

HERC Presenters on Applied Behavior Analysis, 9/12/2013: Biographical Summaries

Dr. Gina Green, Ph.D., BCBA-D, Association of Professional Behavior Analysts

Gina Green received a PhD in Psychology (Analysis of Behavior) from Utah State University in 1986 following undergraduate and master's degree studies at Michigan State University. She has been a faculty member in Behavior Analysis and Therapy at Southern Illinois University; Director of Research at the New England Center for Children in Southborough, Massachusetts; Associate Scientist at the E.K. Shriver Center for Mental Retardation in Waltham, Massachusetts; Research Associate Professor of Psychiatry and Pediatrics, University of Massachusetts Medical School; and a Lecturer in Public Health and Special Education at San Diego State University. Currently Dr. Green is the Executive Director of the Association of Professional Behavior Analysts, and a consultant in private practice in San Diego. She has authored numerous publications on the treatment of individuals with developmental disabilities and brain injuries, as well as the experimental analysis of behavior. Dr. Green co-edited the books *Behavioral Intervention for Young Children with Autism* and *Making a Difference: Behavioral Intervention for Autism*. She serves or has served on the editorial boards of several professional journals in developmental disabilities and behavior analysis. Dr. Green also serves on the Board of Trustees and the Autism Advisory Group of the Cambridge Center for Behavioral Studies and the advisory boards of several autism programs and organizations. She is a Board Certified Behavior Analyst-Doctoral, former president of the Association for Behavior Analysis and the California Association for Behavior Analysis, a former member of the Board of Directors of the Behavior Analyst Certification Board, a founding Director of the Association of Professional Behavior Analysts, and a Fellow of the American Psychological Association, the Council for Scientific Medicine and Mental Health, and the Association for Behavior Analysis.

Psychology Today named her "Mental Health Professional of the Year" in 2000. In 2005 she was awarded an honorary Doctor of Science degree from The Queen's University of Belfast, Northern Ireland for her work in autism. She also received the 2013 Award for Outstanding Contributions to Behavior Analysis from the California Association for Behavior Analysis. Dr. Green lectures and consults widely on autism and related disorders, behavioral research, effective interventions for people with disabilities, and public policies affecting the practice of applied behavior analysis.

Dr. Brian Reichow, Ph.D., BCBA-D, Yale Child Study Center, AJ Pappanikou Center for Excellence in Developmental Disabilities

Brian Reichow, Ph.D., BCBA-D is Assistant Professor of Community Medicine and Health Care and Director of Research at the AJ Pappanikou Center for Excellence in Developmental Disabilities at the University of Connecticut Health Center, and Assistant Professor (Adjunct) at the Yale Child Study Center, where he completed his post-doctoral training and served on faculty before moving to the University of Connecticut. Dr. Reichow completed his doctoral studies in Special Education at Vanderbilt

University, where he received the M.S. and Ph.D. degrees. Dr. Reichow completed his Undergraduate training in Elementary Education and Psychology at the University of North Carolina at Chapel Hill, and was a public school teacher for children with autism spectrum disorders for many years in the Durham Public Schools. As a researcher, Dr. Reichow has led numerous investigations of interventions for young children with autism and has led numerous systematic reviews and meta-analyses of autism interventions.

Dr. Reichow's current research interests include methodological issues of meta-analytic techniques, identifying evidence-based practices and treatments for children with autism, and the translation of clinical and laboratory research findings into practice. He is participating with colleagues from the World Health Organization in a pilot study investigating the effects of providing training community health care providers in lower- and middle-income countries in the identification and early intervention strategies for children with autism spectrum disorder. Dr. Reichow was the lead editor of the book, *Evidence-Based Practices and Treatments for Children with Autism*, and is finishing editing a book on adolescents and adults with autism, to be published in 2014.

Dr. Louis P. Hagopian, Ph.D., BCBA-D Johns Hopkins University School of Medicine; Kennedy Krieger Institute

Dr. Louis P. Hagopian is an Associate Professor of Psychiatry and Behavioral Sciences at the Johns Hopkins University School of Medicine, and Program Director of the Neurobehavioral Unit at the Kennedy Krieger Institute in Baltimore. He is a Board Certified Behavior Analyst, and Licensed Psychologist. He is expert in the field of applied behavior analysis and study and treatment of severe problem behavior (self-injury, aggression, pica) in individuals with autism and intellectual and developmental disabilities. He is a clinician, researcher, and an advisor to governmental and private agencies.

The Neurobehavioral Unit at KKI, which he directs, is considered to be the premiere program for individuals with intellectual and developmental disabilities who engage in severe self-injury, aggression, and other dangerous behaviors. This program draws nationally, and has served individuals from 33 states. He has published 66 articles in 14 different peer reviewed journals, including behavioral, interdisciplinary, international, and medical/psychiatric journals. His research on autism and treatment of severe problem behavior has been supported by grants from the National Institutes of Health. Dr. Hagopian has been called upon by numerous state agencies, education departments, disability service organizations, advocacy organizations, professional organizations, States Attorneys General from New York and New Jersey, and the U.S. Department of Justice for guidance and consultation on matters related to persons with autism and intellectual disabilities. This work includes the development of standards for treatment, position statements, best practice guidelines, and expert consultation.

ABA Treatments for ASD: Alternative Sources of Scientific Evidence

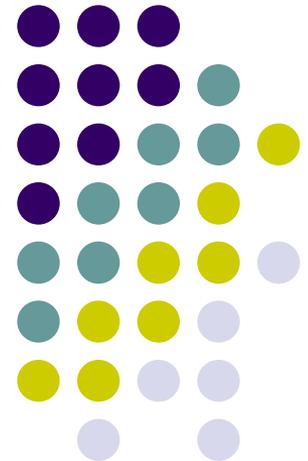
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Association of Professional Behavior Analysts

Association of

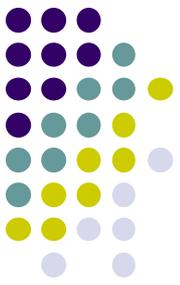


*Professional
Behavior Analysts*

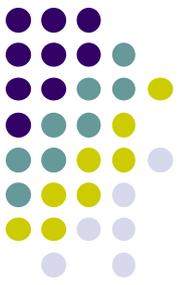


Topics

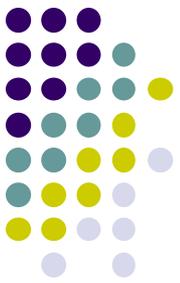
- Many thanks for this opportunity!
- Context: Behavior analysis
 - The discipline
 - ABA treatments
 - Behavior analytic research methods
- Scientific research methods for addressing various questions
- Sources of scientific evidence on ABA treatments for ASD
- Closing remarks



Behavior (not “behavioral”) analysis



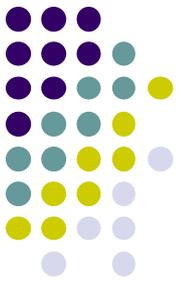
- A scientific discipline
 - Subject matter: behavior interacting with the environment
 - **Behavior:** anything done by living organisms
 - **Environment:** Physical and social events preceding and following occurrences of a behavior that may influence the likelihood the behavior will reoccur over time
 - Theoretical, experimental, and applied branches
 - Research methods
 - Treatment procedures
 - Scientific journals
 - Large research literature (basic and applied)



Behavior analysis

- Textbooks
- University training programs
- Scholarly and professional organizations
- Nationally accredited professional credentialing program: Behavior Analyst Certification Board (BACB)
 - Knowledge and competencies
 - Degree, coursework, supervised clinical training
 - Psychometrically and legally validated examinations
 - Ethical and disciplinary standards
 - Continuing education

Applied behavior analysis (ABA)



- Application of scientific principles (natural laws) of behavior and procedures discovered through basic research (e.g., positive reinforcement) to improve socially significant behavior to a meaningful degree
- *Many* applications in addition to ASD
 - Business and industry, regular and special education (all levels), child rearing, family life, gerontology, health and fitness, sports, head injuries, spinal cord injuries, eating disorders, substance abuse, psychiatric disorders, driver and pedestrian safety, and more

ABA treatments (interventions)



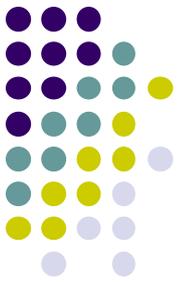
- Designed and overseen by qualified professional behavior analysts
- Highly individualized
- Many evidence-based procedures for building useful skills and reducing behaviors that impede healthy, successful functioning
 - **Focused treatments:** Small number of treatment targets and procedures
 - **Package treatments:** Several treatment targets and procedures
 - **Comprehensive treatments:** Many treatment targets and procedures

ABA treatments



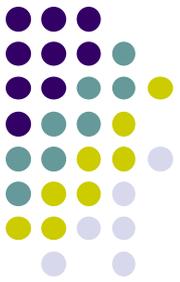
- Flexible and dynamic; procedures are adjusted as needed based on data representing repeated measurement of treatment targets
- Intricate and complex
- Stress scientific evaluations of effectiveness
- *NOTE: The “behavioral” interventions in a number of studies reviewed by HERC’s sources do not have the defining characteristics of ABA.*

Behavior analytic research methods

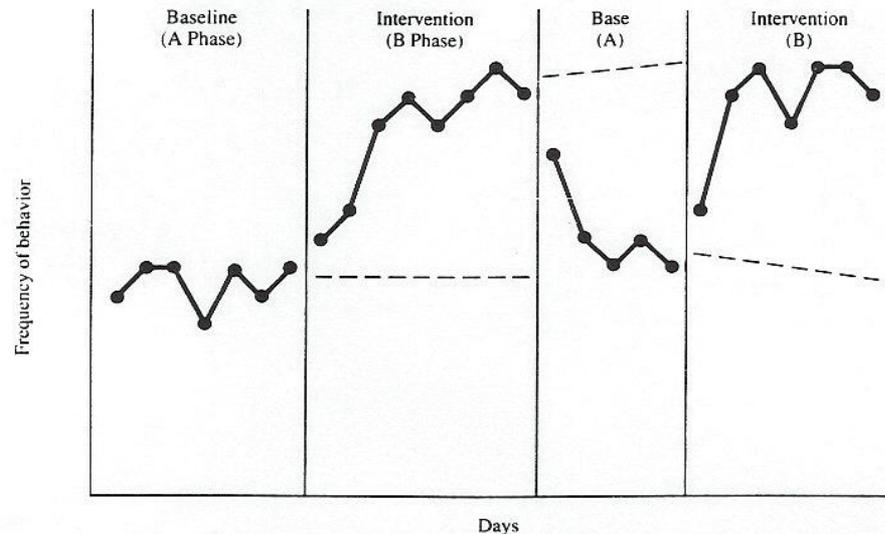


- Subject matter of the science: relations among behaviors and environmental events
 - *Behavior occurs only at the level of the individual*
- Research methods:
 - Single-case research designs
 - *Rigorous controlled experiments, not mere descriptions of “case studies” or “case reports”*
 - Target behavior is defined in observable terms, measured directly and repeatedly in sessions that often occur daily or several times a day in
 - Baseline phase(s) without the treatment of interest in place (i.e., a no- treatment or “treatment as usual” control condition)
 - Treatment phase(s) with the treatment in place (experimental condition)
 - Phases replicated with same individual and/or others (arranged to fit the research/clinical question; multiple types of designs)
 - Extraneous variables controlled directly

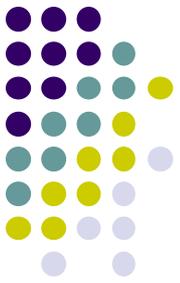
Behavior analytic research methods



- Graphed data compared to determine if the behavior changed in the treatment phases relative to baseline, and if so, whether that change can be attributed to the treatment
- If data reflect unsatisfactory behavior change, treatment procedures can be adjusted or different procedures can be introduced (designs are flexible while still permitting strong inferences about relations between treatments and behaviors)
- One type of design (withdrawal):



Behavior analytic research methods



- Generality of relations between behavior and environmental events and of treatments (external validity) demonstrated empirically through replications
- Data from multiple single-case design studies can be aggregated and analyzed statistically
- Methods have been developed for
 - Evaluating the scientific merit of behavior analytic studies
 - Conducting meta-analyses of data aggregated across many single-case design studies
 - Calculating effect sizes
- Single-case and between-groups research design elements can be combined
- *The overwhelming majority of scientific studies of ABA treatments for ASD used single-case research designs and behavior analytic data analysis methods.*

Different methods for different questions

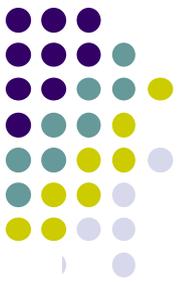


- Studies using between-groups research designs and statistical comparisons of group means are valuable for addressing certain actuarial questions, such as which of two treatments is more effective *on average*
- But there is growing recognition that they have significant limitations for determining
 - How treatments affect individuals (means and other group statistics obscure individual differences)
 - Clinical significance vs. statistical significance
 - Effective components of complex treatments
 - Applicability to “real world” patients/clients and settings

Different methods for different questions



- Large-N RCTs/CCTs have not been done and may not be feasible for many treatments/disorders due to
 - Costs
 - Challenge of finding large groups of homogeneous participants and keeping groups intact for weeks, months, or longer
 - Challenge of assuring that treatment is administered in exactly the same way to all participants
 - Not practical for some complex treatments (e.g., surgery, comprehensive ABA treatments)
 - Laws requiring interventions selected by education/treatment teams
 - Ethical concerns



...as currently designed and conducted, many RCTs are ill suited to meet the evidentiary needs implicit in the [Institute of Medicine] definition of CER [comparative effectiveness research]: comparison of effective interventions among patients in typical patient care settings, with decisions tailored to individual patient needs...As currently conducted, RCTs are inefficient and have become more complex, time consuming, and expensive...the artificial division of results into “significant” and “nonsignificant” is better suited for one-time dichotomous decisions, such as regulatory approval, and is not the best model for comparing interventions as evidence accumulates over time...With traditional trials and analytical methods, it is difficult to make optimal use of relevant existing, ancillary, or new evidence as it arises during a trial, and thus such methods often are not well suited to facilitate clinical and policy decision making, as occurs in a dynamic medical care system.

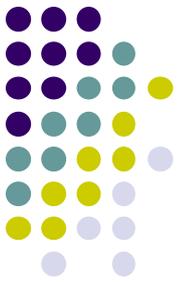
-- Luce, B.R. et al (2009). Rethinking randomized clinical trials for comparative effectiveness research: The need for transformational change. *Annals of Internal Medicine*, 151, 206-209.

Different methods for different questions



- Other types of research designs and data analysis methods are well-suited for comparing treatment and no-treatment conditions -- or more than one treatment -- within individual participants, and for changing treatments in response to information generated during a study.
 - *Behavior analytic research methods have those features.*
 - Some leaders in evidence-based medicine advocate using certain types of single-case research designs to obtain rich evidence about medical treatments. See
 - Larson, E. B. (1990). N-of-1 clinical trials: A technique for improving medical therapeutics. *The Western Journal of Medicine*, 1, 52-56.
 - Guyatt, G.H. et al (1988). A clinician's guide for conducting randomized trials in individual patients. *Canadian Medical Association Journal*, 139, 497-503.
 - Guyatt, G.H. et al (2000). Users' guides to the medical literature: XXV. Evidence-based medicine: Principles for applying the users' guides to patient care. *JAMA*, 284, 1290-1296.

Different methods for different questions



- Several national organizations include studies using single-case research designs in protocols for identifying evidence-based practices (EBPs). Examples:
 - American Psychological Association, Divisions 12 and 16
 - National Association of School Psychologists
 - U.S. Department of Education What Works Clearinghouse
- Behavior analytic research methods are particularly well-suited for evaluating certain treatments for ASD, which manifests in multiple behavioral deficits and excesses and affects each individual – and areas of functioning within individuals – differently.

Scientific evidence on ABA treatments for ASD



- Several organizations and agencies included studies using between-groups *and* single-case research designs in protocols for identifying EBPs for people with ASD:
 - National Autism Center National Standards Project
 - New Zealand Ministries of Health and Education
 - New York Department of Health Early Intervention Program
 - National Professional Development Center for ASD
 - *All found that multiple focused, package, and comprehensive ABA treatments meet scientific criteria for EBPs.*
- Numerous other systematic reviews and meta-analyses published in respected journals document the effectiveness of many ABA treatments for ameliorating core symptoms, reducing behaviors that jeopardize health and safety, and improving functioning for people with ASD of all ages.



Closing remarks

- RCTs and CCTs are important, but there is a broad array of other scientific methods for addressing various research/clinical questions.
- Behavior analysis is a natural science that has produced valuable information about treatments for the core symptoms of ASD and associated characteristics.
- A large body of research shows that ABA treatments are more effective than no treatment and some other treatments for ASD.
 - Most of that research was not reviewed by the authors of HERC's sources and some other reviewers, while some of the studies that were included did not evaluate bona fide ABA interventions.
 - Please consider the systematic reviews and meta-analyses of behavior analytic research on treatments for ASD provided by our working group.

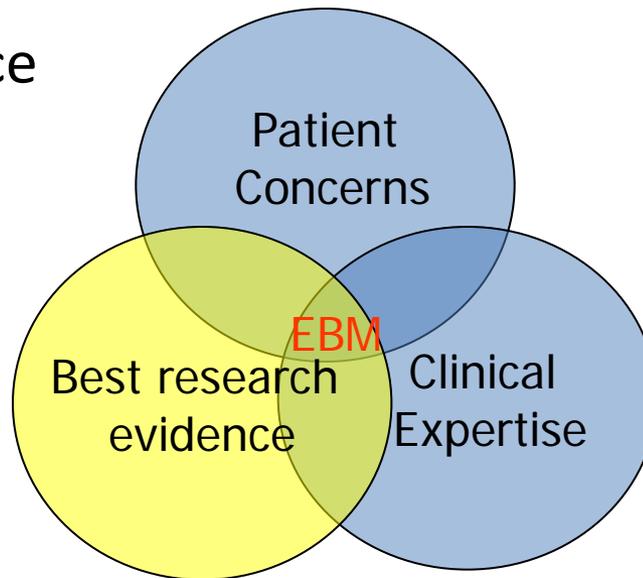
ABA for Autism Spectrum Disorder

Brian Reichow, Ph.D., BCBA-D

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Research Director, AJ Pappanikou Center for
Excellence in Developmental Disabilities
University of Connecticut Health Center

Evidence-Based Practice

- Early (and still relevant) definition of evidence-based medicine (Sackett et al., 1995)
 - Three areas
 - Best research evidence
 - Clinical expertise
 - Patient values



Best Research Evidence

- Part of EBP is evaluating the quality of research
- Multiple standards for research quality
 - Differing recognition of research methodologies other than RCT
 - Vary by defining organization
 - Has been especially problematic in ASD since so many professions work with children and adults with ASD
- Multiple methods for reviewing research evidence
 - Narrative reviews
 - Systematic reviews
 - Meta-analysis

[Intervention Review]

Early intensive behavioral intervention (EIBI) for young children with autism spectrum disorders (ASD)

Brian Reichow¹, Erin E Barton², Brian A Boyd³, Kara Hume⁴

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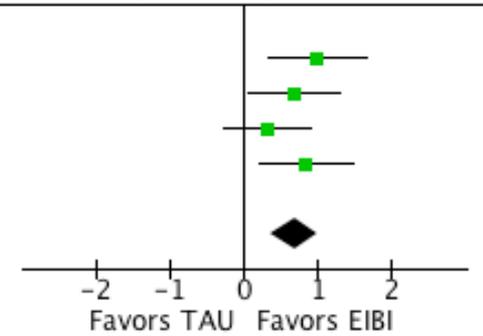
Citation: Reichow B, Barton EE, Boyd BA, Hume K. Early intensive behavioral intervention (EIBI) for young children with autism spectrum disorders (ASD). *Cochrane Database of Systematic Reviews* 2012, Issue 10. Art. No.: CD009260. DOI: 10.1002/14651858.CD009260.pub2.

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EIBI for ASD (2012; Adaptive Behavior)

Study or Subgroup	EIBI			TAU			Weight	Std. Mean Difference		Year	Std. Mean Difference	
	Mean	SD	Total	Mean	SD	Total		IV, Random, 95% CI	IV, Random, 95% CI		Favors TAU	Favors EIBI
Smith 2000	62.1	29.7	15	58.5	16.6	13	0.0%	0.14	[-0.60, 0.89]	2000		
Howard 2005	81.3	11.1	25	69.3	12.9	16	22.3%	1.00	[0.33, 1.66]	2005		
Cohen 2006	79	19.7	21	67.1	14.3	21	25.5%	0.68	[0.05, 1.30]	2006		
Remington 2007	202.8	62	23	182.9	58.9	21	28.0%	0.32	[-0.27, 0.92]	2007		
Magiati 2007	57.5	10.1	28	48.6	10.7	16	24.1%	0.85	[0.21, 1.49]	2007		
Total (95% CI)			97			74	100.0%	0.69	[0.38, 1.01]			

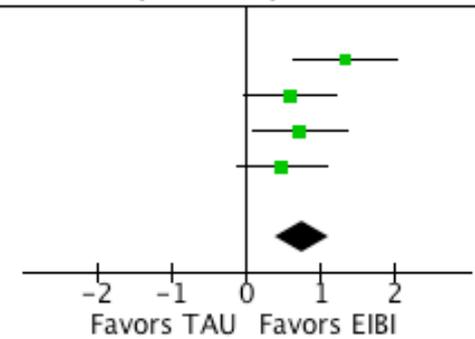
Heterogeneity: Tau² = 0.00; Chi² = 2.49, df = 3 (P = 0.48); I² = 0%
 Test for overall effect: Z = 4.29 (P < 0.0001)



EIBI for ASD (2012; IQ)

Study or Subgroup	EIBI			TAU			Weight	Std. Mean Difference IV, Random, 95% CI	Year	Std. Mean Difference IV, Random, 95% CI
	Mean	SD	Total	Mean	SD	Total				
Smith 2000	66.5	24.1	15	49.7	19.7	13	0.0%	0.74 [-0.04, 1.51]	2000	
Howard 2005	89.9	20.9	26	62.1	19.6	16	21.8%	1.34 [0.64, 2.03]	2005	
Cohen 2006	86.8	25	21	73.2	19.5	21	26.0%	0.60 [-0.02, 1.21]	2006	
Magiati 2007	78.4	17.6	28	65.3	18	16	25.0%	0.73 [0.09, 1.36]	2007	
Remington 2007	73.5	27.3	23	60.1	27.8	21	27.2%	0.48 [-0.12, 1.08]	2007	
Total (95% CI)			98			74	100.0%	0.76 [0.40, 1.11]		

Heterogeneity: $Tau^2 = 0.03$; $Chi^2 = 3.79$, $df = 3$ ($P = 0.28$); $I^2 = 21\%$
 Test for overall effect: $Z = 4.16$ ($P < 0.0001$)



ABA for Children with ASD

- Many systematic reviews limited to group comparative studies
 - Most research on ABA for ASD conducted using Single Subject Experimental Designs
 - Rigorous research methodology
 - Hundreds of articles published in peer-reviewed journals
 - Multiple sets of EBP standards for Single Subject Experimental Designs
 - When applied, show ABA is an EBP for ASD

ABA for Adults with ASD

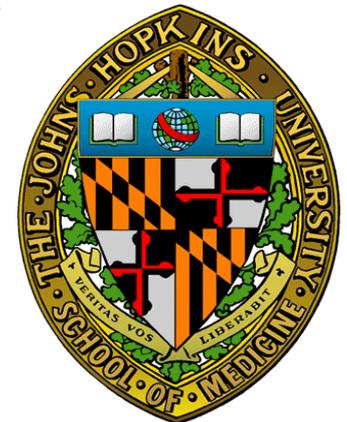
- ASD is a lifelong condition
 - Supports necessary throughout lifespan
- Much less research on adults than children – but the available evidence does demonstrate effectiveness of ABA for adults
 - Reichow & Volkmar (2010) systematic review of studies on social skills interventions for ASD; included studies using single-case research designs
 - Found substantial scientific evidence that ABA interventions are effective for building social skills in individuals with ASD
 - Only a few studies on social skills interventions for adolescents and adults
- When using EBP principles, in absence of research evidence, clinical expertise and patient values are relied upon
 - ABA has been used to change meaningful (patient- and parent-valued) behaviors in individuals with ASD across the lifespan

ABA-BASED TREATMENT FOR PROBLEM BEHAVIOR IN AUTISM AND OTHER DEVELOPMENTAL DISABILITIES

Louis Hagopian, Ph.D.
Kennedy Krieger Institute
Johns Hopkins University School of Medicine



Kennedy Krieger Institute



Problem Behavior in DD

- Persistent display of behavior(s) that *can produce injury to self or others, jeopardize health, and impair functioning*
- Interferes with skill development, community participation, family functioning
- **THE** greatest barrier to community integration
- More prevalent in individuals with ASD

SIB	<ul style="list-style-type: none"> • headbanging • head hitting • self biting • pulling out hair 	<ul style="list-style-type: none"> • eye poking • self scratching • skin picking • lip/tongue/gum biting
Aggression	<ul style="list-style-type: none"> • hitting • kicking • scratching 	<ul style="list-style-type: none"> • biting • pinching • choking
Disruption	<ul style="list-style-type: none"> • throwing objects • breaking items • tipping furniture 	<ul style="list-style-type: none"> • screaming • spitting
Pica	<ul style="list-style-type: none"> • rocks • dirt • feces 	<ul style="list-style-type: none"> • motor oil, poison, fertilizer • glass, utensils, spiral • clothing
Other	<ul style="list-style-type: none"> • climbing • elopement • fecal smearing • disrobing 	<ul style="list-style-type: none"> • inserting objects into outlets • noncompliance with/ med. care • excessive stereotypic behavior

Functional Behavioral Assessment (FBA)

- Aims to identify the
 - the events that occasion problem behavior
 - the consequences that strengthen it
 - and therefore its functionality to the individual
- FBA results are prescriptive for treatment

Functional Behavioral Assessment (FBA) and ABA-Based Treatment

- FBA Involves a range of data-based techniques
 - Naturalistic observations
 - Controlled conditions where an environment is simulated and data are collected on problem behavior
- FBA findings are prescriptive for ABA-based treatment and include procedures to
 - minimize the probability problem behavior will occur
 - not inadvertently reinforce problem behavior,
 - establish and strengthen appropriate behavior,
 - teach the individual to better predict and understand his/her environment

Evidence Base for Problem Focused ABA-Based Approaches for Problem Behavior

- 40+ years, thousands of studies/participants
- Meta analyses: Didden et al., (1997); Campbell (2003)
- Systematic reviews using “Empirically Supported Treatment” criteria
- Recently, *Controlled* Consecutive Case-Series Studies

FBA: Literature Review

- Hanley et al., 2003, 20-year review
 - 34 journals, 277 empirical studies
 - 103 studies included adults, 58 with ASD
 - 536 data sets, conclusive results in 96% of cases

FBA Results:

Consecutive Case-Series Studies

3 studies describing 397 cases

Conclusive Assessment findings were obtained in 90-95% of cases

- Iwata et al., 1994, FBA of self-injury
 - 152 cases, 113 were 11 y.o. or older
- Mueller, et al., 2001, FBA in school
 - 69 cases, 11 were over 13 y.o., 53 had ASD
- Hagopian et al., 2013, FBA of problem behavior
 - 176 cases, 87 were 12 y.o. and over, 97 had ASD

ABA-Based Treatments: Literature Reviews and Meta Analyses

- Kahng et al., 2002, 35-year review on the treatment of self-injury (1964-2000)
 - 63 journals, 396 empirical studies,
 - 706 participants, 212 children, 71 had ASD
 - On average, an 84% reduction in SIB was reported
- Campbell et al., 2003, Quantitative Analysis
 - 15 journals, 117 studies, 181 individuals with ASD, mean age: 10 y
 - Effect sizes calculated, FBA based treatments were more effective
- Harvey et al., 2009, Meta-analysis
 - 142 articles, 316 individuals, 40% over 10 y, 33% with ASD
 - Effect sizes calculated, FBA based treatments were more effective

ABA-Based Treatments: Evaluations using EST Criteria

- Treatment of Self-injury, aggression, property destruction
 - Kurtz et al., 2011 (28 high quality [HQ] studies on FCT, n = 80)
 - Carr et al., 2009 (24 HQ studies on NCR, n = 58)
- Treatment of Pica
 - Hagopian et al., 2011 (25 HQ studies, n = 50)
- Treatment of Phobic Avoidance
 - Jennett et al., 2011 (12 HQ studies, n = 28)
- ABA-based treatments meet EST criteria for “well-established”
- 84-100% of high quality studies demonstrated successful outcomes
 - 80% reduction in problem behavior
 - 90% reduction in pica
 - 90% attainment of approach to feared stimulus

ABA-Based Treatments: Consecutive Controlled Case-Series

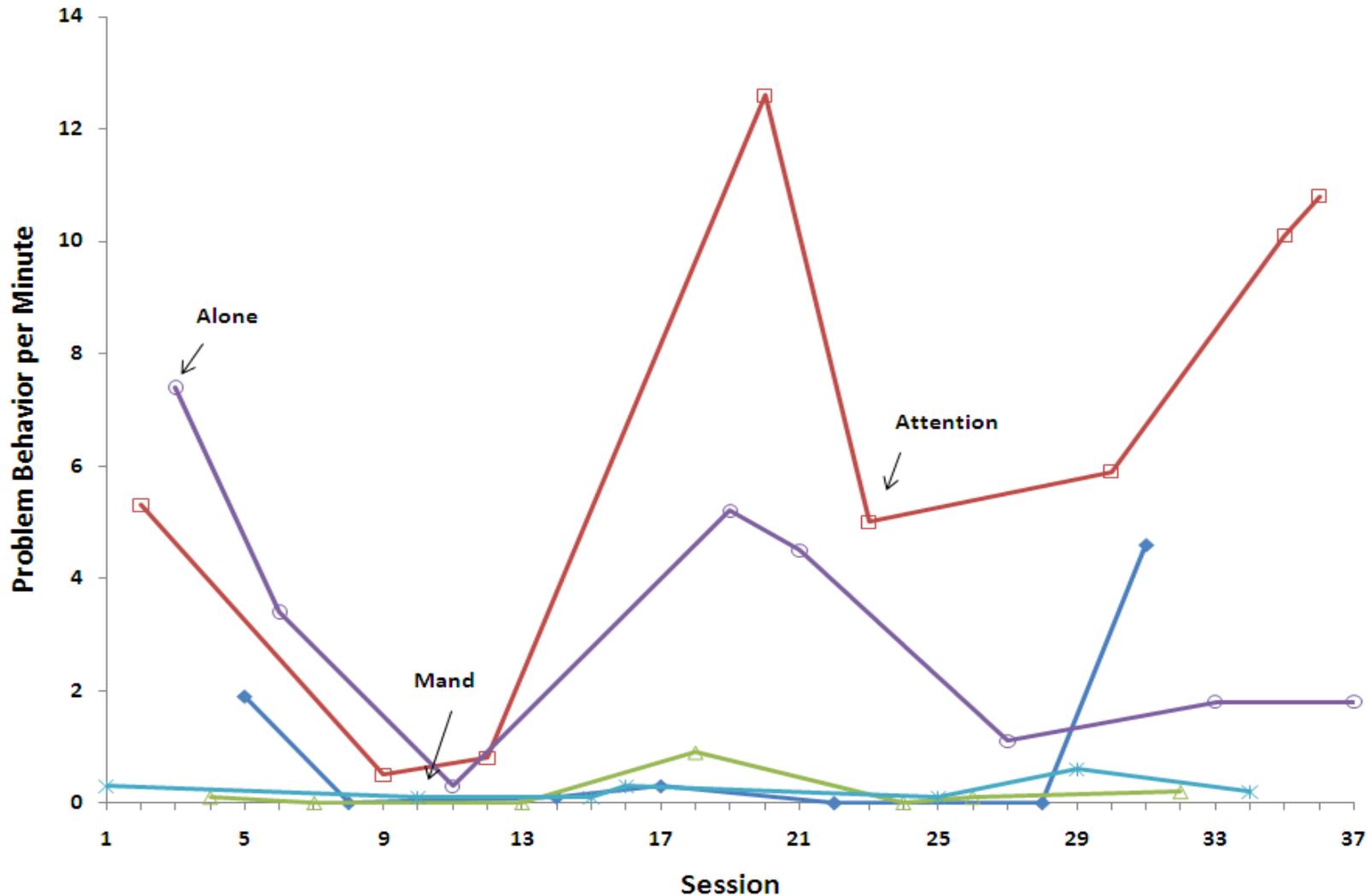
- consecutive controlled case-series studies describing larger samples of consecutively treated individuals minimize concerns about selection bias in small-n studies. Because they employ single-case experiment designs, internal validity is high.
- Asmus et al. 2004, inpatient treatment
 - 138 cases, 113 over 11 y
 - 90% reduction in problem behavior in over 83% of cases
- Rooker et al., in press, Functional Comm. Training
 - 50 cases, 24% adults, 66% with ASD
 - 80% reduction in problem behavior in 86% of cases
- Kurtz et al., in press, ABA treatment with parents
 - 42 cases treated, 50% with ASD
 - 80% reduction or greater in 95% of cases

APPENDIX

Case Example: Treatment of a 16 y.o. boy with ASD and severe aggression and other problem behavior

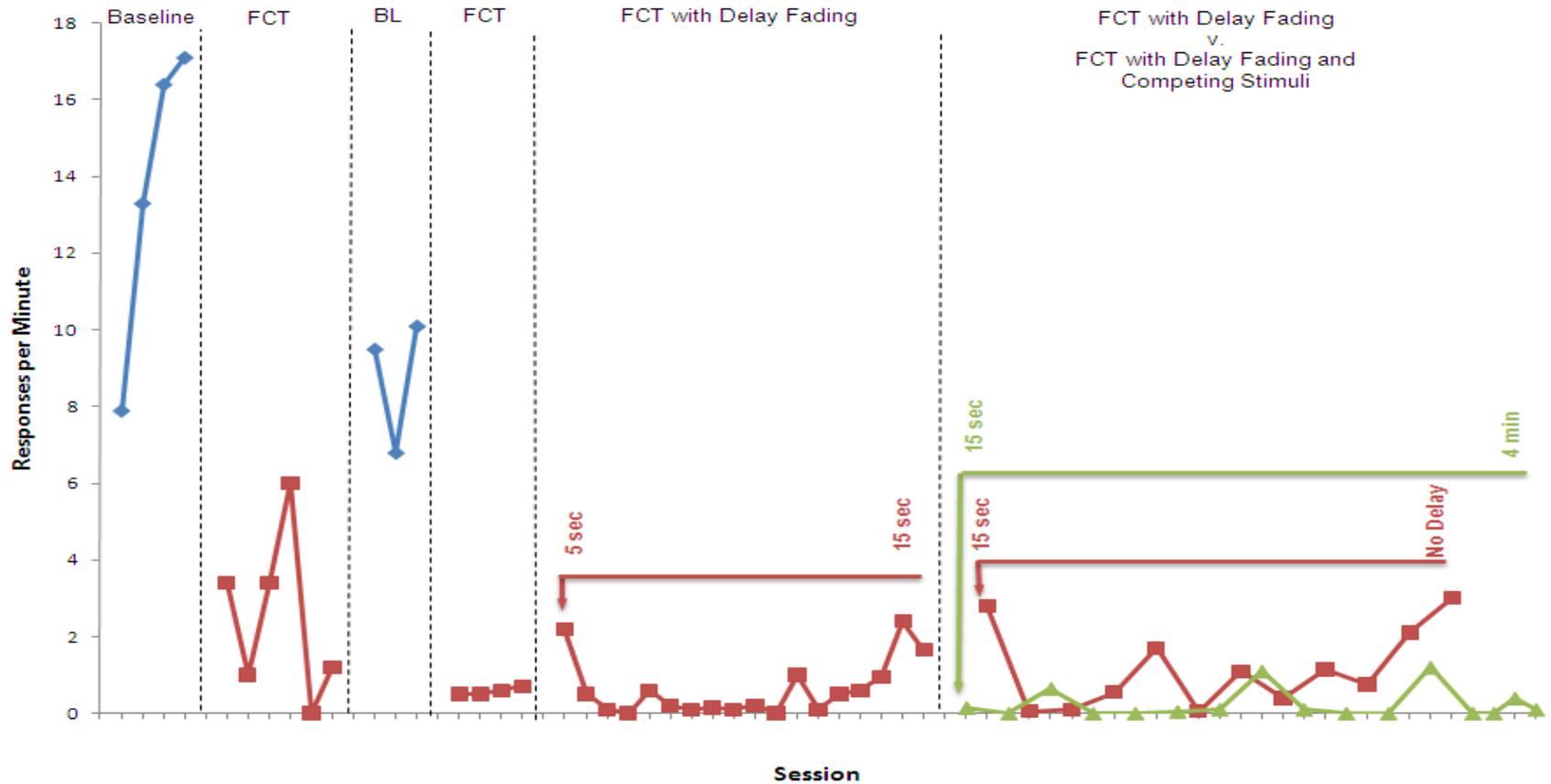
Functional Analysis:

Findings indicate that problem behavior was maintained by access to attention (in the form of adults expressing concern, telling him to stop)



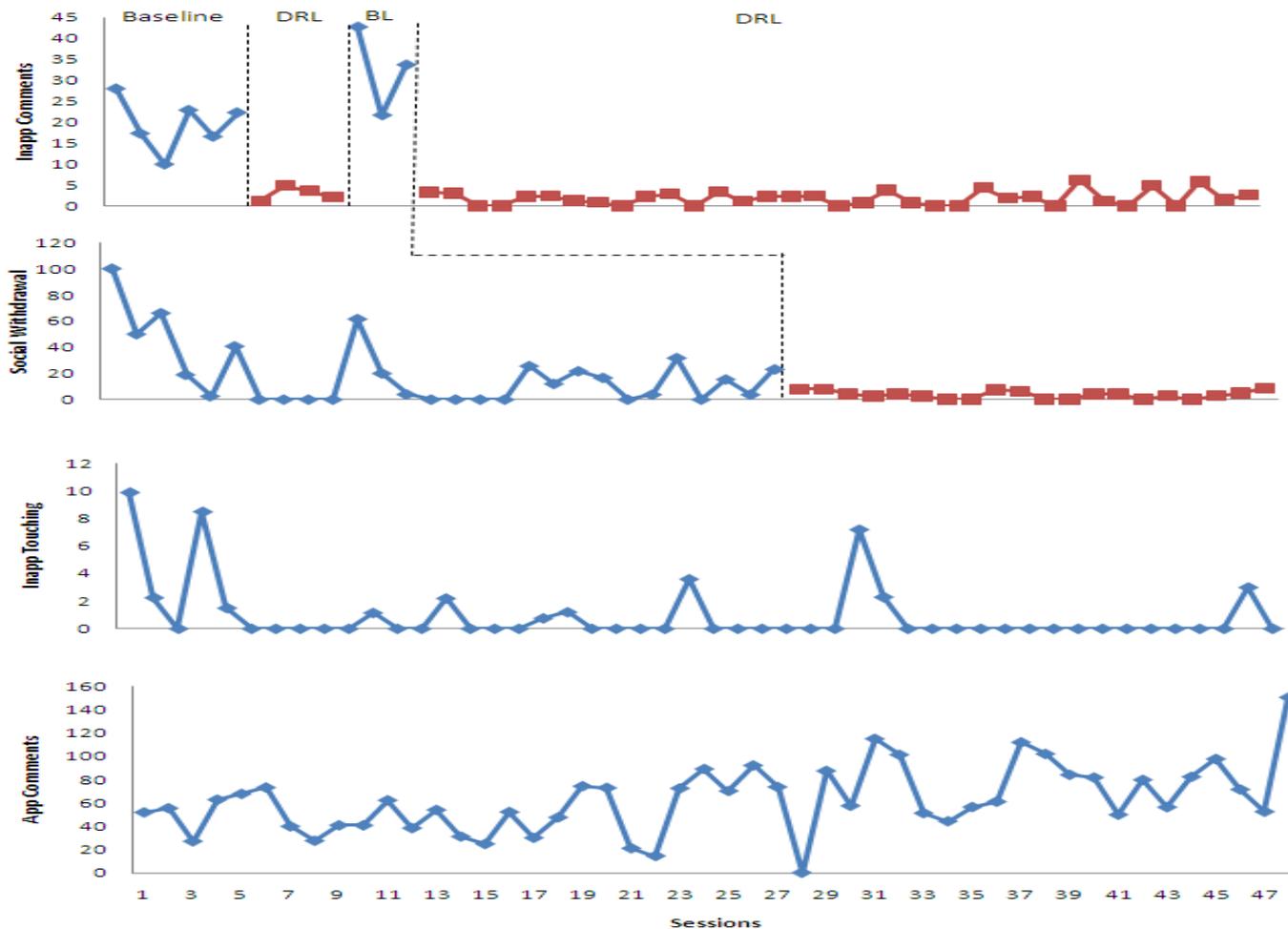
Treatment Evaluation:

Rate per min of problem behavior is depicted on the y-axis. The first data point is around 8 per min (that 80 behaviors in the 10-min session). Treatment involved teaching him to appropriately ask for attention (Functional Communication Training) in lieu of problem behavior. After establishing a baseline (blue data path), treatment was applied (red data path), withdrawn, and reapplied to confirm treatment was responsible for changes in behavior (reversal design). During FCT with Delay +Fading we attempted to teach him to tolerate waiting because he was asking excessively (which was not appropriate or practical for the family). We were not successful in getting him to wait more than 15 sec. without him engaging in problem behavior (see middle part of graph before the last phase line). We conducted a competing stimulus assessment to identify items that would compete with (or temporarily replace) attention so that he could keep busy while waiting for attention (Green data path). With that, he could wait up to 4 minutes after asking with minimal problem behavior.



Social Skills Training:

After teaching him to ask for attention, and to tolerate waiting for attention, we found he needed some skills training to interact more appropriately. This graph shows how we targeted his skills deficits with reinforcement, and found that appropriate interaction (bottom panel improved)



Summary of Interventions

- Extinction of maladaptive/dangerous behaviors
- Skill building components
 - Communication training
 - Schedule thinning to increase tolerance to waiting
 - Social skills training
- Environmental components
 - Competing stimuli
 - Parent training

CONCLUSION

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Initial Draft

- Inconsistent with GRADE
 - Assesses quality of evidence as “low” apparently based solely on low incidence of RCTs
- Inconsistent with the HERC’s statutory directive (ORS 414.701).
 - Relies exclusively on a subset of comparative effectiveness research
- Fails to consider impact of withholding treatment – which can result in serious disability

GRADE

- High: Further research is very unlikely to change our confidence in the estimate of effect
- Moderate: Further research is likely to have an important impact on our confidence in the estimate of effect and may change the estimate
- Low: Further research is very likely have an important impact on our confidence in the estimate of effect and is likely to change the estimate

Evidence of efficacy of ABA is high quality

- Decades of research and thousands of peer-reviewed studies indicate that ABA is effective
- Further research is “very unlikely to change confidence in the estimate of effect”

HERC statutory directive

- HERC shall use “peer-reviewed medical literature,” defined as “scientific studies printed in journals or other publications that publish original manuscripts only after the manuscripts have been critically reviewed by unbiased independent experts for scientific accuracy, validity and reliability.” ORS 414.690, 743A.060
- HERC “may not rely solely on comparative effectiveness research” when developing guidelines. ORS 414.701.
- The initial draft is based solely on Comparative Effectiveness Reviews, and limits studies to RCTs, a small subset of research envisioned by statute

Sufficient evidence supports ABA for both young children and older patients

- Evidence of efficacy of ABA for young children is high quality and supports a strong recommendation
- ABA for adolescents and young adults should also be recommended

ABA for adolescents and young adults

- Even if evidence is insufficient, ABA should still be recommended because clinical research study is not reasonable
 - ABA resolves behaviors which are severely disabling: self injury, pica, aggression
 - Failure to perform ABA is likely to result in severe disability

Children Aged 2 to 12: HERC Framework calls for Strong recommendation

Appendix C. HERC Guidance Development Framework

EIBI for Children Aged 2 to 12; Other Less Intensive ABA-based Treatments for Children Aged 2 to 12

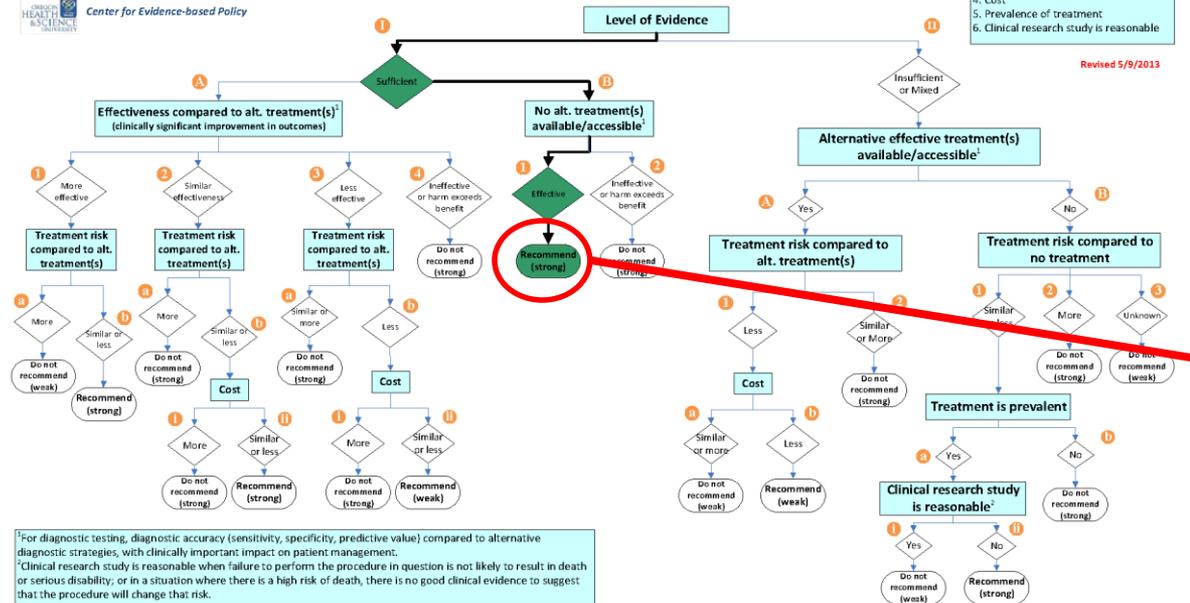


HERC Guidance Development Framework

Refer to HERC Guidance Development Framework Principles for additional considerations

Decision Point Priorities

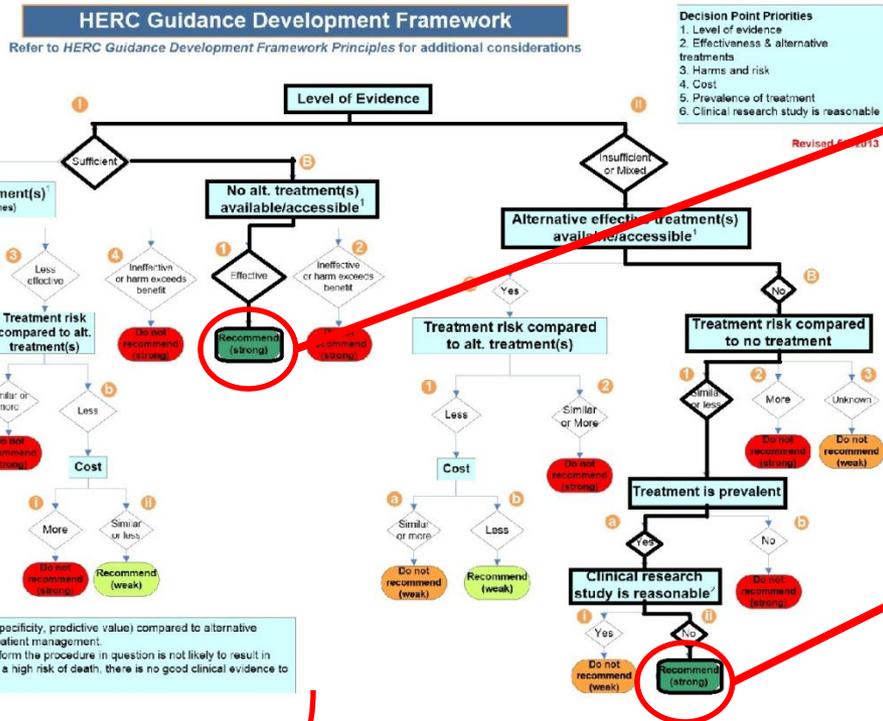
1. Level of evidence
2. Effectiveness & alternative treatments
3. Harms and risk
4. Cost
5. Prevalence of treatment
6. Clinical research study is reasonable



¹For diagnostic testing, diagnostic accuracy (sensitivity, specificity, predictive value) compared to alternative diagnostic strategies, with clinically important impact on patient management.
²Clinical research study is reasonable when failure to perform the procedure in question is not likely to result in death or serious disability; or in a situation where there is a high risk of death, there is no good clinical evidence to suggest that the procedure will change that risk.

- Evidence is sufficient
 - Very strong, consistent evidence per statutory standard
 - No alternative treatment available
 - ABA is Effective
 - Evidence consistently demonstrates effectiveness
- HERC Framework calls for “Recommend (Strong)”

Adolescents and Adults: HERC Framework again calls for Strong recommendation



- Evidence is sufficient
 - Evidence is strong compared to other covered services
- Even if evidence is deemed “insufficient” ...
 - Autism can result in serious disability if left untreated
 - Best available evidence indicates ABA can reduce symptoms
 - Therefore, clinical research study is NOT reasonable
- HERC Framework calls for “Recommend (Strong)” in both scenarios

- “Clinical research study is reasonable when failure to perform the procedure in question is not likely to result in death or serious disability” – but –
- *Autism, left untreated by ABA, can result in serious disability – such as pica, self injurious behavior, aggression*