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PROMISING TREATMENT FOUND FOR CHILDREN WITH INAPPROPRIATE BEHAVIOR

Researchers Dr. Natasha K. Bowen and Erica Richman of the University of North Carolina at Chapel Hill studied 301 treatment records of children age 3 to 17 between 2002 and 2007. They found that Behavioral Health Rehabilitation Services (BHRS) as implemented by the staff of the Institute for Behavior Change had a statistically significant association with reductions in physical aggression, noncompliance with adult prompts, socialization deficits and communication deficits. An association was also found with improvements in the environmental safety of the children. The results were presented at the prestigious bi-annual meeting of the Training Institutes sponsored by Georgetown University and the Substance Abuse and Mental Health Services Administration in Nashville, Tennessee on July 16, 2007. This is the first study to measure the relationship of BHRS to the outcomes of so many children; previous studies involved fewer than 30 subjects. Because there was no comparison group, no claims of causality can be made, but the consistent findings of association between the intervention and outcomes is promising. More research is planned to study the treatment effects in greater detail; more than 1,000 cases now exist in the BHRS treatment outcome database.

In the IBC model for BHRS delivery, Masters-level staff receive weekly supervision from licensed professional psychologists. The Masters-level staff then supervise Bachelors-level staff who go to the homes and schools of children to deliver behavioral support services directly to children for up to 7 hours per day, five to seven days per week. This extremely intensive intervention model unites parents, teachers and mental health professionals in a coordinated, concerted effort to help the child learn new ways of living and coping with stress and the demands of living socially. This study shows that the intensive involvement of Licensed Psychologists and Bachelors-level staff (called “Therapeutic Staff Support providers”) is consistently associated with behavioral change that is substantial in the lives of children with Autism Spectrum disorders, ADHD and a variety of other behavioral conditions. The treatment is funded 100% by Medicaid. Throughout Pennsylvania, it is available *regardless* of family income.

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Evaluating the Effectiveness of the IBC Model for Treating Mental Illnesses in Children Using Behavioral Health Rehabilitation Services (BHRS) via the Medicaid EPSDT mandate

- ✓ The Institute for Behavior Change staff have been helping children with diagnosed mental illnesses by providing in-home and in-classroom psychological evaluation, treatment planning and outcome monitoring, and behavioral support services since 1997. Of more than 500 children treated by IBC staff, 90% have completed treatment in 3 years or less; 75% in under 2 years. Applied Behavior Analysis principles are implemented conscientiously in all Treatment Plans.

- ✓ IBC provides staff to deliver Behavioral Health Rehabilitation Services (BHRS) under the supervision of Licensed Psychologists via the Medicaid statute. These services can be created in any state under Early and Periodic Screening, Diagnosis and Treatment (EPSDT) regulations that are a mandatory part of the federal Medicaid statute. In Pennsylvania and many other states, any child with a disabling mental illness is eligible for these services, at no cost whatsoever, *regardless of family income.*

- ✓ Behavior is addressed in five basic domains: 1) physical aggression (2) lack of safety awareness, (3) socialization deficits, (4) communication deficits, and (5) noncompliance with adult prompts. Each child in treatment has three goals drawn from these domains in each four-month treatment period. Treatment periods can be repeated as often as necessary (using the intentionally broad definition of "medical necessity" required by the Federal Medicaid statute) up to the child's 21st birthday.

Methods

- ✓ A child is prescribed necessary BHRS treatment by a licensed psychologist, following a thorough bio-psycho-social evaluation of the child's strengths, weaknesses and needs, summarized in a 12+ page evaluation report and a written treatment plan. The plan is implemented by a Treatment Team that includes the child, the parent(s), teacher(s) and Bachelor-level Therapeutic Staff Support (TSS) providers who function under the weekly supervision of Masters-level Behavior Specialist Consultants (who are themselves supervised each week by the licensed psychologists). In the present study, TSS service varied from 10 to 35 hours per week. Behavior Specialists provided 2-3 hours of service per week.

- ✓ The child's parent provides direct feed-back to the Behavior Specialist as to the frequency and severity of target behavior. Data is collected weekly from the parent throughout the treatment monitoring period. Data for 587 treatment periods was available for study, but only the data from the *first* 13-weeks of the treatment period for any given child was analyzed in the present study, to control for the effect of time in treatment.

Sample

- ✓ 301 treatment periods (the first 13-week BHRS experience for all subjects) were analyzed, children ranged in age from 3-17.
  - 13.6% - Ages 3-4
  - 47.6% - Ages 5-8
  - 25.6% - Ages 9-12
  - 13.0% - Ages 13-17

- ✓ The sample included children of various backgrounds including Caucasian (79.2%), Asian (10%), and African American, Bi-racial, and Latino/a (10.8%). The latter group was formed due to the small sample size.

- ✓ The diagnoses of the children included Autistic Spectrum Disorders (47.3%), ADHD (26.8%), Mood Disorder, (11.4%), and Behavioral Disorders (14.4%).

- ✓ This was the first outpatient treatment experience for 72% of the children; 28% had previously received outpatient psychotherapy and 12% had previously received inpatient mental health treatment. None of the children were receiving any mental health treatment in addition to BHRS during the period of the study.

Results

- ✓ At least 15% net change in target behavior was shown by the following percentages of children after 13 weeks of treatment.

  Note: The table shows the "net" rate of change after 13 weeks of treatment, *including* the escalation of target behavior that typifies the "extinction burst" phenomena common in all initial treatment periods.

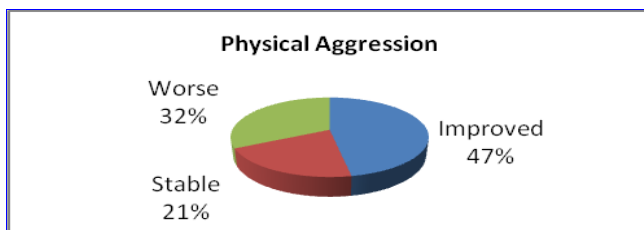
Target Behavior Domain	Improved or Stabilized
Physical Aggression	68%
Communication deficits	66%
Socialization deficits	62%
Lack of Environmental Safety	58%
Noncompliance with adult prompts	57%

- ✓ All children had escalating behavior problems at the start of treatment, so improvement or stabilization of target behavior should be considered "successful treatment." Not all children could be successfully treated in just 13 weeks. Of the 587 treatment records that were submitted for analysis, 79% had improved or stabilized behavior within 3 years, leaving only 21% who did not respond positively to the BHRS treatment implemented by the staff of the Institute for Behavior Change.

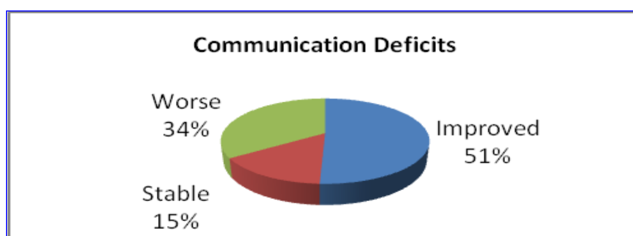
- ✓ The percentage of change between week 1 and week 13 was also examined, and also consistently showed overall effectiveness.

- ✓ Hierarchical linear modeling (HLM) was used to determine if the IBC treatments were related to improvements in client behavior.
  - Although a control group is necessary in order to claim that treatment caused behavior change in the children, HLM establishes that decreases in target behaviors occurred during the IBC treatment period.
  - HLM was chosen for the analysis because the data have a nested, multilevel structure, with time points nested within individual children. This process ensures that the violation of the assumption that observations are independent of each other is accounted for (Guo, 2005).
- ✓ Analyses confirmed that increased time in treatment was significantly related ($p<.05$) to better outcomes in four of the five behavior domains for all children (the fifth domain, *Safety Awareness*, achieved a significance level of $p=.051$).
  - Age and gender were both shown to be significant predictors for change in physical aggression. Males improved more than females ($p=.017$), and younger children improved more than older children ($p=.03$).
  - A cross level interaction was found, indicating that children who spent longer times in treatment generally showed less noncompliance with adult prompts over the course of treatment.
  - Younger children were more likely to show improvement in safety awareness than older children.

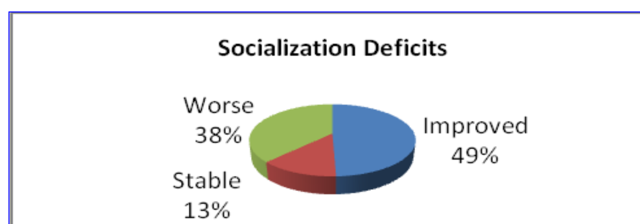
Charts for the top 3 improvement areas:



68% overall success in 13 weeks



66% overall success in 13 weeks



62% overall success in 13 weeks

Discussion

- ✓ Treatment provided by IBC staff is positively related to a decrease in identified target behavior (level one predictors).
- ✓ Improvements occurred in all five domains over the 13 week monitoring period. Considering that the first 13 weeks of treatment often show the *slowest* rate of improvement (as the child adjusts to changes imposed by the treatment plan, while rapport with the treatment team is being established, and the common "extinction burst" phenomena occurs), the rates of improvement shown are remarkable.
- ✓ Regarding physical aggression, age and gender influenced outcomes with boys and younger children more likely to show improvement within the first 13 weeks of treatment.
- ✓ Regarding safety awareness, younger children are more likely to improve in the first 13 weeks of treatment than older children.
- ✓ Among Medicaid recipients, BHRS is received disproportionately by Caucasian children, suggesting inadequate dissemination of information about the availability of BHRS via the EPSDT mandate, to families of children eligible for Medicaid.
- ✓ More research is planned to investigate the effects of BHRS on children, including analyses of successive treatment programs for the same child over periods of 1 to 2 years. Data suggests increasing effectiveness of BHRS over time.

The research cited in this monograph was conducted by Dr. Natasha K. Bowen and Erica L. Richman at the University of North Carolina at Chapel Hill. The raw data is available at **www.ibc-pa.org** We now have over 1,000 records in our BHRS treatment outcome database and invite independent researchers to contact us regarding access to this data for research purposes, including long-term outcome studies.

The founder and executive director of the Institute for Behavior Change, licensed psychologist and certified school psychologist Steven Kossor, has been recognized by the US Congress, both houses of the Pennsylvania legislature and by the President's New Freedom Commission on Mental Health for his visionary leadership in creating this successful model for in-home and in-school treatment of children with behavioral challenges.

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Resources for Behavioral Health Rehabilitation Services (BHRS), Medicaid, and Treatment Planning

www.treatmentplansthatworked.com has more than 500 of the actual Treatment Plans used by IBC staff, *with the data that documents their success.* All of the 301 treatment plans used in the UNC-Chapel Hill study are included in this database. This is the largest database of successful treatment plans for children in the world.

www.ibc-pa.org has information about the model for BHRS delivery developed by Mr. Kossor, funding for behavioral treatment via Medicaid, and other resources needed to implement the in-home and in-school treatment approach described in this monograph. Sample evaluation reports, treatment plans, data collection tools and professional consultations are available to facilitate replication of this BHRS model in other states.

www.OurCaseManager.pro offers expert assistance to improve the quality of behavioral Treatment Plans and Individual Education Plans (IEPs) to maximize the probability that treatment funding is secured and maintained until the treatment program is finished successfully, despite Managed Care and other obstacles.

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