines are included in Appendix I
- In the second section of the presentation, the workgroup reviewed the detailed design decisions for the ADHD episode, focusing on:
  - Episode definition and scope of services included in determining episode cost
  - Principal Accountable Provider eligibility and attribution
  - Patient severity levels and patient exclusions
- Workgroup participants discussed questions and provided feedback on the following topics related to the Principal Accountable Provider discussion:
  - Principal Accountable Providers must have insight into the cumulative costs incurred during the course of the episode as often as feasible
  - Workgroup members discussed cases where several providers might treat a patient; in general, the provider who delivers the majority of care will serve as the Principal Accountable Provider
  - Workgroup members agreed that the episode should take special care to avoid inadvertently reducing access to high-quality care for children based upon racial, socio-economic, or custody status
- The workgroup reviewed historical data for the ADHD episode, based upon the design dimensions presented and discussed earlier in the session
  - School-aged and adolescent children account for 93% of Medicaid ADHD patients and 95% of Medicaid ADHD spend
  - Data breaking down spend and episode cost distributions was presented for physician and RSPMI Principal Accountable Providers
  - Several workgroup members emphasized the importance of evaluating outcomes in correlation with the cost data
- The workgroup concluded by discussing several topics that apply across all episodes, focusing on the payment mechanics model
  - Providers will receive risk or gain sharing based upon their average cost / episode across all of their cases, compared against three cost thresholds
  - Each payor will set their cost thresholds independently

# Appendix I

*In this appendix, we have repeated relevant extracts from the AAP and AACAP guidelines regarding initial treatment of ADHD. The full guidelines are available from each organization.*

## **American Academy of Child and Adolescent Psychiatry Practice Parameter (2007)**

### **Recommendation 6. A Well-Thought-Out and Comprehensive Treatment Plan Should Be Developed for the Patient With ADHD [MS].**

The patient's treatment plan should take account of ADHD as a chronic disorder and may consist of psychopharmacological and/or behavior therapy. This plan should take into account the most recent evidence concerning effective therapies as well as family preferences and concerns. This plan should include parental and child psychoeducation about ADHD and its various treatment options (medication and behavior therapy), linkage with community supports, and additional school resources as appropriate. Psychoeducation is distinguished from psychosocial interventions such as behavior therapy. Psychoeducation is generally performed by the physician in the context of medication management and involves educating the parent and child about ADHD, helping parents anticipate developmental challenges that are difficult for ADHD children, and providing general advice to the parent and child to help improve the child's academic and behavioral functioning. The treatment plan should be reviewed regularly and modified if the patient's symptoms do not respond. Trade books, videos, and some noncommercial Web sites on ADHD may be useful adjunctive material to facilitate this step of treatment. The short-term efficacy of psychopharmacological intervention for ADHD was well established at the time of the first AACAP practice parameter for ADHD (American Academy of Child and Adolescent Psychiatry, 1997). It is also clear that behavior therapy alone can produce improvement in ADHD symptoms relative to baseline symptoms or to wait-list controls (Pelham et al., 1998). Since then, a substantial focus has been on the relative efficacy of pharmacological therapy versus psychosocial intervention. Jadad et al. (1999) reviewed 78 studies of the treatment of ADHD; six of these studies compared pharmacological and nonpharmacological interventions. The reviewers reported that studies consistently supported the superiority of stimulant over the nondrug treatment. Twenty studies compared combination therapy with a stimulant or with psychosocial intervention, but no evidence of an additive benefit of combination therapy was found. Most of these studies involved short-term behavioral treatment; a major hypothesis in the early 1990s was that behavior therapy had to be administered for an extended time for patients with ADHD to realize its full benefit (Richters et al., 1995). Thus, the MTA study was designed to look at comprehensive treatments provided over an entire year.

In the MTA study, children with ADHD were randomized to four groups: algorithmic medication treatment alone, psychosocial treatment alone, a combination of algorithmic medication management and psychosocial treatment, and community treatment. Algorithmic medication treatment consisted of monthly appointments in which the dose of medication was carefully titrated according to parent and teacher rating scales. Children in all four treatment

groups showed reduced symptoms of ADHD at 14 months relative to baseline. The two groups that received algorithmic medication management showed a superior outcome with regard to ADHD symptoms compared with those that received intensive behavioral treatment alone or community treatment (MTA Cooperative Group, 1999a [rct]). Those who received behavioral treatment alone were not significantly more improved than the group of community controls who received community treatment (two thirds of the subjects in this group received stimulant treatment). The community treatment group had more limited physician follow-up and was treated with lower daily doses of stimulant compared with the algorithmic medication management group. Nearly one fourth of the subjects randomized to receive behavioral treatment alone required treatment with medication during the trial because of a lack of effectiveness of the behavioral treatment. It seems established that a pharmacological intervention for ADHD is more effective than a behavioral treatment alone.

This does not mean, however, that behavior therapy alone cannot be pursued for the treatment of ADHD in certain clinical situations. Behavior therapy may be recommended as an initial treatment if the patient's ADHD symptoms are mild with minimal impairment, the diagnosis of ADHD is uncertain, parents reject medication treatment, or there is marked disagreement about the diagnosis between parents or between parents and teachers. Preference of the family should also be taken into account. A number of behavioral programs for the treatment of ADHD have been developed. Since the review by Pelham et al. (1998), a number of other controlled studies have shown short-term effectiveness of behavioral parent training (Chronis et al., 2004; Sonuga-Barke et al., 2001 [rct], 2002 [rct]). Several manual-based treatments for applying behavioral parent training to ADHD and ODD children are available (Barkley, 1997; Cunningham et al., 1997). Smith et al. (2006) provided an overview of the principles behind such programs. In general, parents are involved in 10 to 20 sessions of 1 to 2 hours in which they (1) are given information about the nature of ADHD, (2) learn to attend more carefully to their child's misbehavior and to when their child complies, (3) establish a home token economy, (4) use time out effectively, (5) manage noncompliant behaviors in public settings, (6) use a daily school report card, and (7) anticipate future misconduct. Occasional booster sessions are often recommended. Parental ADHD may interfere with the success of such programs (Sonuga-Barke et al., 2002), suggesting that treatment of an affected parent maybe an important part of the child's treatment. Generalized family dysfunction (parental depression, substance abuse, marital problems) may also need to be addressed so that psychosocial or medication treatment is fully effective for the child with ADHD (Chronis et al., 2004). The 1997 practice parameter (American Academy of Child and Adolescent Psychiatry, 1997) extensively reviewed a variety of nonpharmacological interventions for ADHD other than behavior therapy, including cognitive-behavioral therapy and dietary modification. No evidence was found at that time to support these interventions in patients with ADHD, and no studies have appeared since then that would justify their use. Although there has been aggressive marketing of its use, the efficacy of EEG feedback, either as a primary treatment for ADHD or as an adjunct to medication treatment, has not been established (Loo, 2003). Formal social skills training for children with ADHD has not been shown to be effective (Antshel and Remer, 2003).

## American Academy of Pediatrics Clinical Practice Guideline (2011)

**Action statement 5: Recommendations for treatment of children and youth with ADHD vary depending on the patient's age.**

**Action statement 5b:** For *elementary school-aged children (6–11 years of age)*, the primary care clinician should prescribe FDA approved medications for ADHD (quality of evidence A/strong recommendation) and/or evidence based parent- and/or teacher administered behavior therapy as treatment for ADHD, preferably both (quality of evidence B/strong recommendation). The evidence is particularly strong for stimulant medications and sufficient but less strong for atomoxetine, extended release guanfacine, and extended release clonidine (in that order) (quality of evidence A/strong recommendation). The school environment, program, or placement is a part of any treatment plan.

### Evidence Profile

- **Aggregate evidence quality:** A for treatment with FDA-approved medications; B for behavior therapy.
- **Benefits:** Both behavior therapy and FDA-approved medications have been demonstrated to reduce behaviors associated with ADHD and improve function.
- **Harms/risks/costs:** Both therapies increase the cost of care, and behavior therapy requires a higher level of family involvement, whereas FDA-approved medications have some potential adverse effects.
- **Benefits-harms assessment:** Given the risks of untreated ADHD, the benefits outweigh the risks.
- **Value judgments:** The committee members included the effects of untreated ADHD when deciding to make this recommendation.
- **Role of patient preferences:** Family preference, including patient preference, is essential in determining the treatment plan.
- **Exclusions:** None.
- **Intentional vagueness:** None.
- **Strength: strong recommendation**

**Action statement 5c:** For *adolescents (12–18 years of age)*, the primary care clinician should prescribe FDA-approved medications for ADHD with the assent of the adolescent (quality of evidence A/strong recommendation) and may prescribe behavior therapy as treatment for ADHD (quality of evidence C/recommendation), preferably both.

### Evidence Profile

- **Aggregate evidence quality:** A for medications; C for behavior therapy.
- **Benefits:** Both behavior therapy and FDA-approved medications have been demonstrated to reduce behaviors associated with ADHD and improve function.
- **Harms/risks/costs:** Both therapies increase the cost of care, and behavior therapy requires a higher level of family involvement, whereas FDA-approved medications have some potential adverse effects.
- **Benefits-harms assessment:** Given the risks of untreated ADHD, the benefits outweigh the risks.

- **Value judgments:** The committee members included the effects of untreated ADHD when deciding to make this recommendation.
- **Role of patient preferences:** Family preference, including patient preference, is essential in determining the treatment plan.
- **Exclusions:** None.
- **Intentional vagueness:** None.
- **Strength: strong recommendation/recommendation**

## Behavior Therapy

Behavior therapy represents a broad set of specific interventions that have a common goal of modifying the physical and social environment to alter or change behavior. Behavior therapy usually is implemented by training parents in specific techniques that improve their abilities to modify and shape their child's behavior and to improve the child's ability to regulate his or her own behavior. The training involves techniques to more effectively provide rewards when their child demonstrates the desired behavior (eg, positive reinforcement), learn what behaviors can be reduced or eliminated by using planned ignoring as an active strategy (or using praising and ignoring in combination), or provide appropriate consequences or punishments when their child fails to meet the goals (eg, punishment). There is a need to consistently apply rewards and consequences as tasks are achieved and then to gradually increase the expectations for each task as they are mastered to shape behaviors. Although behavior therapy shares a set of principles, individual programs introduce different techniques and strategies to achieve the same ends. Table 1 lists the major behavioral intervention approaches that have been demonstrated to be evidence based for the management of ADHD in 3 different types of settings. The table is based on 22 studies, each completed between 1997 and 2006.

Evidence for the effectiveness of behavior therapy in children with ADHD is derived from a variety of studies and an Agency for Healthcare Research and Quality review. The diversity of interventions and outcome measures makes meta-analysis of the effects of behavior therapy alone or in association with medications challenging. The long-term positive effects of behavior therapy have yet to be determined. Ongoing adherence to a behavior program might be important; therefore, implementing a chronic care model for child health might contribute to the long-term effects.

Study results have indicated positive effects of behavior therapy when combined with medications. Most studies that compared behavior therapy to stimulants found a much stronger effect on ADHD core symptoms from stimulants than from behavior therapy. The MTA study found that combined treatment (behavior therapy and stimulant medication) was not significantly more efficacious than treatment with medication alone for the core symptoms of ADHD after correction for multiple tests in the primary analysis. However, a secondary analysis of a combined measure of parent and teacher ratings of ADHD symptoms revealed a significant advantage for the combination with a small effect size of  $d = 0.26$ . However, the same study also found that the combined treatment compared with medication alone did offer greater improvements on academic and conduct measures when ADHD coexisted with anxiety and when children lived in low socioeconomic environments. In addition, parents and teachers of children who were receiving combined therapy were significantly more satisfied with the treatment plan.

Finally, the combination of medication management and behavior therapy allowed for the use of lower dosages of stimulants, which possibly reduced the risk of adverse effects.