MINNESOTA
HEALTH RELATED
LICENSING BOARDS

Executive Directors Forum

University Park Plaza Building
2829 University Avenue South East
Minneapolis, MN 55414

March 11, 2020

Senator Michelle R. Benson, Chair
Health & Human Services Finance & Policy
3109 Minnesota Senate Building
St. Paul, MN 55155

Representative Rena Moran, Chair
Health & Human Services Policy
575 State Office Building
100 Rev. Dr. Martin Luther King Jr. Blvd.
St. Paul, MN 55155

Senator Jim Abeler, Chair
Human Services Reform Finance & Policy
3215 Minnesota Senate Building
St. Paul, MN 55155

Representative Tina Liebling, Chair
Health & Human Services Finance Division
477 State Office Building
100 Rev. Dr. Martin Luther King Jr. Blvd.
St. Paul, MN 55155

RE: Minnesota Council of Health Boards Report on Behavior Analysts

Dear Senator Benson, Senator Abeler, Representative Moran and Representative Liebling:

The Council of Health Boards is a collaborative body created by statute (Minnesota Statutes sections 214.001, 214.002, 214.025). The Council of Health Boards assists the MN Legislature in reviewing legislation and proposals related to new or expanded regulation of a health-related occupation. This review process occurs when the chair of a standing committee in either house of the legislature requests assistance from the Council of Health Boards.

In response to Senator Abeler's request for a Council of Health Boards review of behavior analyst licensing, we are sending you a copy of the report, exhibits, and recommendations from the Council.

Please contact us with any questions you have about the Council of Health Boards. We look forward to working together with you.

Sincerely,

Kari Rechtzigel

Sam Sands

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cc: Bailey Strand, Committee Administrator
MN Senate Health & Human Services Finance & Policy Committee

Chris McCall, Committee Administrator
MN House Health and Human Services Policy Committee

Patrick McQuillan, Committee Administrator
MN House Health and Human Services Finance Division

MINNESOTA

MINNESOTA COUNCIL OF HEALTH BOARDS
REVIEW OF LEGISLATIVE REQUEST: LICENSURE OF BEHAVIOR ANALYSTS

Review of Legislative Request: Health Occupation Review
Proposed Licensure of Behavioral Analysts
(SF 3792/ HF 4441 – 2018 Bills)
(SF 3279/HF 3213 – 2020 Bills)
March 11, 2020

Referred to the Council of Health Boards by:
Senator Jim Abeler
Chair, Senate Human Services Reform Finance and Policy Committee

Review Panel for the Council of Health Boards:
Kari Rechtzigel, Executive Director, Board of Behavioral Health and Therapy (BBHT)
Amy Robinson, MS, LPCC, BCBA (Former BBHT Board Member)
Samuel Sands, Executive Director, Board of Psychology
Brent Walden, PhD, LP, Board of Psychology Professional Board Member
Ruth Martinez, Executive Director, Board of Medical Practice
Teri Fritsma Mogen, MN Department of Health – Lead Healthcare Workforce Analyst

Response to Council of Health Boards Questionnaire submitted by:
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Public meeting dates:
September 12, 2018 (Council of Health Boards)
October 22, 2018 (Council of Health Boards)
January 25, 2019 (Board of Behavioral Health and Therapy)
January 25, 2019 (Board of Psychology)

List of other self-identified interested parties:
Minnesota Psychological Association
Minnesota Department of Human Services
Minnesota Professional Educator Licensing and Standards Board
Minnesota Northland Association for Behavior Analysis

List of Exhibits
Exhibit 1: The Evidence of the Medical Necessity of Applied Behavior Analysis for the Treatment of All of the Common Disorders of Childhood: Large Group Research Studies, by Eric V. Larsson, PhD, LP, BCBA-D (2012).
Exhibit 2: Bibliography of Reviews of the Evidence for Applied Behavior Analysis and Early Intensive Behavioral Intervention by Independent Panels; by Meta-Analysis; and by Peer Review; Bibliography of Long-term and Group Outcome Studies of ABA and Comparison Data; Bibliography of Cost-Effectiveness Analyses; and Bibliography of ABA (Within-Subject Experimental Research) Studies by Eric V. Larsson, PhD, LP, BCBA-D (2016) (*both submitted with the Minnesota Northland Association for Behavior Analysis ("MNABA") proposal for licensure*).
Exhibit 3: Therapies for Children with Autism Spectrum Disorder: Behavioral Interventions Update, AHRQ Pub. No. 14-EHC036-1-EF (August 2014) (*submitted with the MNABA proposal for licensure*).
Exhibit 4: State by State Regulation of Behavior Analyst (*submitted with the MNABA proposal for licensure*).
Exhibit 5: Model Acts for behavior analysts reviewed by the Council of Health Boards Review Panel.

Cost of this report:
The costs to produce this report are approximately as follows:
Costs incurred by Board of Behavioral Health and Therapy, Board of Psychology, Board of Medical Practice staff members and board members: $7,000.
Minnesota Statutes section 3.197 requires that a report to the Legislature contain, at the beginning of the report, the cost of preparing the report, including costs incurred by another agency or another level of government.

EXECUTIVE SUMMARY

Behavior analysts assess individuals with behavior problems, study changes the environment has on behavior, and implement plans to remediate behaviors. Behavior analysts are most commonly known for their work with those individuals diagnosed with autism spectrum disorder ("ASD"), but they work in a number of settings and with a variety of developmental and injury-caused disabilities.

Behavior analysis has been researched for several decades, but there have been calls for more studies to understand which interventions are the most effective and to isolate interventions that pose the greatest risk. Proponents of legislation note that the lack of access to effective treatment and providers can cause families to become isolated from their communities and can lead to avoidable institutionalization. Behavior analysts work primarily with vulnerable populations, where the public safety factor weighs in favor of regulation.

Minnesota statutes categorize behavior analysis as an early intensive developmental and behavioral intervention ("EIDBI") for ASD. Four Minnesota educational institutions, the University of Minnesota-Twin Cities, the University of St. Thomas, St. Cloud State University, and Capella University, all have programs in behavior analysis. Behavior analysts are currently working in or with Minnesota schools, treatment centers, and county social service agencies. As of March 2018, twenty-nine states license behavior analysts and one state certifies behavior analysts. Behavior analysts practicing in Minnesota are currently regulated by the Behavior Analyst Certification Board, an international non-profit that sets credentialing standards for individuals and educational institutions and sets and enforces through disciplinary actions minimum standards of practice. The Behavior Analyst Certification Board is located in Colorado and serves credentialed individuals in multiple countries.

The Minnesota Legislature has recognized a shortage in Minnesota, especially in rural communities, of providers of EIDBI. Proponents of licensure predict that there will be a five to ten percent growth in the number of behavior analysts in Minnesota if Minnesota chooses to license behavior analysts, thereby increasing the public's access to providers. Moreover, licensure is often a pathway for the public to secure expanded private insurance coverage for behavior analysis services. Minnesota law mandates coverage of behavior analysis for ASD by medical assistance programs and by health plans issued to employers with more than 50 current employees.

The Council of Health Boards recommends that the Legislature consider the following:

I. Provide legislative authority to license and regulate Behavior Analysts to the Minnesota Board of Psychology
II. Provide legislative authority to license and regulate Assistant Behavior Analysts to the Minnesota Board of Psychology

BACKGROUND

LEGISLATIVE AUTHORITY

When the Legislature is considering the regulation of health occupations, the chair of a standing committee in either house of the Legislature may request information from the Council of Health Boards ("CHB"). Minn. Stat. § 214.001, subd. 4 (2018). The CHB is comprised of a member of each of the following Minnesota health-related licensing boards: the Board of Examiners for Nursing Home Administrators, the Office of Unlicensed and Alternative Health Care Practice, the Board of Medical Practice, the Board of Nursing, the Board of Chiropractic Examiners, the Board of Optometry, the Board of Occupational Therapy, the Board of Psychology, the Board of Social Work, the Board of Marriage and Family Therapy, the Board of Behavioral Health and Therapy, the Board of Dietetics and Nutrition Practice, the Board of Dentistry, the Board of Pharmacy, the Board of Podiatric Medicine, the Board of Veterinary Medicine, and the Emergency Medical Services Regulatory Board. Minn. Stat. §214.01, subds. 1a, 2; 214.025 (2018). When reviewing legislation related to the regulation of health occupations, the CHB must include the commissioner of health or a designee. Minn. Stat. §214.025 (2018).

Minnesota Statutes Chapter 214 establishes criteria for the Legislature to apply when considering whether an occupation should be regulated. Minn. Stat. § 214.001, subd. 2 (2018). The statute states that "no regulation shall be imposed upon any occupation unless required for the safety and well being of the citizens of the state." Id. The statute includes the following criteria: (1) whether the unregulated practice of an occupation may harm or endanger the health, safety and welfare of the citizens of the state and whether the potential for harm is recognizable and not remote; (2) whether the practice of an occupation requires specialized skill or training and whether the public needs and will benefit by assurance of initial and continuing occupational ability; (3) whether the citizens of the state are or may be effectively protected by other means; and (4) whether the overall cost effectiveness and economic impact would be positive for citizens of the state. Id.

REQUEST FOR CHB REVIEW

In correspondence dated June 1, 2018, Senator Jim Abeler referred to the CHB and the Minnesota Board of Behavioral Health and Therapy ("BBHT") a licensing bill for board-certified behavior analysts ("BCBAs"). Senator Abeler noted in his correspondence that (1) there was bi-partisan legislative support and stakeholder support for licensing behavior analysts; (2) 30 states have already passed legislation to license behavior analysts; (3) in Minnesota, there are 186,000 children with diagnosed mental health disorders and only 179 behavior analysts; and (4) eighty percent of Minnesota's counties have already been designated as shortage areas. Senator Abeler included proposed legislation and noted that the goal of the legislation was to improve safety and protect the public by (1) increasing access to competent behavior analysis treatment; (2) respecting other professions by clarifying practice boundaries; (3) ensuring eligibility for medical assistance for early intensive developmental and behavioral interventions ("EIDBI"); and (4) meeting the needs of the *Jensen* settlement.[1]

On August 9, 2018, Eric Larsson, PhD, LP, BCBA-D, submitted information to the CHB on behalf of the Minnesota Northland Association for Behavior Analysis ("MNABA"). On October 26, 2018, Dr. Larsson submitted responses to the CHB's Questionnaire on New or Expanded Regulation.

[1] *In re Jensen*, Final Approval Order for Stipulated Class Action Settlement Agreement, Civil. No. 09-1775 (DWF/FLN) (December 5, 2011).

During its September 12 and October 22, 2018 meetings, the CHB discussed Senator Abeler's request and behavior analyst licensure in general. The CHB reviewed Dr. Larsson's responses to the Questionnaire and began its analysis during the start of the 2019 legislative session. As part of that analysis, Kari Rechtzigel, Executive Director of the BBHT and chair of the CHB, attended the January 25, 2019, board meetings for both the BBHT and the Board of Psychology to discuss behavior analyst licensure. The Board of Psychology voted unanimously to serve as the regulatory board for behavior analysts if licensure legislation is passed. The Board of Psychology worked with the bill proponents over several meetings in 2019 to refine the language of the bill. The CHB conducted an abridged review of the Review Panel's recommendations and approved of the recommendations.

DESCRIPTION OF OCCUPATION

Behavior analysts assess individuals with behavioral problems, study environmental changes on behavior and implement plans to remediate unacceptable behaviors. Behavior analysts work most commonly with adults and children who have ASD, brain injuries, and other developmental disabilities. The philosophy underlying the practice of behavior analysts is that the physical and social environment may play a role in the maintenance and/or exacerbation of behavioral disorders. The goal of a behavior analyst is to uncover the environmental factors and/or interventions that positively impact on behavior and to train the members of the client's environment to support those factors and/or interventions in order to minimize the impact of the disorder and to sustain adaptive functioning. The long-term goal of a behavior analyst is to phase-out the need for services by promoting independent functioning. Behavior analysts work both in acute settings to remediate behavior and in preventative settings to provide early intervention before behaviors become acute.

Behavior analysts conduct behavioral assessments, analyze data, write and revise behavior-analytic treatment plans, train others to implement components of treatment plans, and oversee the implementation of treatment plans. Behavior analysts often focus on remediating specific behaviors, including aggressive and self-injurious behaviors; rectifying skill deficits, including communication and adaptive behaviors; and improving organizational functioning, including staff and caregiver performance and management necessary to sustain successful behavioral change. Behavior analysts also monitor and assess the progress of individuals under their care and work with family members or other care providers to determine long-term individual goals.

Behavior analysts do not diagnose psychological disorders and they do not focus on individual therapy, as a psychologist and/or other licensed therapy provider might. Nevertheless, behavior analysts are often part of multi-disciplinary teams serving schools, vocational centers, social service programs, hospitals, and group homes. Behavior analysts are relied upon to develop, write, and supervise the implementation of individual educational plans ("IEPs"), behavior intervention plans, and individualized treatment plans in the above-listed settings. Behavior analysts conduct frequent objective assessments and evaluations in order to perform an ongoing analysis of an individual's specific behavioral needs. Behavior analysts have also been engaged in statewide initiatives to develop a targeted Medicaid program for autism, to maximize behavioral supports in schools, and to meet the state's expectations as set forth in the *Jensen* settlement.

As of March 2019, there are 33,353 board-certified behavior analysts ("BCBAs") and 3,434 board-certified behavior analyst assistants ("BCaBA"). The certifying body is an international agency, the Behavior Analyst Certification Board, which was first established in 1998 and is headquartered in Colorado. More than half of the BCBAs work and live in the United States, but BCBAs are active in 81 countries. In Minnesota, there are currently 166 BCBAs and 18 BCaBAs.

SAFETY AND EFFICACY

The field of behavior analysis was first conceptualized by B.F. Skinner at the University of Minnesota in the 1940s. There has been fifty years of research evaluating the effectiveness of behavior analysis, and it has been recognized as appropriate for treatment of autism.[2] In 2014, the U.S. Department of Health & Human Services Agency for Healthcare Research and Quality ("AHRQ") noted that "a growing evidence base suggests that behavioral interventions are associated with positive outcomes for some children with ASD" but that "a need remains for studies of interventions across settings and continued improvements in methodologic rigor." The AHRQ noted that more studies are needed to understand which interventions are the most effective for specific children with ASD and to isolate the components of interventions that pose the most risk.[3]

Proponents of licensure note that families who are unable to access effective treatment for children and adults with behavior problems often become isolated from their communities. There is also a risk that the behavior disorder becomes exacerbated to the degree of requiring institutionalization. Proponents of licensure further note that the individuals suffering from behavior disorders and their families may be subject to profound emotional and financial consequences as a result of community isolation and/or institutionalization, which, at a state hospital, can cost up to half a million dollars per person. Proponents of licensure also note families are at risk of being exploited by fad treatments that have no evidence of effectiveness.

As a final note, BCBAs work with primarily vulnerable populations - adults and children with developmental disabilities. These populations are at greater risk of being taken advantage of by providers. Generally, legislative standards for education, training, professional conduct, and ongoing education lead to more public protection.

GOVERNMENT AND PRIVATE SECTOR RECOGNITION

The State of Minnesota first developed the behavior analyst job classification in the 1970s as part of its state hospital system for persons with developmental disabilities. Since then, BCBAs have been providing services in Minnesota school districts, treatment centers, and county social service agencies. Minnesota law lists "applied behavior analysis" as a service eligible for reimbursement by medical assistance, categorizing it as an EIDBI. Minn. Stat. §256B.0949, subd. 13 (2018). The same statute also lists BCBAs as state-recognized EIDBI providers. Id. at subd. 15(b)(2)(iii), (iv) (2018).

Several universities and colleges in the Midwest have programs for behavior analysis, including the University of Minnesota – Twin Cities, St. Cloud State University (MN), Capella University (MN), University of St. Thomas

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[2] See Exhibit 1: The Evidence of the Medical Necessity of Applied Behavior Analysis for the Treatment of All of the Common Disorders of Childhood: Large Group Research Studies, by Eric V. Larsson, PhD, LP, BCBA-D (2012); Exhibit 2: Bibliography of Reviews of the Evidence for Applied Behavior Analysis and Early Intensive Behavioral Intervention by Independent Panels; by Meta-Analysis; and by Peer Review; Bibliography of Long-term and Group Outcome Studies of ABA and Comparison Data; Bibliography of Cost-Effectiveness Analyses; and Bibliography of ABA (Within-Subject Experimental Research) Studies by Eric V. Larsson, PhD, LP, BCBA-D (2016) (*both submitted with the Minnesota Northland Association for Behavior Analysis ("MNABA") proposal for licensure*).

[3] Exhibit 3: Therapies for Children with Autism Spectrum Disorder: Behavioral Interventions Update, AHRQ Pub. No. 14-EHC036-1-EF (August 2014) (*submitted with the MNABA proposal for licensure*).

(MN), University of Wisconsin-Milwaukee, University of Wisconsin-Whitewater, University of North Dakota, and Briarcliff University (IA).

As of March 2018, 29 states license behavior analysts and one state certifies behavior analysts.[4] Ten states license BCBAs under boards of behavior analysis, and seven states license and one state certifies BCBAs under their boards of psychology. The remaining states license their BCBAs under boards of autism, behavioral science, allied mental health and human service professionals, professional counselors and therapists, social work, and behavior science. Neighboring states Wisconsin (2010), North Dakota (2011), South Dakota (2016), and Iowa (2018) are among the states that license BCBAs. The earliest licensure of BCBAs occurred in Nevada and Oklahoma in 2009. No states prohibit the practice of behavior analysis.

EDUCATION AND TRAINING

In 2018, four Minnesota institutions offered behavior analyst educational programs. The University of Minnesota – Twin Cities offers a special education masters program with an emphasis in applied behavior analysis. It is a four-semester program with a total of 36 credit hours required. The University of St. Thomas requires that candidates for behavior analyst graduate certification complete seven courses, for a total of fifteen credits. This program is part of the College of Education, Leadership, and Counseling and requires as a prerequisite a Minnesota teaching license. St. Cloud State University requires that candidates for a master's degree in applied behavior analysis take 45 to 46 credits and complete a 750-hour supervised clinical internship. The MNABA submission indicated that St. Cloud State estimated the cost of securing a master's degree in applied behavior analysis at $24,000. Capella University also offers a master's program in applied behavior analysis through its department of psychology. In sum, the education required will vary depending on the type of certification or licensure sought (i.e, BCaBA or BCBA) and the individual's educational background.

Credentialing is available through an international nonprofit organization, the Behavior Analysis Certification Board. After receiving a bachelor's degree, a practitioner may become credentialed with the Behavior Analyst Certification Board as a BCaBA. Upon receiving a master's degree, a practitioner may become credentialed with the Behavior Analyst Certification Board as a BCBA. The Behavior Analyst Certification Board mandates that BCaBAs practice under the supervision of a BCBA. All Behavior Analyst Certification Board applicants are required to obtain a degree, undergo a supervised experience, and pass an examination that is administered by the Pearson VUE corporation.

The Behavior Analysis Certification Board also verifies behavior analysis education programs. The four Minnesota-based programs have all been verified by the Behavior Analysis Certification Board.

PRACTICE MODEL AND VIABILITY OF OCCUPATION

The Behavior Analysis Certification Board has defined standards for training and for practice. The Behavior Analysis Certification Board has a comprehensive code of conduct that models much of state laws and rules governing Minnesota health occupations. The code of conduct addresses the following topics: responsible conduct of behavior analysts, behavior analysts' responsibility to clients, assessing behavior, behavior analysts and the behavior-change program, behavior analysts as supervisors, behavior analysts' ethical responsibility to the profession of behavior analysts, behavior analysts' ethical responsibility to colleagues,

[4] Exhibit 4: State by State Regulation of Behavior Analyst (*submitted with the MNABA proposal for licensure*).

public statements, behavior analysts and research, and behavior analysts' ethical responsibility to the Behavior Analyst Certification Board.

In most practice model settings, BCBAs work with teams of care providers, including for example, physicians, mental health care providers, educators, and families. The Behavior Analyst Certification Board did a job task survey in February 2016. Over 7,000 BCBAs participated and identified the following practice settings: 68 percent in autism field, 12 percent in education, 8 percent in developmental disabilities, and the remaining 12 percent divided among behavioral medicine, university teaching, parent and caregiver training, behavioral pediatrics, brain injury rehabilitation, organizational behavior management, professional supervision, child welfare, behavioral gerontology, sports and fitness, public policy and advocacy, corrections and delinquency, and non-university research.

With respect to the viability of the occupation, the Minnesota Department of Human Services webpage discussing ASD and related disorders states, "Across Minnesota and the nation, communities are experiencing a shortage of qualified healthcare providers (for EIDBI). The provider shortage particularly affects rural areas."[5] The Minnesota Legislature authorized the commissioner of human services to determine if a shortage of EIDBI providers exists and to establish a process for granting exceptions to EIDBI provider qualifications to address provider shortages. Minn. Stat. §256B.0949, subd. 17 (2018).

In a 2013 report to the Legislature, the Minnesota Department of Commerce reported that over 15,000 persons under age 21 in Minnesota have ASD as a primary disability and that those individuals represent 12 percent of all students who receive special education services.[6] The Autism Speaks organization website noted that, as of July 2018, forty-eight states require some form of coverage for ASD therapies. Some states, including Minnesota and North Dakota, specifically mention behavior analysis in their statutes. As of the date of this report, North Dakota mandated that all insurance plans cover treatment for ASD. Minnesota mandates coverage by medical assistance programs and health care plans sold to employers and self-with more than 50 current employees. See Minn. Stat. §62A.3094, subd. 2(a)(1) (2018).

Proponents of licensure state that licensure will increase the rate of reimbursement for behavior analysis provided by medical assistance and third-party insurance, thereby alleviating some of the families' financial burdens. Proponents of licensure also note that the behavior analysis field is heavily based on ongoing research, which helps identify new strategies and allows for a dynamic, responsive profession. Proponents of licensure estimate that, should BCBAs become licensed, the rate of growth of available practitioners is between five and ten percent.

REGULATORY FRAMEWORK

On an international level, the Behavior Analysis Certification Board regulates the practice by providing a credentialing process and a disciplinary process.[7] As of March 2019, 33,353 individuals hold BCBA certification and 3,434 individuals hold BCaBA certification. Since 2002, the Behavior Analysis Certification Board has taken disciplinary action on the certifications of 82 practitioners.

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[5] See https://mn.gov/dhs/partners-and-providers/news-initiatives-reports-workgroups/long-term-services-and-supports/eidbi/.

[6] Minnesota Department of Commerce, Report to Legislature, Options for Coverage of Treatment for Autism Spectrum Disorder in Minnesota (September 12, 2013).

[7] See https://www.bacb.com/.

Currently, the Minnesota Office of Ombudsman for Mental Health and Developmental Disabilities, the Minnesota Department of Human Rights, and the Minnesota Department of Commerce have some ability to protect consumers who utilize BCBA services.

Current civil and criminal laws are inadequate to prevent or remedy public harm with the agencies referenced above. None of these agencies can remove a practitioner who presents "an imminent risk of serious harm" to the public. A Health-Related Licensing Board (HLB) has authority to temporarily suspend such a practitioner, should he or she pose such a risk to the public. While the BACB certifying body credentials this profession and has imposed discipline on the BCBAs and BCaBAs, the organization is not able to prohibit the practice of behavior analysis in the state. Currently, practitioners of behavior analysis need not attain the BACB certification in order to practice in the state. A substandard practitioner could cause substantial harm to clients without regulatory oversight and authority to intervene on behalf of the client. Taking a substandard practitioner to court under malpractice laws would be cost-prohibitive for the client and may be ineffective at publicly identifying practice that falls below the standards the profession sets.

The level of regulation proposed offers protections to vulnerable children and adults. It allows a more efficient process of resolving complaints about substandard practice and provides the authority for the board to protect the public while affording due process protections contained in Minn. Stat. 214. Lesser degrees of regulation are inadequate because they fail to provide a mechanism to identify and remediate harmful conduct by a practitioner or address serious harm to a vulnerable individual receiving services.

From a public protection perspective, licensing boards are a more direct and responsive manner of regulating health care professions. The Minnesota HLBs and their staff have expertise in their respective healthcare industry, have established licensing processes and procedures and continuing education requirements, and have established disciplinary processes that comply with due process. The HLBs also receive legal services from the Minnesota Office of the Attorney General in support of their public protection mandates. Moreover, licensees of the Minnesota HLBs who have mental and/or physical diagnosis that potentially impact their ability to practice are eligible to participate in the Minnesota Health Professional Services Program, which promotes ongoing management of illness in a manner to ensure safe and ongoing practice of the health profession.

Proponents of licensure note that the current regulatory framework is inadequate to address harms from non-regulation because some medical assistance provisions require services to be delivered by a licensed practitioner. BCBAs are not licensed in Minnesota and, therefore, BCBAs are unable to practice independently in some settings. Proponents of licensure also argue that it would protect the public for BCBAs to have a board or agency that specializes in identifying and analyzing current behavior analysis techniques and modalities and in establishing initiatives for the future regulate their practice.

LEGISLATIVE CONSIDERATIONS

The primary goal of health-related licensure and regulation is protection of the public and public safety. The CHB's review is limited in scope, and the Legislature should consider how the goal of protection of the public would be met by this legislative action. The Legislature should specifically consider (1) whether the public benefits from incorporating behavior analysts into the state health licensing system; (2) whether licensure offers a level of added public protection that outweighs an additional step to practicing behavior analysis in Minnesota; and (3) whether assuring the competency of behavior analysts warrants development of additional regulation beyond the international credentialing agency.

The CHB reviewed the draft legislation, Senate File No. 3792, submitted with Senator Abeler's request for review and recommendation. The CHB has also reviewed the Model Behavior Analyst Licensure Act published by the Association of Professional Behavior Analysts and found on the Behavior Analyst Credentialing Board website.[8] The CHB recommends that the Legislature consider the following:

III. Provide legislative authority to license and regulate Behavior Analysts to the Minnesota Board of Psychology
IV. Provide legislative authority to license and regulate Assistant Behavior Analysts to the Minnesota Board of Psychology

[8] See Exhibit 5.

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The Evidence of the Medical Necessity of Applied Behavior Analysis (ABA) for the Treatment of All of the Common Disorders of Childhood: Large Group Research Studies

Eric V. Larsson, PhD, LP, BCBA-D (2012)

The Following Disorders are Addressed Below:

Attention Deficit and Hyperactivity Disorders.

Anxiety.

Child Abuse.

Community Safety.

Conduct, Oppositional and Noncompliant Disorders in Typical and in Psychiatric Populations.

Delinquency and Juvenile Offenders.

Depression.

Drug and Alcohol Abuse.

Eating Disorders.

Enuresis and Encopresis in the Typical Population.

Intellectual Disabilities.

Obsessive and Compulsive Disorders.

Phobia.

Social Anxiety and Phobia.

Attention Deficit and Hyperactivity Disorders.

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By Independent Panels; by Meta-Analysis, and by Peer Review;

Bibliography of Long-Term and Group Outcome Studies of ABA, and Comparison Data;

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Comparative Effectiveness Review
Number 137

Effective Health Care Program

Therapies for Children With Autism Spectrum Disorder: Behavioral Interventions Update

Executive Summary

Background

Autism spectrum disorder (ASD) is a neurodevelopmental disorder marked by impaired social communication and social interaction accompanied by atypical patterns of behavior and interest. ASD is differentiated from other developmental disorders by significant impairments in social interaction and communication, along with restrictive, repetitive, and stereotypical behaviors and activities.[1] Social communication and social interaction features include deficits in social-emotional reciprocity (e.g., deficits in joint attention, atypical social approach and response, conversational challenges, reduced sharing of interest, emotions, and affect); deficits in nonverbal communication (e.g., atypical eye contact, reduced gesture use, limited use of facial expressions in social interactions, challenges understanding nonverbal communication); and deficits in forming and maintaining relationships (e.g., diminished peer interest, challenges joining in play, difficulties adjusting behavior to social context).

ASD features of restricted repetitive patterns of behavior, interests, or activities may include stereotyped motor mannerisms, use of objects, or speech (e.g., simple motor stereotypies, repetitive play, echolalia, and formal or idiosyncratic speech); insistence on sameness, inflexible adherence to routines, or ritualized patterns of behavior (e.g., distress at small changes, rigid patterns of thought and behavior,

Effective Health Care Program

The Effective Health Care Program was initiated in 2005 to provide valid evidence about the comparative effectiveness of different medical interventions. The object is to help consumers, health care providers, and others in making informed choices among treatment alternatives. Through its Comparative Effectiveness Reviews, the program supports systematic appraisals of existing scientific evidence regarding treatments for high-priority health conditions. It also promotes and generates new scientific evidence by identifying gaps in existing scientific evidence and supporting new research. The program puts special emphasis on translating findings into a variety of useful formats for different stakeholders, including consumers.

The full report and this summary are available at **www.effectivehealthcare.ahrq.gov/reports/final.cfm**.

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Effective Health Care

performance of everyday activities in ritualistic manner); intense preoccupation with specific interests (e.g., strong attachment to objects, circumscribed or perseverative topics of interest); and sensory sensitivities or interests (e.g., hyperreactivity or hyporeactivity to pain and sensory input, sensitivity to noise, visual fascination with objects or movement).[2-4]

ASD symptoms cause impairment across many areas of functioning and are present early in life. However, impairments may not be fully evident until environmental demands exceed children's capacity. They also may be masked by learned compensatory strategies later in life. Many children with ASD may also have intellectual impairment or language impairment, and the disorder may be associated with known medical, genetic, or environmental factors.

Treatments for ASD that families pursue include behavioral, educational, medical, allied health, and complementary approaches. Individual goals for treatment vary for different children and may include combinations of therapies. For many individuals, core symptoms of ASD (impairments in communication and social interaction and restricted/repetitive behaviors and interests) may improve with intervention and over time;[5-8] however, deficits typically remain throughout the lifespan. Lifelong management—often using multiple treatment approaches—may be required to maximize functional independence and quality of life.

Scope and Key Questions

Scope of Review

This systematic review updates the behavioral intervention portion of our comprehensive review of therapies for children with ASD published in 2011.[9] ASD intervention categories overlap substantially, and it can be difficult to cleanly identify the category into which an intervention should be placed. Ultimately, we defined behavioral interventions to include early intensive behavioral and developmental interventions, social skills interventions, play/interaction-focused approaches, interventions targeting symptoms commonly associated with ASD, and other general psychosocial approaches. This behavioral category of intervention explicitly does not include primarily medical interventions, complementary and alternative interventions, allied health interventions, or educationally focused interventions unless a behavioral intervention representative of the operationalization above was included within the study design.

At the time of the 2011 review (available at www.effectivehealthcare.ahrq.gov/ehc/products/106/656/CER26_Autism_Report_04-14-2011.pdf), the strength of the evidence was considered low for the effectiveness of early intensive behavioral and developmental interventions. Positive outcomes from an early and intensive behavioral and developmental intervention were noted in cognitive performance, language skills, and adaptive behavior when the intervention was delivered over substantial intervals of time (i.e., 1–2 years). Variability in response to such approaches was tremendous, with subgroups of children who demonstrated a more modest response. The ability to describe and predict these subgroups was limited.

Some other behavioral interventions that varied widely in terms of scope, target, and intensity had demonstrated effects, but the lack of consistent data limited understanding of whether these interventions were linked to specific clinically meaningful changes in functioning. Information was similarly lacking on modifiers of effectiveness, generalization of effects outside the treatment context, components of multicomponent therapies that drive effectiveness, and predictors of treatment success.

Since the publication of the initial review in 2011, a sizable body of research has been published, particularly addressing behavioral interventions. Additional studies of behavioral interventions have the greatest potential to alter the low and insufficient strength of evidence reported in the original review and may potentially be used to update treatment recommendations due to the number of new studies available. For this reason, the current review update focuses on studies of behavioral interventions.

Key Questions

We focused this review on behavioral treatments for children ages 2–12 with ASD and children younger than age 2 at risk of a diagnosis of ASD. We synthesized evidence in the published literature to address the following Key Questions (KQs).

KQ 1: Among children ages 2–12 with ASD, what are the short- and long-term effects of available behavioral treatment approaches? Specifically—

> **KQ 1a**: What are the effects on core symptoms (e.g., social communication and interaction, restricted and repetitive behaviors) in the short term (≤6 months)?
>
> **KQ 1b**: What are the effects on commonly associated symptoms (e.g., motor, medical, mood/anxiety, irritability, and hyperactivity) in the short term (≤6 months)?

KQ 1c: What are the longer term effects (>6 months) on core symptoms (e.g., social communication and interaction, restricted and repetitive behaviors)?

KQ 1d: What are the longer term effects (>6 months) on commonly associated symptoms (e.g., motor, medical, mood/anxiety, irritability, and hyperactivity)?

KQ 2: Among children ages 2–12, what are the modifiers of outcome for different behavioral treatments or approaches?

KQ 2a: Is the effectiveness of the therapies reviewed affected by the frequency, duration, and intensity of the intervention?

KQ 2b: Is the effectiveness of the therapies reviewed affected by the training and/or experience of the individual providing the therapy?

KQ 2c: What characteristics, if any, of the child modify the effectiveness of the therapies reviewed?

KQ 2d: What characteristics, if any, of the family modify the effectiveness of the therapies reviewed?

KQ 3: Are there any identifiable changes early in the treatment phase that predict treatment outcomes?

KQ 4: What is the evidence that effects measured at the end of the treatment phase predict long-term functional outcomes?

KQ 5: What is the evidence that specific intervention effects measured in the treatment context generalize to other contexts (e.g., people, places, materials)?

KQ 6: What evidence supports specific components of behavioral treatment as driving outcomes, either within a single treatment or across treatments?

KQ 7: What evidence supports the use of a specific behavioral treatment approach in children under the age of 2 who are at high risk of developing ASD based on behavioral, medical, or genetic risk factors?

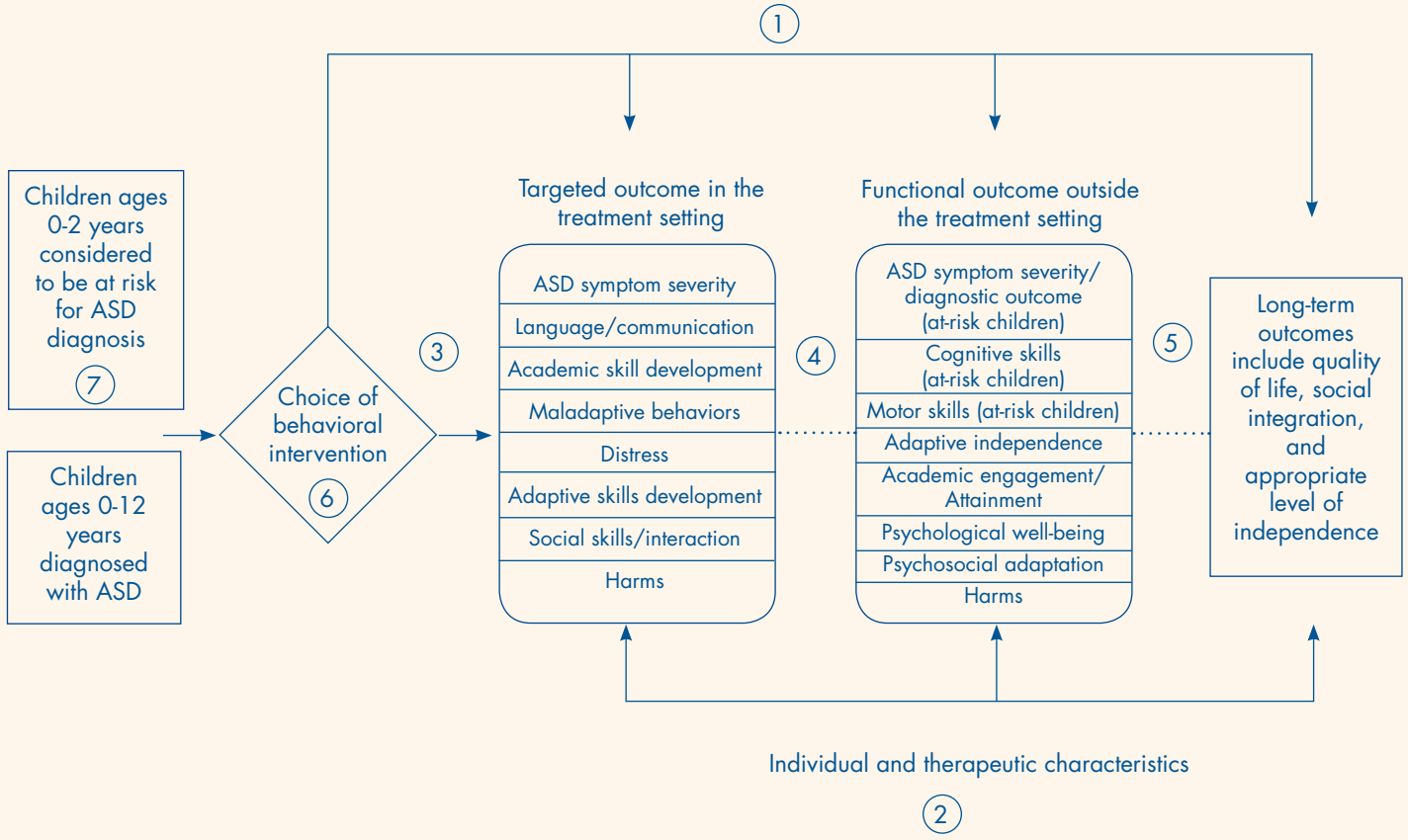
Uses of This Report

We anticipate that the report will be of value to clinicians who treat children with ASD, who can use the report to assess the evidence for different treatment strategies. In addition, this review will be of use to the National Institutes of Health, Centers for Disease Control and Prevention, Centers for Medicare & Medicaid Services, and Health Resources and Services Administration–all of which have offices or bureaus devoted to child health issues and may use the report to compare treatments and determine priorities for funding. This report can bring practitioners up to date about the current state of evidence related to behavioral interventions, and it provides an assessment of the quality of studies that aim to determine the outcomes of therapeutic options for the management of ASD. It will be of interest to families affected by ASD because of the recurring need for families and their health care providers to make the best possible decisions among numerous options. We also anticipate it will be of use to private-sector organizations concerned with ASD; the report can inform such organizations' understanding of the effectiveness of treatments and the amount and quality of evidence available. Researchers can obtain a concise analysis of the current state of knowledge related to behavioral interventions for ASD. They will be poised to pursue further investigations that are needed to understand best approaches to behavioral therapies for children with ASD.

Analytic Framework

Figure A illustrates the analytic framework for the current update. The figure illustrates the placement of the review's KQs within the context of treatment choice, potential outcomes, and characteristics that may affect outcomes. A child entering treatment may be between the ages of 0 and 2 and at risk for diagnosis of ASD or ages 0 to 12 with a diagnosis of ASD. Diagnoses may occur before age 2; thus the represented age ranges overlap.

Figure A. Analytic framework for behavioral interventions for children with ASD



ASD = autism spectrum disorder
Note: Numbers in circles represent placement of Key Questions.

Methods

Literature Search Strategy

A librarian employed search strategies provided in Appendix A of the full report to retrieve research on interventions for children with ASD. We searched MEDLINE® via the PubMed® interface, PsycINFO® (psychology and psychiatry literature), and the Educational Resources Information Clearinghouse using a combination of subject heading terms appropriate for each database and key words relevant to ASD (e.g., autism, Asperger). We limited searches to the English language and literature published since the development of the 2011 review. Our last search was conducted in December 2013. We also manually searched the reference lists of included studies and of recent narrative and systematic reviews and meta-analyses addressing ASD.

Inclusion and Exclusion Criteria

We developed criteria for inclusion and exclusion based on the patient populations, interventions, outcome measures, and types of evidence specified in the KQs and in consultation with a Technical Expert Panel. Table A summarizes criteria.

Table A. Inclusion criteria

Category	Criteria
Study population	Children ages 0–12 with ASD or 0–2 considered to be at risk for ASD based on sibling status or early developmental/behavioral vulnerabilities highly suspicious of ASD
Publication language	English only
Admissible evidence (study design and other criteria)	**Admissible designs** Randomized controlled trials, prospective and retrospective cohort studies, and nonrandomized controlled trials **Other criteria** Studies must be original research studies providing sufficient detail regarding methods and results to enable use and aggregation of the data and results. Studies must have relevant population and ≥10 participants with ASD. Studies must address 1 or more of the following for ASD: • Behavioral treatment modality • Predictors of treatment outcomes • Generalization of treatment outcomes to other contexts • Drivers of treatment outcomes Relevant outcomes must be able to be abstracted from data in the papers. Data must be presented in the aggregate (vs. individual participant data).

ASD = autism spectrum disorder

Study Selection

Two reviewers independently assessed each abstract identified for potential inclusion using an abstract review form with questions stemming from our selection criteria. If one reviewer concluded that the article could be eligible for the review based on the abstract, we retained it for full-text assessment. Two reviewers independently assessed the full text of each included study using a similar standardized form. Disagreements between reviewers were resolved by a third-party adjudicator. The group of abstract and full-text reviewers included expert clinicians and researchers and health services researchers; abstract and full-text review forms are in Appendix B of the full report.

Data Extraction

We extracted data from included studies into evidence tables that report study design, descriptions of the study populations (for applicability), description of the intervention, and baseline and outcome data on constructs of interest. Data were initially extracted by one team member and reviewed for accuracy by a second. The final evidence tables are presented in their entirety in Appendix C of the full report. For studies that were reported in the 2011 review and have followup data reported here, the evidence table for the original studies can be found in the 2011 report.[9]

Quality Assessment

We used the approach to assessing the quality of individual studies developed for the 2011 review and following methods outlined in the Agency for Healthcare Research and Quality Effective Health Care Program's "Methods Guide for Effectiveness and Comparative Effectiveness Reviews."[10] We assessed the quality of studies in domains including study design, participant ascertainment, diagnostic approach, and outcome measurement using specific questions to evaluate a study's conduct. We rated each domain individually and combined them for an overall

quality level, as described in the full report. Three levels were possible: good, fair, and poor.

Data Synthesis

We summarized all data qualitatively using evidence tables. We focused on outcomes related to core ASD symptoms (impairments in communication and social interaction and restricted/repetitive behaviors and interests); outcomes including IQ and adaptive behavior; and key symptoms in studies of interventions targeting conditions commonly associated with ASD (e.g., anxiety). For the update, we describe new comparative studies published since the original report, and we make our conclusions and assess the strength of evidence on the cumulative comparative evidence across the original report and update.

Strength of the Body of Evidence

Two senior investigators graded the entire body of evidence (i.e., studies from the 2011 review and studies identified for the current review) based on the "Methods Guide for Effectiveness and Comparative Effectiveness Reviews."[10] The team reviewed the final strength-of-evidence designation.

The assessment of the literature was done by considering how confident we were that the true effect was observed and how stable that effect is likely to be in the face of future research. Strength of evidence describes the adequacy of the current research in terms of both quantity and quality, as well as the degree to which the entire body of current research provides a consistent and precise estimate of effect. Strength of the evidence is assessed for a limited set of critical outcomes, typically those related to effectiveness of an intervention. We assessed the strength of the evidence for studies addressing KQs 1 and 7, which deal specifically with the outcomes of intervention.

We established the maximum strength of evidence possible based on criteria for each domain: study limitations, consistency in direction of the effect, directness in measuring intended outcomes, precision of effect, and reporting bias. (See the full report for further description of domains.) Then we assessed the number of studies and range of study designs for a given intervention-outcome pair and downgraded the rating when the cumulative evidence was not sufficient to justify the higher rating. The possible grades were—

- High: High confidence that the evidence reflects the true effect. Further research is unlikely to change estimates.
- Moderate: Moderate confidence that the evidence reflects the true effect. Further research may change our confidence in the estimate of effect and may change the estimate.
- Low: Low confidence that the evidence reflects the true effect. Further research is likely to change confidence in the estimate of effect and is also likely to change the estimate.
- Insufficient: Evidence is either unavailable or does not permit a conclusion.

Applicability

We assessed applicability by identifying potential population, intervention, comparator, outcome, and setting (PICOS) factors likely to affect the generalizability of results (i.e., applicability to the general population of children with ASD). For this particular review, the most likely factors that could affect applicability are the patient population (e.g., whether or not results are available to assess the utility of given interventions in target populations) and the intervention (e.g., the difficulty of applying the intervention in a nonresearch setting given available resources). We noted where data were available for specific populations and made relative assessments of applicability for intervention components in the context of resource considerations such as availability of services/programs.

Results

Article Selection

We identified 2,639 newly published citations and abstracts. (Figure 2 in the full report shows the disposition of studies.) We excluded 2,012 studies at abstract review and assessed the full text of 627 studies. Of these, 79 publications, comprising 65 unique studies, met our criteria. Eight of these studies report followup data to papers included in the 2011 review of therapies for children with ASD. The 65 new studies described in this update to add to the conclusions of the original report comprise 48 randomized controlled trials (RCTs) and 17 nonrandomized trials or cohort studies. The full report includes detailed references. Appendix E of the full report includes a list of all studies excluded at the abstract and full-text review stages.

KQ 1. Effects of Behavioral Interventions on Core and Commonly Associated Symptoms in Children With ASD

Studies of Early Intensive Behavioral and Developmental Interventions

We located 37 papers comprising 25 unique studies addressing early intensive behavioral and developmental interventions. The studies included five RCTs of good quality, six of fair quality, and one of poor quality. Individual studies using intensive University of California, Los Angeles (UCLA)/Lovaas-based interventions, the Early Start Denver Model (ESDM), the Learning Experiences and Alternate Program for Preschoolers and their Parents (LEAP) program, and eclectic variants reported improvements in outcomes for young children. Improvements were most often seen in cognitive abilities and language acquisition, with less robust and consistent improvements seen in adaptive skills, core ASD symptom severity, and social functioning.

Young children receiving high-intensity applied behavior analysis (ABA)-based interventions over extended timeframes (i.e., 8 months–2 years) displayed improvement in cognitive functioning and language skills relative to community controls (Table B). However, the magnitude of these effects varied across studies. This variation may reflect subgroups showing differential responses to particular interventions. Intervention response is likely moderated by both treatment and child factors, but exactly how these moderators function is not clear. Despite multiple studies of early intensive treatments, intervention approaches still vary substantially, which makes it difficult to tease apart what these unique treatment and child factors may be. Further, the long-term impact of these early skill improvements is not yet clear, and many studies did not follow children beyond late preschool or early school years.

Studies of high-intensity early intervention services also demonstrated improvements in children's early adaptive behavior skills, but these improvements were more variable than those found for early cognitive and language skills. Treatment effects were not consistently maintained over followup assessments across studies. Many studies measured different adaptive behavior domains (creating within-scale variability), and some evidence suggests that adaptive behavior changes may be contingent on baseline child characteristics, such as cognitive/language skills and ASD severity.

Evidence for the impact of early intensive intervention on core ASD symptoms is limited and mixed. Children's symptom severity often decreased during treatment, but these improvements often did not differ from those of children in control groups. Better quality studies reported positive effects of intervention on symptom severity, but multiple lower quality studies did not.

Since our previous review, there have been substantially more studies of well-controlled low-intensity interventions that provide parent training in bolstering social communication skills. Although parent training programs modified parenting behaviors during interactions, data were more limited about their ability to improve broad developmental skills (such as cognition, adaptive behavior, and ASD symptom severity) beyond language gains for some children. Children receiving low-intensity interventions have not demonstrated the same substantial gains in cognitive skills seen in the early intensive intervention paradigms.

Social Skills Studies

We located 13 studies addressing interventions targeting social skills, including 11 RCTs. The overall quality of studies improved in comparison with the previous review, with 2 good-quality and 10 fair-quality studies. Social skills interventions varied widely in terms of scope and intensity. A few studies replicated interventions using the Skillstreaming model, which uses a published treatment manual (i.e., is manualized) to promote a consistent approach. Other studies incorporated peer-mediated and/or group-based approaches, and still others described interventions that focused on emotion identification and Theory of Mind training. The studies also varied in intensity, with most interventions consisting of 1–2 hour sessions/week lasting approximately 4–5 weeks. However, some of the group-based approaches lasted 15–16 weeks.

Most studies reported short-term gains in either parent-rated social skills or directly tested emotion recognition. However, our confidence (strength of evidence) in that effect is low (Table B). Although we now have higher quality studies of social skills interventions that demonstrate positive effects, our ability to determine effectiveness continues to be limited by the diversity of the intervention protocols and measurement tools (i.e., no consistent outcome measures used across studies). Studies also included only participants considered "high functioning" and/or with IQ test scores >70, thus limiting generalization of results to children with more significant impairments. Maintenance and generalization of these skills beyond the intervention setting are also inconsistent,

with parent and clinician raters noting variability in performance across environments.

Play-/Interaction-Focused Studies

Since our previous review, more studies of well-controlled joint attention interventions across a range of intervention settings (e.g., clinician, parent, teacher delivered) have been published. This growing evidence base includes 11 RCTs of good and fair quality and suggests that joint attention interventions may be associated with positive outcomes for toddler and preschool children with ASD, particularly when targeting joint attention skills themselves as well as related social communication and language skills (Table B). Although joint attention intervention studies demonstrated changes within this theoretically important domain, data are more limited about their ability to improve broad developmental skills (such as cognition, adaptive behavior, and ASD symptom severity) beyond direct measures of joint attention and related communication and language gains over time.

Specific training that used naturalistic approaches to promote imitation (e.g., Reciprocal Imitation Training) was associated with some improvements, not only in imitation skills, but also potentially in other social communication skills (such as joint attention). Additionally, parent training in a variety of play-based interventions was associated with enhanced early social communication skills (e.g., joint attention, engagement, play interactions), play skills, and early language skills.

Studies of Interventions Targeting Conditions Commonly Associated With ASD

Six RCTs (five good and one fair quality) of interventions addressing conditions commonly associated with ASD identified for the current update measured anxiety symptoms as a primary outcome. Five of these studies reported significantly greater improvements in anxiety symptoms in the intervention group compared with controls. Two found positive effects of cognitive behavioral therapy (CBT) on the core ASD symptom of socialization, and one reported improvements in executive function in the treatment group. The one RCT that did not find a significant benefit of CBT compared it with social recreational therapy rather than with treatment as usual or a wait-listed control group.

The studies examining the effects of CBT on anxiety had largely consistent methodologies. Six studies provided followup data reflecting treatment effects that lasted beyond the period of direct intervention. Two common factors limit the applicability of the results, however. Due to the nature of CBT, which is often language intensive and requires a certain level of reasoning skills to make abstract connections between concepts, most studies included only children with IQs much greater than 70. These studies report positive results regarding the use of CBT to treat anxiety in children with ASD (Table B). They also report some positive results in socialization, executive function, and communication; however, these results were less robust, and it is unclear in some studies if these improvements exceeded improvements related to the impact of ameliorated anxiety itself.

Additional data in the current review relate to parent training to address challenging behavior. Specifically, one fair-quality study combined a parent-training approach with risperidone. This combination significantly reduced irritability, stereotypical behaviors, and hyperactivity, and improved socialization and communication skills. However, these effects were not maintained at 1 year after treatment.

Other Behavioral Studies

Two RCTs (one fair and one poor quality) examined neurofeedback and found some improvements on parent-rated measures of communication and tests of executive function. Three fair-quality RCTs reported on sleep-focused interventions, with little positive effect of a sleep education pamphlet for parents in one, improvements in sleep quality in treatment arms (melatonin alone, melatonin + CBT) in another, and some improvements in time to fall asleep in one short-term RCT of sleep education programs for parents. One poor-quality study of parent education to mitigate feeding problems reported no significant effects.

KQ 2. Modifiers of Treatment Effects

Among the potential modifiers or moderators of early intensive ABA-based interventions, younger age at intake was associated with better outcomes for children in a limited number of studies. Greater baseline cognitive skills and higher adaptive behavior scores were associated with better outcomes across behavioral interventions, but again, these associations were not consistent. In general, children with lower symptom severity or less severe diagnoses improved more than participants with greater impairments. Many studies (e.g., social skills, CBT) restricted the range of participants' impairment at baseline (e.g., recruiting only participants with IQs >70), limiting understanding of intervention impact on broader

populations. Studies assessing parental responsiveness to children's communication typically reported better outcomes in children whose parents were more aligned with the child's communication versus those who attempted to redirect or were less synchronized. Regarding intervention-related factors, duration of treatment had an inconsistent effect. Some studies reported improved outcomes with more intervention time and others reported no association. Overall, most studies were not adequately designed or controlled to identify true moderators of treatment response.

KQ 3. Treatment Phase Changes That Predict Outcomes

The reviewed literature offers little information about what specific early changes from baseline measurements of child characteristics might predict long-term outcome and response.

KQ 4. Treatment Effects That Predict Long-Term Outcomes

Few studies assess end-of-treatment effects that may predict outcomes. Several early intensive behavioral and developmental interventions are associated with changes in outcome measures over the course of very lengthy treatments, but such outcomes usually have not been assessed beyond treatment windows. One family of studies attempted to follow young children receiving early joint attention intervention until they were school aged, but this study failed to include adequate followup of control conditions. It also involved children who were receiving many hours of uncontrolled interventions during the course of study.

KQ 5. Generalization of Treatment Effects

The majority of the social skills and behavioral intervention studies targeting associated conditions attempted to collect outcomes based on parent, self, teacher, and peer report of targeted symptoms (e.g., anxiety, externalizing behaviors, social skills, peer relations) at home, at school, and in the community. Although such ratings outside of the clinical setting may be suggestive of generalization in that they improve outcomes in the daily context/life of the child, in most cases, these outcomes are parent reported and not confirmed with direct observation. Behavioral intervention studies rarely measured outcomes beyond the intervention period, and we therefore cannot assume that effects were maintained over time.

KQ 6. Treatment Components That Drive Outcomes

We did not identify any studies meeting our inclusion criteria that addressed this question.

KQ 7. Treatment Approaches for Children Under Age 2 at Risk for Diagnosis of ASD

In the studies addressing interventions for younger children, children who received behavioral interventions seemed to improve regardless of intervention type (including the comparator interventions, which were also behavioral). None of the fair- or good-quality studies compared treatment groups with a no-treatment control group. Potential modifiers of treatment efficacy include baseline levels of object interest. Most outcome measures of adaptive functioning were based on parent report, and the effect of parental perception of treatment efficacy on perception (and report) of child functioning was generally not explored.

Discussion

Key Findings and Strength of Evidence

Since our previous review in 2011, there has been a significant increase in the quantity and quality of studies investigating behavioral interventions. These new studies add to the prior report and strengthen our ability to make conclusions about the effectiveness of behavioral interventions. Of the 45 comparative studies of behavioral interventions (29 RCTs) in the 2011 review, we considered only 2 as good quality. Among the new studies described in this current review, 19 studies are good quality, and 48 of the 65 included studies are RCTs.

Evidence from the original report and this update suggests that early behavioral and developmental intervention based on the principles of ABA delivered in an intensive (>15 hours per week) and comprehensive (i.e., addressing numerous areas of functioning) approach can positively affect a subset of children with ASD (Table B). Across approaches, children receiving early intensive behavioral and developmental interventions demonstrate improvements in cognitive, language, adaptive, and ASD impairments compared with children receiving low-intensity interventions and eclectic non–ABA-based intervention approaches.

Since our previous review, there have also been substantially more studies of well-controlled low-intensity interventions aimed at parent training for comprehensive impact on social communication skills. Although parent

training programs modified parenting behaviors during interactions, data are more limited about their ability to improve broad developmental skills (such as cognition, adaptive behavior, and ASD symptom severity) beyond short-term language gains for some children.

A growing number of studies of improved quality demonstrated positive effects of social skills interventions on at least one outcome measure, but a lack of consistency in the interventions studied and outcome measures used makes it difficult to understand specific effects of different intervention modalities.

A growing evidence base also suggests that children receiving targeted play-based interventions (e.g., joint attention, imitation, play-based interventions) demonstrate improvements in early social communication skills. Children receiving targeted joint attention packages in combination with other interventions show substantial improvements in joint attention and language skills over time. There is also evidence across a variety of play-based interventions that young children may display short-term improvements in early play, imitation, joint attention, and interaction skills. However, evidence that these short-term improvements are linked to broader indexes of change over time is not substantial.

CBT for associated conditions such as anxiety had the largest number of high-quality studies in the current review. A strong evidence base now suggests that school-aged children with average to above average intelligence and comorbid anxiety symptoms receiving manualized CBT therapy show substantial improvements in anxiety compared with wait-list controls. Table B summarizes the strength of the evidence for each category of intervention.

Table B. Strength of the evidence

Intervention	Outcome	SOE	Study Design Quality (N Participants)	Ratings for Domains Used To Assess SOE; Issues	Key Findings
Early intensive behavioral and developmental intervention: ABA based	IQ/cognitive	Moderate for positive effect	RCT: 1 good, 2 fair (360) Prospective cohort: 6 fair, 2 poor (521) nRCT; 1 good, 4 fair (170) Retrospective cohort: 1 fair, 2 poor (182)	Study limitations: Medium Consistency: Consistent Directness: Direct Precision: Precise Reporting bias: Undetected Other concerns: Approaches across studies vary substantially; it is difficult to determine the effects of these unique studies on specific groups of children.	Young children receiving high-intensity interventions display improvements in aspects of cognitive functioning. Most studies found that children in treatment and comparison groups both improved on cognitive skills, with children in early intensive behavioral interventions (target intervention) improving more than children receiving other types of services (eclectic comparators). Not all improvements were maintained at long-term followup Therefore, SOE was moderate for a positive effect relative to eclectic controls.
	Adaptive behavior	Low for positive effect	RCT: 1 good, 1 fair (76) Prospective cohort: 7 fair, 2 poor (616) nRCT: 1 good, 4 fair (170) Retrospective cohort: 1 fair, 2 poor (182)	Study limitations: Medium Consistency: Inconsistent Directness: Direct Precision: Imprecise Reporting bias: Undetected Other concerns: Behavior was always measured by parent report (Vineland Scales of Adaptive Behavior) rather than objective observation.	Most studies found that children in both treatment and control groups improved on adaptive skills. However, children in early intensive behavioral interventions improved more than children receiving other types of services. Not all group differences were maintained over long-term followup Therefore, SOE was low for a positive effect relative to eclectic controls.
	Symptom severity	Low for positive effect	RCT: 1 good, 1 fair (332) nRCT: 1 good, 1 fair (74) Prospective cohort: 4 fair, 2 poor (470) Retrospective cohort: 1 fair (142)	Study limitations: Medium Consistency: Inconsistent Directness: Direct Precision: Imprecise Reporting bias: Undetected Other concerns: Most control groups were also receiving treatments and also showed improvement, making it difficult to tease apart the effect of intervention.	There was mixed impact on symptom severity. SOE is low for a positive effect on symptom severity because 2 good-quality studies showed positive effects but multiple lower quality studies did not. More studies are needed to confirm results.

Table B. Strength of the evidence (continued)

Intervention	Outcome	SOE	Study Design Quality (N Participants)	Ratings for Domains Used To Assess SOE; Issues	Key Findings
Early intensive behavioral and developmental intervention: ABA based (continued)	Language/ communication	Moderate for positive effect	RCT: 1 good, 2 fair (360) nRCT: 1 good, 3 fair (143) Prospective cohort: 6 fair, 2 poor (616)	Study limitations: Medium Consistency: Consistent Directness: Direct Precision: Precise Reporting bias: Undetected Other concerns: Some studies measured language using direct testing, whereas others only used parent-reported measures (Vineland Scales of Adaptive Behavior).	Most studies found a positive effect of treatment on language/communication skills, although the specific domain of improvement (e.g., receptive vs. expressive language) varied across study. Some initial between-group differences disappeared at long-term followup There is moderate SOE of a positive effect on language overall.
	Social skills/ social behavior	Low for positive effect	RCT: 1 good, 1 fair (332) nRCT: 1 fair (34) Prospective cohort: 4 fair, 1 poor (406) Retrospective cohort: 1 fair (142)	Study limitations: Medium Consistency: Inconsistent Directness: Direct Precision: Imprecise Reporting bias: Undetected Other concerns: Social skills were assessed almost exclusively using parent-reported standard scores on the Vineland Scales of Adaptive Behavior.	Many studies found that treatment groups improved more than controls on measures of social skills, although a significant minority did not find any treatment effect. SOE is low for a positive effect at this time because, although positive effects were observed, they were not consistent.
Early intensive behavioral and developmental intervention: parent training	IQ/cognitive	Low for no effect	RCT: 3 fair (148) Prospective cohort: 1 good, 1 fair, 1 poor (142)	Study limitations: Medium Consistency: Inconsistent Directness: Direct Precision: Imprecise Reporting bias: Undetected Other concerns: None	Most studies of parent-implemented ABA demonstrated no improvements in IQ relative to community-based interventions; in some studies worse outcomes were reported relative to center-based treatment. SOE is low for no effect due to heterogeneity in interventions and outcomes measured.

Table B. Strength of the evidence (continued)

Intervention	Outcome	SOE	Study Design Quality (N Participants)	Ratings for Domains Used To Assess SOE; Issues	Key Findings
Early intensive behavioral and developmental intervention: parent training (continued)	Symptom severity	Low for positive effect	RCT: 3 good, 3 fair (361) Prospective cohort: 1 good, 1 fair, 2 poor, (203)	Study limitations: Low Consistency: Inconsistent Directness: Direct Precision: Imprecise Reporting bias: Undetected Other concerns: The measure of symptom severity varied across studies and was inconsistently defined.	Many studies found that treatment groups had improved ASD symptoms relative to controls.
	Language/ commun-ication	Low for positive effect	RCT: 4 good, 6 fair, 1 poor (664) nRCT: 1 poor (22) Prospective cohort: 2 good, 2 poor (176)	Study limitations: Low Consistency: Inconsistent Directness: Direct Precision: Precise Reporting bias: Undetected Other concerns: A mix of outcome measures was used—both parent reported (Vineland Scales of Adaptive Behavior) and more standardized measures such as Reynell or Mullen scales.	Parent training was associated with improvements in language (low SOE for improvements), but interventions and comparators were different across studies, as were the outcome measures. More studies are needed to confirm results.
Social skills	Social skills/ social behavior	Low for positive effect	RCT: 2 good, 11 fair, 6 poor (730) nRCT: 2 fair (45) Retrospective cohort: 1 poor (117)	Study limitations: Medium Consistency: Inconsistent Directness: Direct Precision: Precise Reporting bias: Undetected Other concerns: Interventions varied widely in terms of scope and intensity.	School-aged children diagnosed without concomitant cognitive and language deficits demonstrated short-term gains in social skills and emotion recognition. Maintenance and generalization of these skills beyond the treatment context had variable results.

Table B. Strength of the evidence (continued)

Intervention	Outcome	SOE	Study Design Quality (N Participants)	Ratings for Domains Used To Assess SOE; Issues	Key Findings
Play/interaction based interventions	Joint attention	Moderate for positive effect	RCT: 3 good, 6 fair (305)	Study limitations: Low Consistency: Consistent Directness: Indirect Precision: Precise Reporting bias: Undetected Other concerns: Children in several studies were also receiving other early intervention; disentangling results is difficult.	Selected joint attention skills consistently increased in treatment arms, but duration of effects is unclear. The SOE is lowered to moderate, as children in most studies were also receiving other early intervention and disentangling effects is difficult.
	Play skills	Low for positive effect	RCT: 3 good, 3 fair, 3 poor (265) Prospective cohort: 1 poor (12)	Study limitations: Medium Consistency: Consistent Directness: Direct Precision: Precise Reporting bias: Undetected Other concerns: Children in several studies were also receiving other early intervention; disentangling results is difficult.	Play skills increased in treatment arms but duration of effects is unclear. Imitation skills improved in treatment arms in 4 small short-term studies and in the treatment and control arms in 1 study.
	Language/ communication	Low for positive effect	RCT: 4 fair (165)	Study limitations: Medium Consistency: Consistent Directness: Direct Precision: Imprecise Reporting bias: Undetected Other concerns: Children in several studies were also receiving other early intervention; disentangling results is difficult.	Expressive, but not receptive, language skills generally increased in the treatment arms in 2 studies; prompted, but not spontaneous, communication improved in 1 study.

Table B. Strength of the evidence (continued)

Intervention	Outcome	SOE	Study Design Quality (N Participants)	Ratings for Domains Used To Assess SOE; Issues	Key Findings
Play/interaction based interventions (continued)	Social skills	Low for positive effect	RCT: 1 good, 3 fair (173)	Study limitations: Medium Consistency: Consistent Directness: Indirect Precision: Precise Reporting bias: Undetected Other concerns: Children in several studies were also receiving other early intervention; disentangling results is difficult.	Joint engagement or positive affect improved in treatment arms in 3 studies.
Interventions addressing commonly associated conditions: CBT	Anxiety	High (for positive effect in older children with at least average IQs)	RCT: 6 good, 1 fair, 2 poor (413) nRCT: 1 fair (31)	Study limitations: Low Consistency: Consistent Directness: Direct Precision: Precise Reporting bias: Undetected Other concerns: Studies included older children, typically with IQ >70.	Improvement in anxiety symptoms was greater for CBT vs. control group in 5/6 studies; study that did not show improvement compared CBT with an active treatment instead of a wait-listed control. Improvements were maintained at followup.
	Symptom severity	Low for positive effect	RCT: 2 good (81)	Study limitations: Low Consistency: Consistent Directness: Direct Precision: Imprecise Reporting bias: Undetected Other concerns: None	There was significant improvement in clinician- and parent-rated measures of anxiety severity in both studies, with improvement maintained at followup. SOE is low based on only 2 small studies.

ABA = applied behavior analysis; CBT = cognitive behavioral therapy; nRCT = nonrandomized controlled trial; RCT = randomized controlled trial; SOE = strength of evidence

Applicability

Studies of early intensive behavioral and developmental interventions were conducted primarily in preschool-age and early school-age children (i.e., typically children initially ages 1.5–7 years). The cognitive, language, and adaptive behavior profiles of participants included in these studies were generally in line with those seen in the community (i.e., typically marked by substantial impairment/delay, but with some children with more intact early cognitive/language profiles).

Often studies were conducted in highly controlled environments (e.g., university-supported intervention trials) or the methodology was not well described (i.e., nonmanualized approaches), which substantially limits their applicability to community-based settings. Even available manualized interventions require high degrees of specialization and training that make them difficult to implement in community practices.

Studies of parent training interventions and play-based interventions for preschool children often emphasized principles of ABA, in accordance with current practice recommendations for the target populations typically referred for these services. Training programs included components to improve social communication skills such as joint attention, play-based interactions, and pragmatic language approaches; interventions were conducted for approximately 1–4 hours/week, with parents trained in how to generalize these skills to other natural settings. Several programs offer manualized intervention protocols that can facilitate their use in community settings. Again, however, the number of providers in community settings who are capable of implementing these programs may be limited.

Most studies of social skills interventions targeted elementary school–aged children (6–13 years old) with few studies targeting preschool-age children, although such interventions may be important in this younger age group. Most studies also excluded children with IQs falling outside of the average range. Similarly, CBT for conditions commonly associated with ASD was targeted toward older children with generally average cognitive abilities and comorbid anxiety disorders.

Limitations of the Review Process

We limited this update to comparative studies and included only those with at least 10 individuals. Thus, we did not include data from pre-post studies or those with a very small number of children. These would include a number of single subject design studies that may be helpful for understanding focused questions of short-term efficacy in individual children and that may be useful for explicating mechanisms of action. These studies are less able to contribute to the body of evidence that we sought on population-level and generalizable effects. Users of this review may want to take those studies into account as context when applying our findings. We limited our review to English-language studies, not finding evidence that we were missing relevant research in other languages. We also did not include interventions primarily viewed as medical, educational, complementary/alternative, or allied health in nature.

Limitations of the Evidence Base

Despite improvements, the existing literature still has significant methodological concerns that in many ways continue to limit the strength of these conclusions. Evidence for the impact of intensive ABA-based interventions on cognitive, language, and adaptive skills and ASD symptoms also highlights important limitations of current treatment modalities. First, even children who demonstrate clinically significant improvements in these areas often continue to display substantial impairment in these and other areas over time. Second, not all children receiving intensive ABA-based intervention showed robust improvements in these domains. Thus, it is still challenging to predict long-term functional and adaptive outcomes on an individual level. Further, although children receiving early intensive developmental and behavioral intervention commonly display substantial improvements, the magnitude of these effects varies across studies and may indicate subgroups showing variable responses to particular interventions. Intervention response is likely moderated by both treatment and child factors.

Despite multiple studies of early intensive treatments, intervention approaches still vary substantially, which makes it difficult to tease apart what these unique treatment and child factors may be. Similarly, data on provider type and qualifications are variably reported, and the impact of provider characteristics on treatment outcomes is unclear. Study sample sizes are typically small (total numbers ranging from 11 to 284 for studies in the current review, median = 40), and some studies may be considered pilots for larger studies that may better answer questions about intervention intensity and moderators of effects. At this time, the evidence is insufficient to adequately identify and target the children who are most likely to benefit (or not benefit) from specific interventions.

Many early intervention studies found that children in all groups improved on ASD symptom measures regardless of intervention type, although the degree of improvement

was often significantly greater in the treatment group. In many studies, results were confounded by nonrandom assignment of participants, including assignment based on child characteristics (such as having the skills necessary to participate in the intervention setting) or parental preference. The latter is especially problematic when outcomes are measured by parent report, given some evidence that parental stress influences parent perceptions of child outcomes. Additionally, in most studies, both enrolled and control/wait-listed children were receiving concomitant interventions, whose magnitude was inconsistently documented and controlled for in analyses.

A remaining significant challenge to interpreting the early intensive intervention literature relates to how interventions are described and implemented. Although researchers are attempting to manualize approaches as well as operationalize and measure treatment fidelity, most of the body of literature categorized in this report as "early intensive behavioral and developmental intervention" remains an eclectic grouping. This category of intervention presently groups different treatment approaches (i.e., developmental, intensive behavioral, center based, and combinations), intensity (12 hours over 3 months vs. 30 hours over 1 week), and duration (weeks to years); varied inclusion and baseline assessment criteria; children of varying ages (intake age ranging from 18 months to 7 years); and many different outcome measurements over different periods of time (weeks to years). Manualizing intensive interventions to be delivered over the course of months and years for a heterogeneous patient population is intrinsically challenging. However, recent progress toward this end has shown that children may respond differentially to early intensive approaches.

Few studies directly compared the effects of well-controlled treatment approaches, instead comparing interventions with nonspecific "treatment as usual," which clearly lacks the level of control for expectancy bias in a placebo-controlled medication study. Additionally, little data on the practical effectiveness or feasibility of these treatments beyond research studies exist, and questions remain about whether reported findings would generalize on a larger scale within communities. Furthermore, the studies conducted have used small samples, drastically different treatment approaches and duration, and different outcome measurements. Similarly, no studies reported harms of intervention in terms of child, family, or system impact.

Although there was a fairly robust evidence base on CBT, the literature lacks head-to-head comparisons of treatment or controlled comparisons of combinations of treatments, despite the fact that most children are undergoing multiple concurrent treatments. Although the studies are well designed, the sample sizes are quite modest. Additionally, the CBT approaches were modified for children with ASD and often manualized by the study authors themselves.

Research Gaps and Needs

Given the heterogeneity of the expression of ASD across children, a critical area for further research is understanding which children are likely to benefit from particular interventions. To date, studies have failed to characterize adequately the characteristics of interventions (or the children receiving them) in a manner that helps clarify why certain children show more positive responses than others. It is simpler to identify the characteristics of those children who show at most a minimal benefit from a particular treatment, but most existing studies also fail to adequately describe this population. It is possible that meta-analyses of individual patient data may provide additional information for identifying subgroups of responders.

Further, our understanding of early indicators of treatment response is extremely limited, such that it is not realistic to implement evidence-based changes in intervention based on assessing children's responses. This is quite important to parents, providers, and families, as they often want to know not only when a treatment is working, but also when the lack of a robust response should lead them to pursue other treatment options. Similarly, research is lacking on the durability of treatment gains and approaches needed to maintain gains.

Currently, the evidence suggests that some children will show dramatic improvement overall, others will display robust improvement in some areas with continued areas of vulnerability in others, and still other children will show more modest responses to treatment. It is also unclear how similar groups of children would respond to differing levels of intervention intensity, approaches, and methods. Research suggests that child characteristics such as baseline cognitive, language, and adaptive skills and ASD symptoms correlate with treatment outcome regardless of intervention. However, these correlational data provide limited information to predict what treatments will work best for individual children. Intensive comprehensive intervention strategies are often, by their very nature, multicomponent, but little data exist on whether specific treatment components drive effectiveness. Also, little is known about mediators of change. Finally, intervention research often fails to collect data on pragmatic factors

related to family, culture, available resources, and stressors that are likely critical to understanding treatment response in a "real-world" context.

Measuring appropriate outcomes is a primary methodologic concern in the ASD literature. Intervention research has typically measured differing outcomes across studies, which has limited the ability to understand change within and across individual studies.[11] Many studies also used problematic methods to operationalize outcomes, doing so in terms of change on standardized measures that reference normative populations (i.e., IQ measurement, adaptive behavior scores). This may not be an appropriate or adequate method for measuring or predicting early treatment response, changes in quality of life, or long-term functional outcomes. Such measurement, while allowing for comparison with typically developing populations, may miss important information about changes that are relevant within the ASD population specifically. More simply, it is unclear that measures of cognitive ability, language, and ASD diagnostic symptoms are adequately sensitive methods for measuring symptom frequency, intensity, and impairment in children with ASD. Research on appropriate methods for capturing meaningful change will be critical to advancing our understanding of behavioral interventions. In addition, although more studies are reporting primary and secondary outcome measures determined a priori, continued improvements in reporting will benefit the field.

Given that the treatment process for ASD is typically intensive and requires highly specific and well-trained individuals to deliver with fidelity, questions of feasibility and accessibility are pertinent but largely understudied. Our understanding of treatment impact and implementation would be greatly enhanced by research that explicitly evaluates which treatments have the greatest real-world impact. Similarly, evaluations of interventions delivered by community providers are important for comparing effects of such approaches with those of interventions delivered in controlled research environments. Such evaluations are complicated by the complexity of community systems and methodologic challenges, including creating similar treatment and control groups and maintaining fidelity. However, they will be increasingly valuable for scaling intervention for ASD. Also important in addressing this gap is improving our currently limited understanding of the effects of provider training and provider characteristics on outcomes of treatment.

Finally, this literature lacks studies that directly compare interventions or employ combinations of interventions (e.g., comparing medical interventions with behavioral interventions, with educational interventions, or with allied health interventions), despite the fact that most children receive multiple concurrent treatments.

Conclusions

In sum, a growing evidence base suggests that behavioral interventions are associated with positive outcomes for some children with ASD. Despite improvements in the quality of the included literature, a need remains for studies of interventions across settings and continued improvements in methodologic rigor. Substantial scientific advances are needed to enhance our understanding of which interventions are most effective for specific children with ASD and to isolate the elements or components of interventions most associated with effects.

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Full Report

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August 2014

State by State Regulation of Behavior Analysis

	State	Behavior Analyst (masters degree)	Assistant Behavior Analyst (bachelors degree)	Technician	BACB is Used	Others may qualify for license	State regulatory board	Limited to Disorder	Practice or Title	BA Law adopted
1.	NV	L	L	C	Y	N	Psych	N	PT	2009
2.	OK	L	C	NA	Y	N	BehAn	N	PT	2009
3.	AZ	L	NA	NA	Y	Y	Psych	N	PT	2010
4.	KY	L	L	NA	Y	N	BehAn	N	PT	2010
5.	MO	L	L	NA	Y	N	Psych	N	PT	2010
6.	WI	L	NA	NA	Y	N	None	N	T	2010
7.	ND	L	R	NA	Y	Y	Psych	N	PT	2011
8.	RI	L	L	NA	Y	Y	BehAn	N	T	2012
9.	VA	L	L	NA	Y	N	Medicine	N	P	2012
10.	LA	L	C	R	Y	Y	BehAn	N	P	2013
11.	MA	L	L	NA	Y	Y	AMHHSP	N	T	2013
12.	OH	C	NA	NA	Y	Y	Psych	N	PT	2013
13.	OR	L	L	R	Y	Y	BehAn	N	PT	2013
14.	AK	L	L	NA	Y	Y	None	N	P	2014
15.	AL	L	L	NA	Y	N	BehAn	N	PT	2014
16.	KS	L	L	NA	Y	N	BSRB	N	P	2014
17.	MD	L	NA	NA	Y	?	BPCT	N	P	2014
18.	NY	L	C	NA	Y	?	BehAn	Y	PT	2014
19.	TN	L	L	NA	Y	N	Psych	N	PT	2014
20.	HI	L	NA	NA	Y	N	None	N	PT	2015
21.	MS	L	L	O	Y	N	Autism	N	PT	2015
22.	UT	L	L	NA	Y	?	Psych	N	T	2015
23.	VT	L	L	NA	Y	Y	None	N	PT	2015
24.	WA	L	L	C	?	?	None	N	PT	2015
25.	MI	L	L	O	Y	N	BehAn	N	PT	2016
26.	SD	L	NA	NA	Y	N	SocialWork	N	PT	2016
27.	CT	L	L	NA	Y	Y	BehAn	N	PT	2017
28.	MT	L	L	NA	Y	Y	Psych	N	PT	2017
29.	TX	L	L	NA	Y	Y	BehAn	N	PT	2017
30.	IA	L	L	NA	Y	N	BehSci	N	PT	2018

BACB = Behavior Analyst Certification Board, Inc.
L = License
C = State certification
R = Registration
O = Other regulation
NA = Not applicable
BehAn = Behavior Analysis
Psych = Psychology
Autism = Mississippi Autism Board
BSRB = Behavioral Sciences Regulatory Board
AMHHSP = Allied Mental Health & Human Service Professionals
BPCT = Board of Professional Counselors & Therapists
SocialWork = Board of Social Work
BehSci = Board of Behavioral Science

Association of

Professional Behavior Analysts

Model Behavior Analyst Licensure Act

ADOPTED AUGUST 2018

Model Behavior Analyst Licensure Act

This model act for licensing behavior analysts is provided for general information purposes and is designed to cover the primary areas and approaches that commonly appear in laws (statutes) adopted by governments to regulate professions. If your jurisdiction[1] is considering licensure or another form of regulation of individuals practicing applied behavior analysis, please first contact the Association of Professional Behavior Analysts (APBA; info@apbahome.net). Although each jurisdiction has some unique processes and structures for regulating professionals, there are commonalities. In working on dozens of behavior analyst licensure laws and other public policies over the past decade, APBA has garnered a great deal of information about typical processes and structures as well as issues that often arise when governmental regulation of behavior analysts is proposed. Contacting APBA early in the process will help you prepare to avoid or minimize problems and ensure that your jurisdiction's proposed licensure law is consistent with the profession's standards and similar laws.

Some laws to regulate professions specify requirements for obtaining and renewing the government-issued credential (license, certificate, or registration), the composition and operations of the board or other entity that is to manage the credentialing program, fees, ethical and disciplinary standards, complaint and investigatory procedures, and sanctions that can be imposed on credentialed individuals as well as those who practice without holding the required credential. Other laws include only some basic requirements, leaving details to be spelled out in rules or regulations. Some of the language that appears in this model act could be used in regulations or rules instead of, or in addition to, the licensure law.

Each section and some subsections of the proposed model act are accompanied by comments that explain the rationale for the preceding or following section or describe options to be considered. To differentiate them from the proposed statutory language, the comments are italicized.

[1] In this model act, "jurisdiction" means a state, province, country, or other area organized under one government.

An Act to License Behavior Analysts

Preamble

An Act to license professional practitioners of applied behavior analysis; to establish the Behavior Analyst Licensing Board; to authorize the Board to regulate the practice of behavior analyst professionals; to provide for the membership, terms of office, powers, and duties of the Board; to establish requirements for licensure; and to provide exemptions from licensure.

Section 1. Declaration of Policy

The practice of applied behavior analysis in [jurisdiction] is hereby declared to affect the health, safety, and welfare of citizens of [jurisdiction] and to be subject to regulation to protect the public from (i) the practice of applied behavior analysis by unqualified persons, and (ii) unprofessional, unethical, and/or harmful conduct by behavior analysis practitioners.

> ***Comment:*** *A preamble and Declaration of Policy may not be required in all jurisdictions.*

Section 2. Prohibitions and Penalties

A. The practice of applied behavior analysis by unlicensed individuals is prohibited unless they are exempted in Section 7 of this Act.

> ***Comment:*** *See Section 7 for information on how this model act addresses other regulated professionals, such as licensed psychologists, and individuals in other specified categories.*

B. No person shall hold himself or herself out to be a Licensed Behavior Analyst or Licensed Assistant Behavior Analyst unless he or she is licensed under this Act.

> ***Comment:*** *APBA recommends that behavior analyst licensure laws include both practice and title protections, as in A and B above. In some jurisdictions, restricting the use of professional titles without also restricting who can practice the profession has been held to be unconstitutional. Advice should be sought from an attorney employed by the jurisdiction before proposing a licensure act that would restrict title use without also restricting who can practice.*

C. The Behavior Analyst Certification Board's *Professional and Ethical Compliance Code for Behavior Analysts* is incorporated herein as the code of conduct for individuals licensed under this Act.

Comment: *In this model act, current certification by the Behavior Analyst Certification Board® (BACB®) is the principal requirement for obtaining and maintaining licenses (see Section 5). Since all certificants are required to adhere to the BACB Compliance Code, it follows that the Code should serve as the code of conduct for licensees. Some jurisdictions, however, have laws specifying conduct standards for all professionals who are licensed in that jurisdiction. In that case this provision may need to be written so as to integrate those standards with the BACB Compliance Code standards. In other jurisdictions, the licensure law may state that the licensing board will promulgate conduct rules.*

D. Any person found to be in violation of any provision(s) of this Act shall be subject to a fine of no less than [X] dollars. Violators who are licensed under this Act shall be subject to other sanctions and penalties, up to and including revocation of licenses.

Comment: *Many jurisdictions have laws and processes in place for investigating alleged violations of licensure laws and rules or regulations and for sanctioning individuals who are found to have committed violations. In that case, this provision should be revised accordingly.*

Section 3. Definitions

For the purposes of this Act, the following terms shall have the following meanings:

A. BOARD. The [jurisdiction] Behavior Analyst Licensing Board, which is authorized to implement and enforce this Act and oversee the practice of applied behavior analysis.

B. CERTIFYING ENTITY. The Behavior Analyst Certification Board (BACB) or another entity whose programs to credential practitioners of applied behavior analysis are accredited by the National Commission on Certifying Agencies (NCCA) or the American National Standards Institute (ANSI).

Comment: *If the laws of a jurisdiction prohibit naming the certifying entity in the licensure law, an alternative is to authorize the licensing board or other regulatory authority to approve the certifying entity by rule, as long as the certifying entity is a professional behavior analyst certifying organization. In that case, APBA strongly recommends that the law specify that the certifying entity must hold NCCA or ANSI accreditation for its behavior analyst credentialing program(s).*

C. LICENSED BEHAVIOR ANALYST. An individual who is certified by the certifying entity as a Board Certified Behavior Analyst® (BCBA®) or Board Certified Behavior Analyst -Doctoral™ (BCBA-D™) and who meets the other requirements specified in Section 5 of this Act.

Comment: *See the BACB's Terms of Use (https://www.bacb.com/terms-of-use/) for information on how to avoid unlawful infringement of the BACB's registered trademarks. When titles of credentials issued by the BACB are included in laws, regulations, or rules, they should always be identical to the BACB titles, including first letters capitalized and the use of lower case for the first "a" in BCaBA. If non-BACB certified individuals will or may also be licensed (which is not recommended by APBA), it is important to use an alternative title to distinguish licensees who have met the BACB's standards from those who qualify for licensure based on other standards (e.g., requirements set by the licensing board or another regulatory authority in the jurisdiction). For example, an individual licensed as a behavior analyst should not be permitted to use the title BCBA or Board Certified Behavior Analyst unless the individual is certified by the BACB.*

D. LICENSED ASSISTANT BEHAVIOR ANALYST. An individual who is certified by the certifying entity as a Board Certified Assistant Behavior Analyst® (BCaBA®) and who meets the other requirements specified in Section 5 of this Act.

Comment: *Please see the comment following Section 3(C) above.*

E. BEHAVIOR TECHNICIAN. A paraprofessional who practices under the close, ongoing supervision of a Licensed Behavior Analyst or Licensed Assistant Behavior Analyst. The behavior technician does not design assessment or intervention plans or procedures but delivers services as assigned by the supervisor responsible for his or her work.

Comment: *APBA recommends making behavior technicians exempt from licensure (see Section 7) rather than licensed or otherwise regulated directly by the licensing board or other regulatory authority. The work of behavior technicians must be supervised closely by appropriately credentialed professional behavior analysts.*

F. PRACTICE OF APPLIED BEHAVIOR ANALYSIS. The design, implementation, and evaluation of instructional and environmental modifications to produce socially significant improvements in human behavior. The practice of applied behavior analysis includes the empirical identification of functional relations between behavior and environmental factors, known as functional assessment and analysis. Applied behavior analysis interventions are based on scientific research and direct and indirect observation and measurement of behavior and environment. They utilize contextual factors, motivating operations, antecedent stimuli, positive reinforcement, and other procedures to help individuals develop new behaviors, increase or decrease existing behaviors, and emit behaviors under specific environmental conditions. The practice of applied behavior analysis excludes

diagnosis of disorders, psychological testing, psychotherapy, cognitive therapy, psychoanalysis, and counseling.

> ***Comment:*** *The definition of practice (often referred to as the "scope of practice") should not refer to any particular consumers, client populations, or settings. Rather, it should describe the practice of the profession generally. This model act presumes that the practice of applied behavior analysis involves delivering services directly to human clients and consumers. Please see Section 7 for exemptions from licensure for behavior analysts who practice in other contexts.*

Section 4. Behavior Analyst Licensing Board

A. The [jurisdiction] Behavior Analyst Licensing Board is hereby established. The Board shall issue licenses to individuals who meet the requirements specified in this Act, promulgate rules and establish fees necessary to implement this Act, and investigate all complaints relating to the practice of applied behavior analysis by any Licensed Behavior Analyst, Licensed Assistant Behavior Analyst, or any other person alleged to be violating any of the provisions of this Act.

B. The initial Board shall consist of five members, including three Board Certified Behavior Analysts or Board Certified Behavior Analysts-Doctoral who are eligible for licensure under this Act, one Board Certified Assistant Behavior Analyst who is eligible for licensure under this Act, and one public member who is not a professional behavior analyst. The Board Certified Behavior Analyst, Board Certified Behavior Analyst–Doctoral, and Board Certified Assistant Behavior Analyst members shall apply for licensure as soon as feasible. Subsequently the Board shall consist of three Licensed Behavior Analysts, one Licensed Assistant Behavior Analyst, and one public member.

C. The membership of the Board shall be inclusive and reflect the racial, gender, geographic, urban/rural, and economic diversity of [jurisdiction]. Each member shall serve a three-year term, with initial terms being staggered so that one member serves an initial term of one year, three members serve initial terms of two years, and three members serve initial terms of three years, as provided by the [jurisdiction official]. The public member shall be a person who is not and never was a member of the profession licensed or regulated under this Act or the spouse of such a person, and who does not have and never has had a material interest in the practice of applied behavior analysis.

D. Members of the Board shall be appointed by the [jurisdiction official] upon recommendations submitted by the [behavior analysis professional organization in the jurisdiction] and any other group deemed appropriate by the [jurisdiction official]. Terms and vacancies shall be filled as follows:

(i) Any vacancy occurring other than by expiration of terms shall be filled for the remainder of the unexpired term by appointment by the [jurisdiction official] upon recommendation of the Board.

(ii) No member shall serve more than two successive three-year terms.

(iii) A member shall serve until a successor is appointed and assumes office.

(iv) Members shall not be remunerated, but shall be paid out of the funds of the Board the same per diem as prescribed by law for [jurisdiction] employees for each day of attendance at Board meetings.

E. The Board shall meet at least twice annually and may meet at such other times as necessary, at the call of the chair or by a majority of the members, to complete the business required.

(i) Three members of the Board shall constitute a quorum.

(ii) The Board shall elect a chair from among its membership on an annual basis.

Comment: *It is preferable for the behavior analyst licensing program to be managed by a separate, independent behavior analyst board, as described above. Where that is not possible, the licensing program may be housed within another regulatory body, such as a behavioral sciences, human services, or healthcare professions licensing board. In that instance it is wise to work to ensure that regulation and decision-making regarding the practice of applied behavior analysis are carried out by professional behavior analysts independently of other professions whose members may not be knowledgeable about applied behavior analysis or who may have competing interests. One mechanism for accomplishing that, if allowed by the jurisdiction's laws, is to establish a behavior analyst committee within the regulatory body and grant it the authority to regulate the practice of applied behavior analysis.*

Many jurisdictions have overarching laws or regulations that specify processes for constituting licensing boards, their operating procedures, etc. If so, the foregoing section should be revised accordingly. To the extent allowed by extant laws and regulations, a large majority of the members of the behavior analyst licensing board or committee should be Licensed Behavior Analysts with additional membership of at least one Licensed Assistant Behavior Analyst (if those individuals are licensed by the jurisdiction) and at least one public member. Some jurisdictions may require more than one of the latter.

Section 5. Eligibility Requirements for Initial Licensure

A. Each applicant for licensure as a Licensed Behavior Analyst shall submit an application and specified fees to the Board. The application must include evidence that the applicant meets all of the following requirements:

(i) Is of good moral character.

(ii) Has successfully completed a criminal background check.

Comment: *Many jurisdictions in the U.S. require all applicants for licensure to complete a specific background check/clearance. If that is not required, (ii) above should be omitted. The jurisdiction may also require all applicants to pass an examination on the jurisdiction's laws relevant to the practice of applied behavior analysis (often called a jurisprudence examination). If so, the requisite language should be included in this section.*

(iii) Each applicant shall also have his/her current certification as a Board Certified Behavior Analyst or Board Certified Behavior Analyst-Doctoral verified with the certifying entity by the Board.

Comment: *Licensure requirements in many professions include completion of specified degrees, coursework, and supervised experiential training as well as passage of a valid and reliable professional examination in the subject matter. Those requirements are typically set by the profession, and are often derived from job analysis studies involving many members of the profession as well as input from experts in the subject matter, psychometrics, and applicable laws. The BACB's certification programs have all of those features and are accredited by the National Commission on Certifying Agencies, which means that the programs meet rigorous standards that are grounded in case law and best practices in professional credentialing. Making current BACB certification the principal requirement for licensure therefore has multiple benefits. It ensures that*

- *all licensees have been verified to have met the education and training standards set by the profession and have passed a psychometrically and legally validated professional examination in behavior analysis;*
- *licensees are required to comply with the BACB's Professional and Ethical Compliance Code for Behavior Analysts and are not subject to any disciplinary action by the BACB;*
- *the jurisdiction and Board have sound legal and empirical bases for determining who does and does not qualify for licensure; and*

- *the licensure program is cost-effective for the jurisdiction because the Board does not have to check every applicant's degrees, coursework, and supervised training; it need only search for the applicant's name at https://www.bacb.com/verify-certification/*

Licensure laws, regulations, or rules that allow individuals other than current BACB certificants to qualify for licensure lack the foregoing safeguards and run the risk of failing to reflect the standards set by the profession. Therefore, APBA does not recommend including such provisions.

Direct verification of BACB certification by the licensing board is preferable to having applicants for licensure submit evidence of certification because it avoids the risk that such evidence might be counterfeit or outdated.

It may seem efficient to copy and paste the current BACB certification standards into a proposed licensure law or rules. That is not recommended, because the BACB's standards are updated regularly to reflect the results of recent job analysis studies and developments in research, laws, social norms, and other variables that affect the professional practice of applied behavior analysis. If a licensure law specifies the BACB education and training requirements that are in place at the time the law or rules are adopted, the law or rules will have to be amended every time BACB requirements change. It is impossible to predict how difficult or easy that will be. The safer approach is to require verification that each applicant for licensure has met current BACB certification requirements.

B. Each applicant for licensure as a Licensed Assistant Behavior Analyst shall submit an application and specified fees to the Board. The application must include evidence that the applicant meets all of the following requirements:

(i) Is of good moral character.

(ii) Has successfully completed a criminal background check.

(iii) Is supervised by a Licensed Behavior Analyst who is approved as a supervisor by the certifying entity, in accordance with the certifying entity's current supervision standards.

Comment: *APBA recommends that jurisdictions license assistant behavior analysts. If the jurisdiction opts not to do that, then Board Certified Assistant Behavior Analysts (BCaBAs) should be identified in Section 7 as exempt from licensure as long as they maintain current BACB certification as BCaBAs and have their work supervised by Licensed Behavior Analysts in accordance with current BACB supervision standards (see https://www.bacb.com/bcaba/). If the law provides for licensure of individuals who are not BACB certified and allows*

those individuals to supervise the work of BCaBAs, it is imperative to specify that each BCaBA will still need to satisfy BACB supervision requirements. That is, a licensed professional who is not BACB certified may supervise the work of a BCaBA, but such supervision will not fulfill the requirements for the BCaBA to maintain his/her BACB certification. S/he will also have to obtain the necessary supervision from a Licensed Behavior Analyst who is approved as a supervisor by the BACB (see https://www.bacb.com/requirements-for-supervisors/).

(iv) Each applicant shall also have his/her current certification as a Board Certified Assistant Behavior Analyst verified with the certifying entity by the Board.

Comment: *See rationale in the comment following Section 5(A)(iii).*

Section 6. Expiration and Renewal

A license shall be granted for a period of [X] years. Prior to expiration of a license, the license may be renewed upon submission of an application for renewal, Board verification of current certification by the certifying entity, and payment of any renewal fee established by the Board.

Comment: *Requiring that all applicants for renewal have their BACB certification verified ensures that all licensees meet the current standards of the profession even as those standards change over time. That includes continuing education standards, supervision standards, and adherence to the BACB's Professional and Ethical Compliance Code for Behavior Analysts, all of which are required to maintain BACB certification. Passage of a BACB certification exam at some point in the past without current certification is not an adequate requirement for licensure renewal, because that would permit individuals who have not kept up with developments in the profession to be licensed to practice behavior analysis.*

Section 7. Exemptions

Comment: *Exemptions are commonly included in licensure laws. They typically describe categories of individuals who are allowed to engage in specified aspects of the practice under specified conditions without being licensed. Some exemptions are suggested here. It is essential, however, to discuss with APBA and carefully consider the likely effects of each and every potential exemption on behavior analyst practitioners and consumers in your jurisdiction.*

The provisions of this Act shall not be construed as prohibiting or restricting the practice of any of the following:

A. Individuals licensed to practice psychology in [jurisdiction] and those who deliver psychological services under their supervision, provided that (a) applied behavior analysis is in the scope of practice section of the [jurisdiction] psychology licensure law; (b) the applied behavior analysis services provided are within the boundaries of the Licensed Psychologist's education, training, and competence; and (c) the Licensed Psychologist does not represent that s/he is a Licensed Behavior Analyst unless also licensed under this Act.

B. Individuals licensed to practice other professions in [jurisdiction] and those who deliver services under their supervision, provided that (a) applied behavior analysis is in the scope of practice section of the profession's licensure law; (b) the applied behavior analysis services provided are within the boundaries of the licensed professional's education, training, and competence; and (c) the licensed professional does not represent that he or she is a Licensed Behavior Analyst unless also licensed under this Act.

> ***Comment:*** *Including exemptions like A and/or B above may be necessary or desirable to allow certain qualified and licensed members of other professions to practice behavior analysis in the jurisdiction without holding a license in behavior analysis.*

C. Behavior technicians who deliver applied behavior analysis services under the extended authority and direction of a Licensed Behavior Analyst or a Licensed Assistant Behavior Analyst. Such individuals must not represent themselves as professional behavior analysts, and must use titles that indicate their nonprofessional status, such as "ABA technician," "behavior technician," or "tutor."

> ***Comment:*** *Failure to include this exemption may result in behavior technicians being charged with practicing applied behavior analysis without a license. It may also have the unintended effect of making it difficult to obtain funding for services delivered by technicians.*

D. Caregivers of recipients of applied behavior analysis services who deliver those services to the recipients under the extended authority and direction of a Licensed Behavior Analyst or a Licensed Assistant Behavior Analyst. Such individuals must not represent themselves as professional behavior analysts.

> ***Comment:*** *This exemption is consistent with BACB Professional and Ethical Compliance Code for Behavior Analysts standards and best practices in applied behavior analysis for training caregivers to deliver certain applied behavior analysis services.*

E. Behavior analysts who practice with nonhumans, including applied animal behaviorists and animal trainers. Such individuals may use the title "behavior analyst" but may not represent themselves as Licensed Behavior Analysts or Licensed Assistant Behavior Analysts unless licensed under this Act.

F. Professionals who provide general applied behavior analysis services to organizations, so long as those services are for the benefit of the organizations and do not involve direct services to individuals. Such professionals may use the title "behavior analyst" but may not represent themselves as Licensed Behavior Analysts or Licensed Assistant Behavior Analysts unless licensed under this Act.

> ***Comment:*** *This exemption is meant to cover practitioners of organizational behavior management (OBM); however, some jurisdictions may require such individuals to be licensed.*

G. Matriculated college or university students or postdoctoral fellows whose applied behavior analysis activities are part of a defined program of study, course, practicum, internship, or fellowship and are directly supervised by a Licensed Behavior Analyst in this jurisdiction or a qualified faculty member. Such individuals must not represent themselves as professional behavior analysts and must use titles that clearly indicate their trainee status, such as "student," "intern," or "trainee."

H. Unlicensed individuals pursuing experience in applied behavior analysis consistent with the experience requirements of the certifying entity, provided such experience is supervised in accordance with the requirements of the certifying entity.

> ***Comment:*** *Exemptions G and H and any accompanying rules or regulations must be constructed carefully to ensure that the supervision provided will qualify individuals for both BACB certification and licensure.*

I. Individuals who teach behavior analysis or conduct behavior-analytic research, provided that such activities do not involve the direct delivery of applied behavior analysis services beyond the typical parameters of applied research. Such individuals may use the title "behavior analyst" but may not represent themselves as Licensed Behavior Analysts or Licensed Assistant Behavior Analysts unless licensed under this Act.

J. Behavior analysts licensed in another jurisdiction or certified by the certifying entity to practice independently and who practice in [jurisdiction] no more than [X hours/days/weeks] within a calendar year.

Comment: *This provision allows for appropriately credentialed behavior analysts from other jurisdictions to practice in this jurisdiction on a time-limited basis without being licensed by this jurisdiction. An alternative is to include in the law a requirement for all such individuals to obtain a temporary license to practice in this jurisdiction and specifying the qualifications and conditions for the temporary license (see Section 8).*

K. Individuals employed by a school [board, district] performing the duties of their positions. Such individuals shall not represent themselves as Licensed Behavior Analysts or Licensed Assistant Behavior Analysts unless licensed under this Act, and shall not offer applied behavior analysis services to any persons or entities other than their school employer or accept remuneration for providing applied behavior analysis services other than the remuneration they receive from their school employer.

Comment: *This exemption may be necessary to comply with education laws. A similar exemption for specified employees or vendors of the jurisdiction's developmental disabilities services system may also be necessary or desirable. As with all exemptions, those possibilities should be researched and their ramifications considered carefully.*

Section 8. Temporary License

Behavior analysts licensed in another jurisdiction or certified by the certifying entity to practice independently who provide applied behavior analysis services in [jurisdiction] on a short-term basis may apply for a temporary license. Applicants for temporary licenses shall submit an application and fee established by the Board, and evidence that their practice in the jurisdiction will be temporary as defined by the Board in rules. A temporary license will be granted only if the Board verifies the applicant's licensure or certification status with the relevant entity.

Comment: *If this provision is included in lieu of exemption 7(J), it and any accompanying rules or regulations should be constructed carefully to ensure that the individual's practice in the jurisdiction is temporary. If that practice involves supervision of candidates for BACB certification/licensure, then the licensure law or the accompanying rules or regulations should clearly specify that such supervision must be provided in accordance with the BACB's supervision standards. Note that requiring professionals who practice in the jurisdiction for short periods of time to obtain temporary licenses will add to the work of the licensing board and therefore to the costs of operating the licensure program.*

Section 9. Reciprocity

The Board shall issue a license to a person who is currently licensed as a behavior analyst or assistant behavior analyst in good standing in another jurisdiction that imposes licensure requirements comparable to those specified in this Act. Applicants for reciprocal licensure shall have current licensure verified by the Board and comply with other requirements set forth in Section 5 of this Act.

> ***Comment:*** *If the jurisdiction requires passage of a criminal background check by all applicants for licensure, then the reciprocity provision will need to address whether a background check completed in another jurisdiction will be accepted. Not all background checks are the same. Factors to consider in comparing background checks include determining whether they captured certain felonies, misdemeanors, and expunged charges, and how they treated pleas of nolo contendere and passage of time since an offense. An attorney employed by the jurisdiction should be able to provide input regarding the extant laws and necessary language.*
>
> *Some jurisdictions offer reciprocal licenses only to individuals who are licensed in jurisdictions that also offer reciprocity.*

Senator Jim Abeler
Senate District 35

Anoka • Ramsey
Andover • Coon Rapids

Senate
State of Minnesota

Kari Rechtzigel
Executive Director
Minnesota Board of Behavioral Health & Therapy
2829 University Avenue SE, Suite 210
Minneapolis, MN 55414

June 1, 2018

Dear Ms. Rechtzigel,

I am referring S.F. 3792 (BCBA licensing bill) to the Board of BBHT and the MN Council of Health Boards for vetting prior to the 2019 legislative session. As you know, there is bi-partisan legislative support, and general consensus stake holder support for a BCBA licensing bill in Minnesota.

I appreciate the effort that you and BBHT board members have invested over the past three years consulting with stakeholders to make the proposal the best that it can be to benefit and protect the citizens, schools, and businesses of Minnesota who desperately need and seek the services of BCBA's. Please confirm that the Board of BBHT can support this current language, or as you have ideas for improvement, please suggest them.

The goal of this bill is to improve safety and protect the public by increasing access to competent behavior analysis treatment, respecting other professions by clarifying practice boundaries, ensuring eligibility for medical assistance EIDBI, and meeting the needs of the Jensen settlement. The hope is to accomplish this goal and also be cost effective by using the existing BBHT and BACB regulations and process's.

Currently, there are 179 BCBA's in Minnesota, though only 43 live in greater Minnesota. As you likely know there are 186,000 children in Minnesota with mental health disorders. And I am sure you are also well aware that there is a critical need to increase capacity as 80% of Minnesota counties are already designated shortage areas.

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In my opinion, it is past time for Minnesota to join the 30 states that have passed a BCBA licensing bill. Data clearly shows an increasing trend in BCBAs in states that have passed such bills. We must do all we can to ensure that this profession grows so that all citizens can get competent services in a safe and timely manner to improve outcomes and lives.

I request your help as Executive Director of the BBHT to usher this proposal through the vetting process as soon as possible, but not later than October 1, 2018, and then assist during the legislative session, to ensure that a BCBA licensing bill can be re-introduced, heard, and passed in the 2019 legislative session.

Sincerely,

Senator Jim Abeler
Chair, Senate Human Services Reform Finance and Policy Committee