


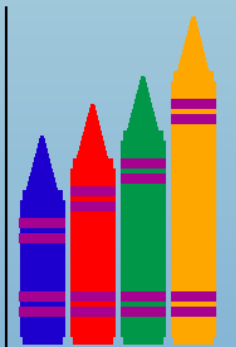


## Evidence-Based Practice for Young Children with Challenging Behavior

Glen Dunlap, U. of South Florida  
Phil Strain, U. of Colorado at Denver  
Lee Kern, Lehigh University

# Agenda

- 
- Overview of National Center and Introduction to Syntheses of Evidence-based Practices – Glen
    - Brief overview of syntheses on service systems and service utilization
  - Syntheses on Intervention Practices – Phil
  - ABA for Prosocial Behavior – Phil
  - Comprehensive Social-emotional Learning Programs – Phil
  - Stimulant Medications - Lee
  - Positive Behavior Support - Glen
  - Questions/Discussion






# Center for Evidence-Based Practice: Young Children with Challenging Behavior

\* **One National Center  
funded through a  
cooperative agreement  
by OSEP**

\* **Jan. 2002 – Dec.  
2006 (5 years)**

# GOALS

- 
- Raise awareness of positive, evidence-based practices
  - Increase implementation of positive, evidence-based practices
  - Build enhanced data base of practical, positive, evidence-based practices



# Management Team



- University of South Florida
  - Glen Dunlap, Principal Investigator
  - Lise Fox, co- Principal Investigator
- University of Colorado at Denver
  - Barbara Smith, co- Principal Investigator
  - Phillip Strain, co- Principal Investigator



# Research, Training, and Dissemination Team



## **University of Kansas**

- Judith Carta, Wayne Sailor, Ann Turnbull, Barbara Thompson, Eva Horn, Jean Ann Summers, Charles Greenwood

## **University of Illinois**

- Mary Louise Hemmeter, Micki Ostrosky, Amy Santos

## **Tennessee Voices for Children**

- Matt Timm, Diane Dixon

## **Lehigh University**

- Lee Kern, George DuPaul

## **University of Florida**

- Maureen Conroy

## **Pyramid Parent Training**

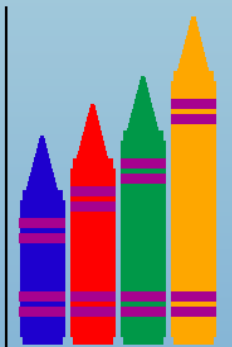
- Ursula and DJ Markey

## **University of Colorado - Denver**

- Phil Srain, Barbara Smith, Gail Joseph







## **University of South Florida**

- Lise Fox, Glen Dunlap



# Primary Dissemination Partners



-  National Association for the Education of Young Children
-  Division for Early Childhood, Council for Exceptional Children
-  National Association of Child Care Resource and Referral Agencies
-  National Head Start Association
-  National Black Child Development Institute
-  National Association on Bilingual Education



# Advisory Group

 George Askew

 Donna Bryant

 Kathy Dennis

 Carl Dunst

 Mario Hernandez

 Roxane Kaufman

 Jane Knitzer

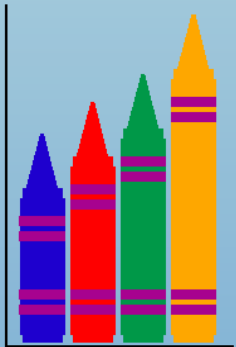
 Bruce Ramirez

 George Sugai

 Maria Synodi

 Mark Wolery

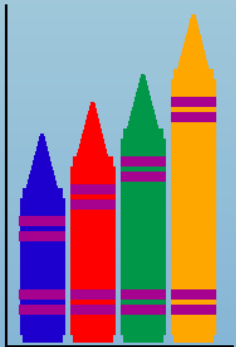
 Terry Harrison





# Center Activities (Year 1)

- Identify evidence-based practices
  - Prepare major syntheses in three areas:
    - Systems of Service Delivery
    - Effective Practices for Young Children and Families
    - Service Utilization
- Develop materials and implement strategies to impact personnel preparation




# Center Activities (Year 1) - 2

- Develop partnerships with national organizations and other dissemination networks to conduct widespread campaign of awareness
- Develop and finalize research agenda based on syntheses and input from stakeholders
- Establish national Advisory Group




# Center Activities (Years 2-5)

- 
- Disseminate information to enhance awareness and implementation of evidence-based practices for young children and families affected by challenging behavior
  - Agreements with state and national organizations for training and dissemination
  - Web site
  - Press releases
  - Articles in multiple formats
  - Materials for pre- and in-service training



# Center Activities (Years 2-5)

- 
- Implement a national program of research to address critical issues for young children and families affected by challenging behavior, including:
    - Longitudinal, multi-site study to investigate relative and interactive effects of ecological and intervention variables
    - Studies on direct services and interventions
    - Studies on administrative operations and systems variables
    - Studies on personnel preparation and utilization



# Overall Purpose of the Center

- To improve the lives and futures of young children and their families by:
  - (1) building a more unified and widespread awareness of positive, evidence-based practices,
  - (2) enhancing the capacity of families, educators, and other professionals to implement evidence-based practices, and
  - (3) adding to the data base of evidence-based practices that are incorporated in the comprehensive service delivery system.






# Center for Evidence-Based Practice: Young Children with Challenging Behavior

Syntheses of  
Existing  
Knowledge

# Center for Evidence-Based Practice: Young Children with Challenging Behavior

- 
- Syntheses of Evidence Conducted in the Following Areas:
    - Service Utilization (Pathways to Service Utilization)
    - Systems of Service Delivery
    - Intervention Practices




# Definition of Challenging Behavior

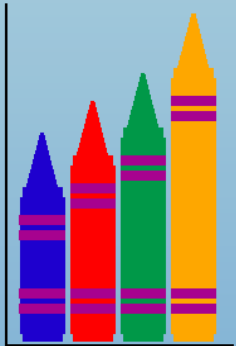
- Any repeated pattern of behavior that interferes with or is at risk of interfering with optimal learning or engagement in pro-social interactions with peers and adults.





# General Procedures

- 
- Literature reviews of primary and secondary sources using data bases in medicine, psychology, child development, education, etc.
  - Interviews with authorities in these fields
  - Development of draft document with summary statements
  - Review of document by authorities in relevant disciplines
  - Revise and submit for formal peer review
  - (Syntheses are dynamic projects)











# Center for Evidence-Based Practice: Young Children with Challenging Behavior

## Synthesis of Effective Interventions

# Level of Confidence Indicators

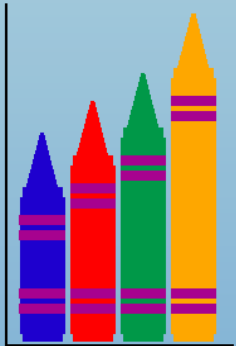


-  Evidence of treatment fidelity
-  Evidence for treatment generalization
-  Evidence for treatment maintenance
-  Evidence for social validity of outcomes
-  Evidence for acceptability of intervention
-  Evidence for replication across investigators



# Level of Confidence Indicators

- Evidence of replication across clinical groups
- Evidence of replication across ethnic/racially diverse groups
- Evidence of replication across settings
- High Confidence – meets 7 or more indicators
- Medium Confidence – meets 4-6 indicators
- Low Confidence – meets less than 4 indicators



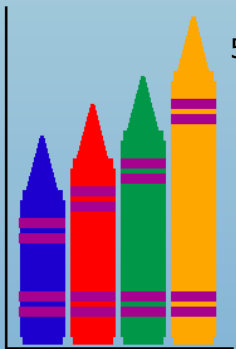
# Applied Behavior Analysis Interventions to Increase Prosocial Behavior –

1. Five general categories of intervention were identified
  - a) Teacher Prompting and Praise
  - b) Peer-mediated Intervention (highest confidence)
  - c) Group Contingencies
  - d) Correspondence Training
  - e) Affection Training Procedures



# Applied Behavior Analysis Interventions to Increase Prosocial Behavior –

2. Individualization for each child is critical to success (reinforcers used, language level, preferences for certain materials or toys)
3. Except for peer-mediated strategies, the long-term efficacy is unknown
4. No reported negative side-effects and some free effects (spillover of reinforcement, increased social skillfulness and better attitudes by typical children)
5. Effects not dependent on beginning skill level or disability status



# Comprehensive Social Emotional Learning Programs: Criteria for Inclusion

- Focused on fostering social emotional skills and/or decreasing problem behavior
- Targeted children under age 6
- Children were intervention foci
- Manualized curriculum



# Methods

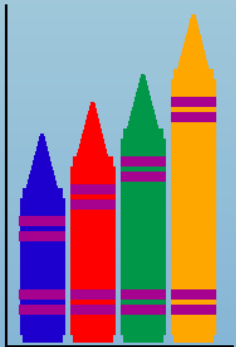
- Searched data bases (PsychInfo, ERIC, Medline)
- Reviewed previous comprehensive review papers and government reports
- Reviewed early childhood education websites for recommended curricula





# Methods

- Reviewed all published curriculum efficacy studies
- Contacted all program developers
- Evaluated studies utilizing established “level of confidence” criteria
- Assigned each curriculum a confidence rating



# Results

- Identified 8 comprehensive social emotional curricula
- Identified 2 promising programs



**Table 2. Levels of Evidence**

<b>Program Name</b>	<b>First Author</b>	<b>Treatment Fidelity</b>	<b>Treatment Generalization</b>	<b>Treatment Maintenance</b>	<b>Social Validity of outcomes</b>	<b>Acceptability of Interventions</b>	<b>Replication across Investigators</b>	<b>Replication across clinical groups</b>	<b>Evidence across ethnic/racially diverse groups</b>	<b>Replication across settings</b>	<b>Level of Evidence</b>
<b>Social-emotional intervention for at-risk 4 year olds</b>	Denham	✓							✓		Low
<b>Self-Determination Curriculum</b>	Serna							✓	✓		Low
<b>PALS: Developing Social Skills Through Language</b>	Vaughn			✓			✓	✓			Low
<b>DARE to be You</b>	Miller-Heyl	✓		✓					✓		Low
<b>ICPS</b>	Shure		✓	✓			✓		✓	✓	Medium
<b>AI's Pals: Kids Making Healthy Choices</b>	Geller	✓				✓	✓		✓	✓	Medium
<b>The Incredible Years: Dinosaur School</b>	Webster-Stratton	✓	✓	✓		✓	✓	✓	✓	In progress	High
<b>First Steps</b>	Walker	✓	✓	✓	✓		✓	✓	✓	In progress	High

# Highest Rated

-  First Steps to Success
-  Incredible Years: Dinosaur School




# Promising Programs

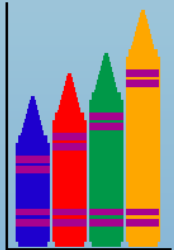
- PATHS: Promoting Alternative Thinking Strategies
- Second Step Violence Prevention Program



# Coming of Age: Stimulant Medication Use with Preschool-Aged Children



Lee Kern, George DuPaul  
Lehigh University  
John VanBrakle  
Lehigh Valley Hospital



Center for Evidence-Based Practice:  
Young Children  
with Challenging Behavior

# Presence of Behavioral Characteristics of ADHD in Preschool-Aged Children

- 2-5.7% of preschool aged children receive diagnoses of ADHD
- (Lavigne et al., 1996; Keenan et al., 1997)
  
- Symptoms continue in elementary school for approximately 50%
- (Campbell & Ewing,



# Use of Stimulant Medication in Preschool Aged Children

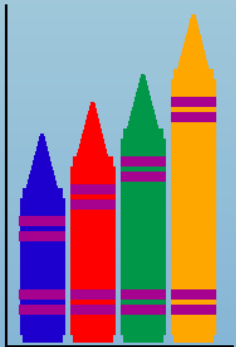
- 94% of prescriptions for children are off-label
- Use of MHP in children 2-4 tripled between 1991-1995 (Zito et al. 2000)
- MHP among three most commonly prescribed medications for children under age 6 (Zito et al., 2000)
- National Disease and Therapeutic Index reported 400,000 prescriptions of MHP for children under 6 (IMS America, 1995)





# Use of Stimulant Medication in Preschool Aged Children

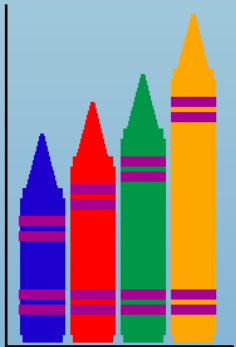
- Michigan Medicaid found 60% of children 3 years or younger diagnosed with ADHD receive stimulants (Coyle, 2000)
  - 50% receive 2 or more medications
  - Only 25% receive psychological services
- White House listed MHP as highest priority medication needing further safety and efficacy research for use in pediatric population



# Issues with Use of Stimulant Among Preschool-Age Children

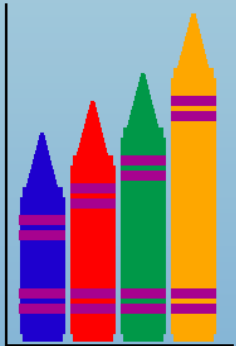
Dopamine transmitter system involved in MPH response in adults is in state of development in preschool-aged children (Volkow et al., 1998)

- MPH studies did not include preschoolers, therefore nothing known about safety or dose range
- Lack of support for biochemical or physical basis for ADHD
- Diagnostic difficulties in preschool-age children



# Purpose of Review

- To determine the level of evidence supporting the effectiveness of stimulant medications with preschool age children



# Literature Review: Inclusion Criteria

- Computer searches (Medline, Psychlit, ERIC), ancestral searches
- Descriptors: medication related, child related, behavior related, disability related
- Articles published between 1975-2001
- Peer reviewed publications
- Preschool age children



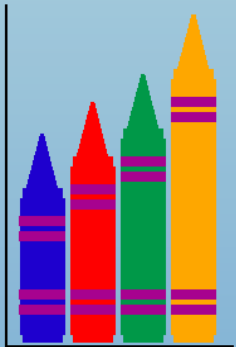
# Criteria Used to Determine Level of Evidence

1. Evidence for treatment fidelity
2. Evidence for treatment generalization
3. Evidence for maintenance
4. Evidence for social validity
5. Evidence for acceptability



# Criteria Used to Determine Level of Evidence

6. Evidence for replication across investigative teams
7. Evidence for replication across gender and ethnically/racially diverse groups
8. Evidence for replication across settings
9. Evidence for naïve evaluation
10. Evidence for evaluation of side effects



# Findings

- 16 studies identified meeting inclusion criteria
- 247 participants (range, 1-59)
- 20 additional participants served as controls
- Age range of participant: 2.5 to 6 years



# Overall Findings

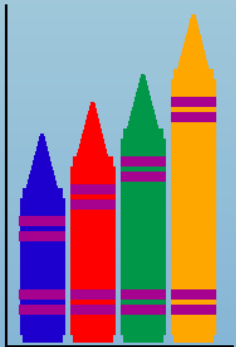
- Approximately 50% of participants showed a positive response to stimulant medication
- Behaviors showing improvement included decreases in off-task and motor activity and increases in compliance; Lab studies indicated increases in sustained attention and impulse control
- In general, significant improvements more likely with higher dosage
- Of the studies that measured side effects, they were noted in approximately 45% of participants (10% experienced severe side effects)





# Level of Evidence

1. Treatment fidelity: assessed in 3 of 16 studies
2. Treatment generalization:



# Level of Evidence

Variable	Number of Studies (Total=16)
1. Treatment Fidelity	3
2. Treatment Generalization	13
3. Maintenance	4
4. Social validity	2
5. Acceptability	1

# Level of Evidence

Variable	Number of Studies (Total=16)
6. Replication: investigative teams	14
7. Replication: gender, ethnic/racial groups	14
8. Replication: settings	16
9. Naïve evaluation	13
10. Side effects	13

# Overall Level of Evidence

OVERALL RATING	NUMBER OF STUDIES
<b>High</b> (criteria met in 7-10 categories)	0
<b>Medium</b> (criteria met in 4-6 categories)	5
<b>Low</b> (criteria met in less than 5 categories)	11

# Research Limitations/Concerns



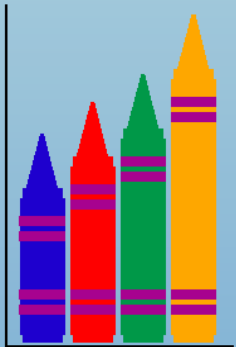
1. No direct observations have been conducted in home or typical preschool settings
2. Few behaviors evaluated
3. Most participants Caucasian, middle-class, males
4. Failure to assess treatment fidelity
5. Limited duration of evaluation
6. High rates of side effects
7. Lack of social validity/consumer satisfaction data



# Center for Evidence-Based Practice: Young Children with Challenging Behavior





## Synthesis of Knowledge on: Positive Behavior Support for Young Children with Challenging Behaviors

Glen Dunlap & Maureen Conroy



# PBS Categories



-  Functional (Behavioral) Assessment and Assessment-based Interventions
-  Functional Communication Training
-  Self-Management
-  Choice Making




# Functional Assessment and Assessment-based Interventions

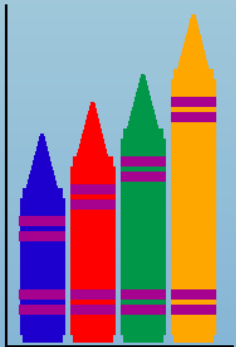
- *High Confidence Rating*
- A great deal of data exist, across settings and investigators
- Very clear and consistent effects for preventing and resolving challenging behaviors
- Almost all of the data are with children above 3 years of age





# Functional Communication Training

- 
- *Medium Confidence Rating*
  - While the data are strong and the effects have been replicated across many participants, there are relatively few studies with children under the age of 6
  - Few studies with measures of fidelity or generality



# Self-Management


- *Medium Confidence Rating*
- All of the data are with children above 3 years of age (self-management is not likely to be relevant for younger children)
- Data that exist are strong, but little evidence of replicability or application across many different population groups

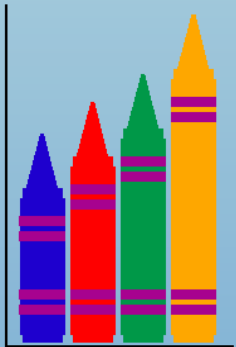


# Choice Making

- *Low confidence rating*
- Though the existing data are strong, and the rationale is clear, there have been few studies conducted with children under the age of 6
- Little evidence of social validity, acceptability, fidelity, and use with diverse populations



- 
- There is very good support for PBS as an intervention approach for young children with challenging behaviors
  - However, for some particular categories of PBS interventions, the existing data are still few
  - It is expected that additional data will increase the confidence ratings, however some procedures may still have limited relevance for very young children



# The Ending



Questions?



Discussion?



Thanks very much.....

