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### Considering Identification and Service Provision for Students with Autism Spectrum Disorders within the Context of Response to Intervention

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## Considering Identification and Service Provision for Students with Autism Spectrum Disorders within the Context of Response to Intervention

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The Response to Intervention (RTI) framework, a preventive model of universal screening, tiered interventions, and ongoing progress monitoring, poses an interesting consideration for identification and service delivery for children with autism spectrum disorders (ASD). Upon examination of the existing literature, paucity exists regarding how RTI might guide identification and service delivery for students with ASD; however, the authors consider core tenets of RTI and how they are relevant for students with ASD given what is known about this unique population. Due to the importance of early identification and interventions for individuals with ASD, the RTI framework could be problematic if used to delay education eligibility. Thus, two routes of identification are outlined by the authors, one of which expedites evaluation based on pervasive symptomatology, while the other route uses a form of universal screening to assist in moving toward evaluation for those suspected of ASD. The use of tiered interventions for prevention or service delivery could cause potential complications given the need for early identification and individualized intensive programming. However, there is a clear match for several instructional RTI components and ASD, specifically for evidence-based interventions that are implemented with fidelity and monitored frequently, and other aspects such as family involvement, which could improve programming for students with ASD.

Considering education and special education service delivery via a Response to Intervention (RTI) model provides an interesting perspective about how students with autism spectrum disorders (ASD) might be identified and served within public school settings. The RTI model has been linked closely with service delivery and identification for students suspected of having a specific learning disability (SLD), and, more recently, students with emotional and behavioral disorders (EBD); however, little theoretical or practical work has been completed for students with ASD. Perusal of psychiatric, psychological, and special education literatures regarding best

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practice for ASD assessment and intervention reveals a noticeable absence of discussing the impact of RTI on ASD service delivery in schools (e.g., Wilkinson, 2010). Some have described applications of RTI to specific diagnostic groups, such as students with attention-deficit/hyperactivity disorder (Tobin, Schneider, Reck, & Landau, 2008) and there is also occasional mention of autism as an exclusionary criterion for determining if phased intervention is appropriate for students suspected of SLD (e.g., Gresham, 2007). The most detailed discussions of linkages between RTI and ASD were articulated by Schwartz and Davis (2008), Crosland and Dunlap (2012), and Sansosti (2010). Schwartz and Davis identified how students with ASD might be serviced within a generic three-tier model. Crosland and Dunlap provided examples of how several specific interventions might align with a three-tier School-Wide Positive Behavior Supports model. Moreover, Sansosti provided a framework for implementation of tiered, social skills interventions for students already identified with ASD. The only empirical data we located consisted of a survey of 117 school psychologists, 18.8% who reported utilizing an RTI procedure for ASD special education eligibility determination, and 53.0% who reported that RTI procedures were inappropriate for ASD eligibility determination (Allen, Robins, & Decker, 2008).

It seems that three potential options might emerge when thinking about the contribution of RTI to ASD service delivery in schools. First, one might argue that students with ASD do not fit within the RTI paradigm and that traditional special education service delivery models are most appropriate, a “traditionalist” approach. A second option might be that students with ASD share sufficient similarity with other students such that an RTI approach to service delivery is applied and adopted easily for these students, a “full adoption” approach. Third, one might conjecture that there are aspects of the RTI model that align well with what is known about students with ASD while there are other aspects that do not fit, a “hybrid” approach. Based on authors’ practical experiences working with students with ASD both in and outside of school systems, knowledge of the ASD assessment and intervention literature, and, frankly, lengthy discussion and debate regarding potential linkages between RTI models and ASD, the authors found that there are domains of alignment between the RTI model and best practices for students with ASD. Such alignment suggests that a hybrid approach may be useful for delivering services to students with ASD. There are two clear distinctions within the framework, specifically for identification and service delivery, as well as the use of tiered intervention for prevention. Given the literature and what is known about ASD, other tenets of RTI clearly apply to programming for students with ASD.

Authors provide a brief introduction and overview of current thinking about ASD, particularly what is considered “evidence-based practice” (EBP) or “evidence-based interventions” (EBI) for working with students with ASD. (Notably, for the purpose of this article, the authors utilize EBI and EBP interchangeably, although there are slight differences between the two terms.) Authors then identify and discuss critical components of the RTI model. Finally, main tenets of RTI are reviewed for their application with students suspected of or identified with ASD in school settings; the important difference between identification and service delivery is highlighted. A decision-making framework for screening, referral, and evaluation of ASD is proposed to assist in combining the RTI framework with the importance of early identification. More specifics, such as universal screening, tiered interventions with EBI, and progress monitoring are discussed in regard to their potential application for ASD.

## GENERAL INTRODUCTION TO AUTISM SPECTRUM DISORDERS

The term ASD refers to a group of disorders, most typically autism, Asperger disorder, and pervasive developmental disorder, not otherwise specified (PDD-NOS), that are characterized by social impairments, communicative impairments, and unusually restrictive, repetitive behaviors or interests (American Psychiatric Association [APA], 2000). Although ASD is not a formal diagnosis, the term is used to connote similarities across autism, Asperger disorder, and PDD-NOS and a lack of clear distinction between each diagnosis. Within the social domain, students with ASD may show various difficulties, such as impairments in nonverbal communication, lack of developmentally appropriate peer relationships, and absence of shared enjoyment with others. Commonly noted communication impairments include speech delays accompanied by lack of communicative intent through other means, difficulties with initiating and sustaining conversation with others, and repetitive and stereotypic use of language (e.g., immediate echolalia). Restrictive and repetitive behaviors may involve motor movements, such as repetitive body rocking or hand flapping. Students with ASD may also exhibit highly unusual interests, such as UPC symbols, that are qualitatively different from most others, and/or highly unusual intensity in topics, such as specific video games, that are quantitatively different from others. Many students with ASD experience difficulties with changes in routine and, although not yet part of the formal diagnostic criteria, many students with ASD experience difficulties with processing sensory input, such as loud sounds, fluorescent lighting, temperatures, or textures of food or clothing.

### Educational Definition of Autism

The federal definition (Individuals with Disabilities Education Improvement Act [IDEA], 2004) for autism eligibility is fairly similar to what appears in the psychiatric definition of autism, with a few important exceptions. The current definition follows:

Autism is a developmental disability significantly affecting verbal and nonverbal communication and social interaction, usually evident before age three, that adversely affects a child's educational performance. Other characteristics often associated with autism are engagement in repetitive activities and stereotyped movements, resistance to environmental change or change in daily routines, and unusual responses to sensory experiences. (IDEA, 2004, p. 46756)

The key distinction between the psychiatric and educational definitions of autism is the emphasis on educational impact for students to be eligible for services within public education settings. There is no requirement of educational impairment for a psychiatric diagnosis of autism to be rendered. The other main distinction is that other ASD diagnoses, for example, Asperger syndrome and PDD-NOS, are not identified specifically within the special education definition, although most argue that students with either Asperger or PDD-NOS diagnoses should be eligible for services within the autism special education category.

### Comorbid Cognitive and Learning Difficulties

Students with ASD also experience various associated problems, with rates of comorbidity as high as 70% (Simonoff et al., 2008). Roughly 40% of students across the entire autism spectrum

are also intellectually disabled, while about 50% of students with autism function in the range of intellectual disability (Wiggins, Baio, & Rice, 2006). Many individuals with ASD also exhibit significant impairments in attention with recent estimates of 29% meeting formal diagnostic criteria for ADHD (e.g., Simonoff et al., 2008). Current psychiatric classification decision rules effectively limit comorbid diagnosis of ADHD for students with ASD (APA, 2000); in part, due to the long-held belief that disrupted attention is a core feature for individuals with ASD.

Many students with ASD exhibit significant difficulties with academic attainment, with up to 70% meeting formal definition for any learning disability (37%, reading; 17%, math; and 63%, written expression; Mayes & Calhoun, 2008). For many high-functioning students with ASD (i.e., not meeting criteria for intellectual disability), basic academic attainment, such as single-word decoding, calculation, and spelling skills are better developed than applied academic skills, such as reading comprehension, mathematical problem solving, and spontaneous written expression (e.g., Nation, Clarke, Wright, & Williams, 2006). Written expression has been found to be a particular academic weakness for students with ASD.

### Comorbid Psychological and Behavioral Difficulties

In addition to cognitive challenges, students with ASD frequently present psychological disorders. There are many literature documents internalizing disorders as frequently comorbid for students with ASD, particularly mood disorders and anxiety disorders. Estimates of co-occurring depression range from 0%–50% for individuals with ASD, with frequent estimates converging on 10%–30% (Skokauskas & Gallagher, 2010). A comprehensive review revealed that 11%–84% of students with ASD show symptoms of anxiety with 42%–55% meeting formal diagnostic criteria for a comorbid anxiety disorder (White, Oswald, Ollendick, & Scahill, 2009). Thus, educational professionals need to be aware of various cognitive, academic, and psychological comorbidities, particularly depression and anxiety, and consider these areas when assessing and planning for educational needs for students with ASD.

### Increasing Prevalence in Schools

Over the past 20 years, the prevalence of ASDs has increased dramatically with prevalence estimates suggesting that 1 in 88 to 110 children have an ASD (Centers for Disease Control and Prevention, 2012). Reasons for the increase are unclear due to several coinciding events: (a) the *Diagnostic and Statistical Manual* diagnostic criteria have expanded to include higher functioning individuals, (b) better screening and diagnostic tools have been developed, (c) there is greater awareness about ASD via media and advocacy groups, and (d) there has been an increase in funding for autism-related research (Elsabbagh et al., 2012). There are also findings that indicate that at least some percentage of the increase in autism identification may be due to diagnostic substitution, whereby current diagnoses of autism were previously identified as other conditions (Elsabbagh et al., 2012). What is relevant for service provision, however, is that public schools are serving greater numbers of students with ASD.

### Course of ASD

As may be gleaned from the presentation of defining characteristics and associated difficulties for individuals with ASD, there is a great deal of variability in symptom presentation, course,

and outcomes. Social, communicative, and behavioral difficulties and overall delays are typically noted early in development, usually within the first two years, per parents frequently reporting first concerns regarding speech and language development (De Giacomo & Fombonne, 1998). Roughly one-third of students with ASD will experience a period of regression, such that previously acquired skills are lost (e.g., speech); regression frequently occurs between 15 and 30 months with a recent reported average age of 21 months (Barger, Campbell, & McDonough, 2012). There are no “cures” for ASDs; however, there is a large and growing database that identifies clear benefits of identifying children with ASD early in development and providing them with programmatic and intensive intervention services early (National Research Council [NRC], 2001). Given the pervasiveness of impairments for students with ASD, various school-based professionals typically contribute to educational programming.

### THE ROLE OF SCHOOLS IN PROVIDING EVIDENCE-BASED PRACTICES FOR STUDENTS WITH ASD

A relatively modest, but growing, number of EBPs have been identified for students with ASD (NRC, 2001; National Autism Center [NAC], 2009). For more than a decade, consensus has existed that the most effective interventions for children with autism are those that occur early, are intensive, are programmatic, involve families, feature low student to teacher ratios, and utilize ongoing evaluation (NRC, 2001). More recently, greater numbers of specific interventions have been identified as EBPs, including discrete trial training, Pivotal Response Training, video modeling, various peer-mediated interventions, and joint attention interventions, among others (NAC, 2009). Despite the identification and dissemination of EBPs, research suggests that teachers use less than 5% of research supported practices in their classrooms (Hess, Morrier, Heflin, & Ivey, 2008).

#### The Importance of Early Identification of ASD

The most favorable outcomes are achieved when identification occurs early, and pediatric practice guidelines strongly recommend autism-specific screening at 18 and 24 months to reflect the importance of early identification (Johnson, Myers, & the Council on Children with Disabilities, 2007). In addition to intelligence and presence of meaningful speech by age five, research shows that the age of diagnosis, age of onset of treatment, and intensity of treatment predict intervention outcome (Granpeesheh et al., 2009; Perry et al., 2011). Fortunately, these variables are particularly relevant to public schools because they represent contextual factors under the control of public policy administrators, program developers, practitioners, and families. If schools make it a priority to identify children early, these efforts should result in opportunities that can lead to optimal outcomes for children and families.

Despite the published results demonstrating the beneficial effects of early intervention, many children with ASD miss the opportunity to receive specialized services because the average age of diagnosis occurs around five years (Mandell et al., 2010), at least several years beyond when children can be reliably identified. The delay in diagnosis is more pronounced for children who are black, Hispanic, or from families with lower median income (e.g., Mandell et al., 2010). Further, research suggests that children from minority or low income families are more likely

to be identified by schools, compared to white families whose children are more likely to enter school with a medical diagnosis of autism (Yeargin-Allsopp et al., 2003). These findings are troubling because autism affects all groups, regardless of racial and ethnic background, and a delay in diagnosis equals a delay in access to specialized services. Schools can help overcome these research-to-practice gaps by establishing policy and procedures that ensure early and timely diagnosis, separate from the underlying motivations of RTI. Clearly, educational professionals who are informed of early symptoms of autism and who listen closely to parental and teacher concerns of their child's social and communication development are more likely to refer parents and caregivers to appropriate diagnosticians, allowing children and families to participate in specialized and individualized programs as early as possible.

## RESPONSE TO INTERVENTION: AN OVERVIEW

Although many school personnel are well-versed in RTI, those working more exclusively with students with ASD in or outside of the schools may have had fewer experiences with the RTI model; therefore, a brief review of RTI and its core components is provided. Hughes and Dexter (2011) noted that RTI is an instructional framework, upon which schools can provide early and ongoing intervention for students with academic and behavioral challenges, whereas Kratchowill, Volpiansky, Clements, and Ball (2007) stressed that RTI is one of several school-based preventive programs, yet is distinct due to movement across tiers of intervention based on progress monitoring. Various issues permeate school systems currently in regard to implementation, as noted in Mellard, Stern, and Woods's (2011) review of seven RTI varying frameworks. Despite some distinctions, there are generally accepted core components of RTI: (a) universal screening, (b) implementation of evidence-based interventions through a tiered approach, and (c) continuous progress monitoring that consists of data analysis (Berkeley, Bender, Peaster, & Saunders, 2009; Fuchs, Fuchs, & Compton, 2012; Hughes & Dexter, 2011). Additional elements of RTI have been noted, such as: (a) necessity of family involvement, (b) use of data based problem-solving teams, (c) implementation of interventions with fidelity, and (d) professional development (e.g., Lembke, Garman, Deno, & Stecker, 2010; McCook, 2012; RTI Action Network, 2012).

### History of RTI in the Schools

In order to understand systems change in the public schools, the history of RTI should be examined. RTI has origins in medical and public health models (e.g., Caplan & Caplan, 1994), specifically through the utilization of tiered prevention. In the public schools, the IDEA (2004) examined how individuals with SLD were identified for special education services through a discrepancy model and ultimately provided states the opportunity to utilize the RTI approach for SLD identification. Previously, Johnson, Mellard, and Byrd (2005) noted that utilization of a discrepancy or ability-achievement gap model to identify individuals as having an SLD, consequently led to a "wait to fail" premise and differing implementation across states and school districts. Thus, RTI provided another option through examining a child's response to EBI as part of the evaluation process (Fuchs et al., 2012).

Despite the promise of RTI and its emphasis on preventing academic failure, Walker and Shinn (2010) argued that any innovation that requires a departure from traditional practice, such as RTI, will be the subject of varying interpretations, controversies, and conundrums. Although RTI became a focus for many from special education law, the core instructional academic and behavioral practices could be rooted across all educational systems. As noted by German (2010), “what a shame it will be, and what an opportunity lost, if RTI becomes just another way to define SLD . . . RTI is a new paradigm for educational problem solving” (p. xxxii).

### Main Tenets of the RTI Framework

*Emphasis on universal screening.* Universal screening of all students is considered a main RTI component. Universal screening is the systematic assessment of all children within a class, grade, school, and/or district on academic and behavioral areas dictated as important by the school and community at large (Ikeda, Neesen, & Witt, 2008). Hughes and Dexter (2011) reported that universal screening should typically (a) be conducted three times a year (e.g., fall, winter, spring), (b) consist of a brief assessment of targeted skills, and (c) sample reading, and potentially writing, math, and behavior. Reading has been the central focus for research in the area of universal screening. Ultimately, universal screening at early stages is designed to avoid a “wait to fail” approach to academic achievement, a major area of concern for the discrepancy model of SLD identification (Brown-Chidsey, 2007).

*Multiple tiers of intervention.* Another core component of RTI consists of implementation of multiple-tiers of EBIs. First, the utilization of EBI is essential to the RTI process and ultimately links educational research to practice (Power, Mautone, & Ginsburg-Block, 2010). Shapiro, Hilt-Panahon, and Gischlar (2010) reported that through EBI, there exists sufficient research to predict an effective outcome. Second, the RTI framework dictates implementation of EBI through a tiered framework to prevent academic and behavior challenges from developing or worsening. With academic and behavioral interventions, Sugai, Horner, and Gresham (2002) reported that generally 80% of students are expected to receive core instruction at Tier 1. Targeted group interventions for at-risk students, around 15%, would be served within Tier 2, while intensive and individual interventions would be delivered to about 5% of students in Tier 3. These tiers ultimately define the typical triangle associated with RTI; however, the actual percentages of students falling in the tiers could be impacted by differences in states, districts, and schools, including but not limited to socioeconomic, cultural, and curricular differences. Regardless, the RTI framework recognizes that students will require various levels of support to make progress and prevent academic failures and broader negative life outcomes.

In regard to interventions implemented at the various tiers, RTI Action Network (2012) indicated that within Tier 1 supports, students should be provided with high-quality classroom instruction and adoption and use of evidenced-based curricula, or “core” instructional interventions. Gresham (2008) argued that interventions at this level should be termed as preventive and proactive because all students receive the same “dosage” of the intervention. The National Center on Response to Intervention (NCRTI, 2010) indicated that for Tier 2, students should be provided small-group EBI instruction. NCRTI (2010) noted Tier 2 is meant to be a limited, targeted level that supports students struggling to meet general education standards. Finally,

Tier 3 is generally accepted as intensive interventions for individual students who have not made adequate progress in the prior levels of support. The RTI Action Network (2012) stressed that interventions at Tier 3 need to be intensive and involve careful planning in relation to schedule and materials. Two formats, problem-solving and standard protocol, are used by school districts to aid in decision making for criteria and placement in tiers of intervention. Hughes and Dexter (2011) described a problem-solving model as interventions customized for individuals by a team, while a standard protocol utilizes predetermined interventions. Importantly, Mellard et al. (2011) in their review of school-based practices noted that the greatest variability among existing RTI models was in the area of criteria for movement among tiers.

*Progress monitoring.* Progress monitoring can be described as an ongoing assessment process for students identified as at-risk for academic or behavior challenges. Hughes and Dexter (2011) noted the assessment assists in determining if students are making adequate progress on targeted skills; ultimately, the question to be answered: “Is the intervention working?” Shapiro et al. (2010) indicated that although the law does not use the actual term “progress monitoring,” IDEA (2004) does note the need for data-based documentation of repeated assessments of student progress during instruction, which many have been interpreted to be a frequent ongoing assessment (i.e., progress monitoring). Curriculum-based measurement (CBM) has been noted to be a well-supported tool in this process. CBMs can be standardized on a large sample (*Dynamic Indicators of Basic Early Literacy Skills*, Good & Kaminski, 2010) or developed based on local norms, and provide a quick assessment of how a child is performing on a discrete skill, such as oral reading fluency or basic math calculation (Hosp, Hosp, & Howell, 2007). However, for social behavior, Gresham (2008) noted there are few well-established benchmarks when compared to those that are available for academics; consequently, there is little consensus regarding what standards should be used for adequate RTI social behavior, which has clear implications, if not well-defined, for individuals with ASD.

*Additional components of RTI.* Beyond core components, another necessary part, noted by the RTI Action Network (2012), is the involvement of families in the process. The Colorado Department of Education RTI guide (CDE; 2008) indicated that parents or guardians are an essential part of the RTI model, and that they should be involved and valued members in the intervention process. Mellard et al. (2011) stressed when students present with behavioral concerns, multiple perspectives, including the family, are critical to the RTI process. Further, families can be included as a component of interventions, either for generalization practices at home or as part of the actual intervention process (e.g., *Linking the Interests of Families and Teachers*; Eddy, Reid, & Fetrow, 2000; *Parent Management Training*; Kazdin, 2005). Through involving families in the intervention process, students are expected to make more progress, both in school and out of school. Although some differences in the use of standard protocol as compared to the problem-solving process exist, the use of a data-based decision making team is noted to be a part of the RTI process in many states (Berkeley et al., 2009). Lembke et al. (2010) indicated that problem-solving teams should meet frequently to discuss school, grade, class, and/or individual student data, and teams should include a variety of professionals. Further, Berkeley et al. (2009) revealed that many states implementing RTI specified in their framework the importance of fidelity of interventions. Finally, Hughes and Dexter (2011) stressed that extensive and ongoing professional development (PD) was

necessary for effective RTI implementation. Berkeley et al. (2009) found that the majority of state departments had incorporated PD as a component of either existing or future RTI implementation. In sum, most RTI frameworks consist of universal screening, multiple tiers of EBI, and ongoing progress monitoring with additional components, such as family involvement, which should allow for better understanding of the student's progress and whether instruction is effective.

### General Issues of Implementation of an RTI Framework in the Schools

In regard to RTI implementation, Kratchowill et al. (2007) identified theoretical, procedural, and conceptual challenges, and a broad sense of concern for limited research to support recommended practices. Further, additional unresolved practical issues include: (a) the timeframe upon which to remain in a tier prior to moving to a more intense or less intense level; (b) decision rules for placement in Tier 2 or 3; and (c) clear articulation of resources needed (e.g., material, time, and personnel) for effective implementation of an RTI model. Given the complex nature of the system, Fuchs et al. (2012) noted that, without collaboration among regular and special educators, classroom teachers will be unable to implement a system of tiered supports meeting the needs of their students.

Ironically, as it was a criticism of the discrepancy model of identifying SLD, states' practices in the use of RTI differ significantly. Berkeley et al. (2009) reported that of the 15 states (as of 2007) that had implemented RTI, significant differences exist in models, levels of service delivery, fidelity checks, and provisions of EBI. Another area of concern for implementation relates to RTI and behavior and incorporating this domain into RTI models. There indeed appears to be some overlap between the two, as outlined by Sugai et al. (2002). However, given individuals with ASD and other complex disabilities, it is possible that deficits could permeate academic, behavior, and beyond.

The challenges to RTI implementation result in a question of where special education fits into an RTI model, if at all. In their review, Berkeley et al. (2009) noted that states have varied in the relationship between Tier 3, the most intense level of intervention, and how and for whom intervention is implemented. Special education placement was noted to be a separate process from Tier 3 intervention; however, inconsistencies were reported regarding when the special education process can be initiated (Walker & Shinn, 2010). Berkeley et al. (2009) noted that two states utilized a Tier 4, which is placement in special education. Regardless of what level it is termed, Fuchs et al. (2012) revealed that many districts cease involvement of individuals with identified disabilities from RTI frameworks and consequently implement "special education as accommodation," which often might be less intensive than secondary prevention (p. 274). This is clearly not what is intended by RTI.

Further, it is important to consider how researchers have addressed issues of RTI and special populations beyond SLD. For example, Tobin et al. (2008) described how an RTI framework could be readily and naturally applied for ADHD assessment. Specifically, Tobin et al. (2008) suggested the use of universal screening for ADHD at the classroom level via teacher and parent rating scales. Students identified at risk would be part of the tiered intervention system, and upon continued challenges and limited progress, would be referred for special education. For individuals with ASD or other complex disabilities, we have not found a comprehensive system that addresses how an RTI framework would be implemented practically and effectively

with multiple areas of at-risk or tertiary concerns across academic, social, behavioral, adaptive, and communicative areas. That is, could a school-based problem-solving team effectively and on a long-term basis collect data and possess enough resources to implement such a plan?

### RTI and Pre-referral Considerations Beyond SLD

Gresham (2007, 2008) reported that RTI is based on best practices for pre-referral intervention and ultimately allows schools to utilize intervention data rather than traditional assessment data. However, the authors would purport that there are considerations of specific procedures for children suspected of ASD that do not involve this pre-referral process and ultimately do not cause delay in identification. In fact, the United States Department of Education Office of Special Education (OSEP) sent out a memorandum noting that States and Local Education Agencies “have an obligation to ensure that evaluations of children suspected of having a disability are not delayed or denied because of an implementation of an RTI strategy” (Musgrove, 2011, p. 1). Moreover, CDE (2008) indicated that instead of the RTI process, “students with previously identified severe medical, physical, or cognitive disabilities (including those with Autism, Down syndrome, Visual or Hearing Disabilities, Deafness and/or Blindness) may be referred directly for special education evaluation upon the school becoming aware of their level of need, whether the knowledge is the result of a private evaluation, student find screening or transfer” (p. 36). Similarly, the IDEA partnership (2010) identified the importance of screening for ASD to avoid unnecessary delays in identification, and articulated a four-step sequence for ASD identification: suspect, refer, screen, and evaluate.

Despite these recommendations, there is a potential stumbling block for those in the school system moving forward to special education referral without utilizing the RTI process. Specifically, current federal educational guidelines describe the role of interventions prior to referring for special education. In reviewing varying state guidelines and referral processes, some have addressed this for special populations noting that EBIs can be implemented during the evaluation (e.g., Florida Department of Education, 2004; Minnesota § 1251.56.1). In the case of suspected ASD, this accelerated process would ultimately benefit the student, for whom evaluation would not be delayed.

## RESPONSE TO INTERVENTION AND AUTISM SPECTRUM DISORDERS

The widespread adoption of an RTI framework may cause confusion with the role of diagnostic evaluation and intervention planning for students with ASD. An inadvertent consequence of an exclusive RTI philosophy poses a serious issue that requires clarity. In this next section, we discuss how core RTI components may or may not align with what is accepted as EBP for students with ASD, which is summarized in Table 1. An overriding distinction will be made between identification and service delivery. The RTI emphasis on the application of EBPs, progress monitoring and data based decision-making, and individualized interventions align well with evidence-based assessment (EBA; Campbell, Ruble, & Hammond, in press) and intervention for students with ASD (e.g., NRC, 2001).

TABLE 1  
Comparison of Core Components for RTI and Evidence-Based Practice Recommendations for Students with Autism Spectrum Disorders

<i>Core Components</i>		<i>RTI</i>	<i>EBP for ASD</i>
Universal Screening	Used for all children to identify academic and behavior delays and need for Tier 2 services		Recommended for early detection of ASD. Could be implemented within school settings as part of a screening process to determine evaluation for special education
Progress Monitoring	Used to assess ongoing progress of EBIs and determine their effectiveness		Recommended as part of service provision to assess ongoing progress of EBIs and determine overall program effectiveness
Tiered Interventions	Used based on universal screening and progress monitoring to determine what level, intensity, frequency for implementation of support		No association for prevention or implementation of comprehensive, intensive, individualized programming
<i>Additional Components</i>		<i>RTI</i>	<i>EBP for ASD</i>
Family Involvement	Used as a team member for planning interventions. At a minimum, families are informed of RTI process		Recommended for all aspects of planning and programming
Problem-Solving Team	Used in some RTI models; some models instead promote a standard protocol approach		Recommended as part of a multidisciplinary approach. Could take form of an IEP team or problem-solving team
Fidelity	Used in some models of RTI for both EBI implementation and overall program		Recommended to improve outcomes for ASD interventions
PD	Used to implement system or individual school RTI processes. On-going support is considered important		Recommended to assist teachers in implementing EBIs. Used to increase understanding and knowledge of ASD across a school system to increase early identification and service provision

*Note.* RTI = Response to Intervention; EBP = Evidence-Based Practices; ASD = Autism Spectrum Disorder; EBI = Evidence-Based Interventions; PD = Professional Development; IEP = Individualized Education Program.

### Process of Identification: Educational Eligibility and RTI for ASD

Fuchs et al. (2012) noted that since 2004 there has been debate about the use of RTI data within the context of multidisciplinary evaluations to determine special education eligibility. Most likely the greatest issue the authors have in this debate is the use of RTI data in determining ASD eligibility. Clearly, data regarding how a student responds to EBP is relevant for intervention and comprehensive program planning; however, in contrast to the IDEA (2004) suggestion of using RTI data in determining SLD identification, the authors' belief is that what is known about EBA for ASD does not include the intense and involved process of varied intervention responses. In a relevant discussion regarding issues of diagnosis and tiered interventions, Gresham (2008) noted that there are essentially two routes for diagnosis: (a) Route 1, which includes children with sensory, physical, and developmental disabilities, which causes little disagreement, and (b) Route 2, which includes students that may be identified with SLD, mild

intellectual disabilities, and emotional issues, which leads to differences among professionals and diagnostic errors aforementioned. At present, ASD evaluation is not based on a medical test, and diagnosis is determined by a comprehensive, multisource approach through the use of psychometrically sound instruments (see Campbell et al., in press). Further, in the school system, disability categories dictate within-child deficits, which Gresham (2008) stressed works for low-incidence disabilities, but not necessarily or consistently for high-incidence disabilities. Overall, when considering diagnosis and RTI, we argue this is an essential distinction for individuals suspected of ASD, in that interventions will not prevent the expression of ASD; instead, through implementation of a comprehensive, individualized program, it will improve various skill deficits and enhance personal strengths.

### Main Tenets of RTI and Consideration for ASD

*Universal screening for prevention.* Universal screening three times a year for prevention of development of ASD and placement in more intensive services, as outlined by Hughes and Dexter (2011), does not fully align for this unique population. Adopting Gresham’s (2008) terminology, we argue that there are two possible routes to identify and subsequently serve students with ASD (see Figure 1). For students who enter school either with existing diagnoses or clear pervasive symptomatology, Route 1 would allow for expedited special education evaluation and eligibility determination, and/or comprehensive evaluation. Other students who enter the school system without a diagnosis of ASD, who exhibit social and communication concerns, likely students with less severe symptomatology, identification via Route 2 would be appropriate. For example, teachers might complete a brief checklist for all students targeting social and communication concerns (i.e., suspect and refer), which could be incorporated into the winter benchmarking of academic skills and/or behavior. If social

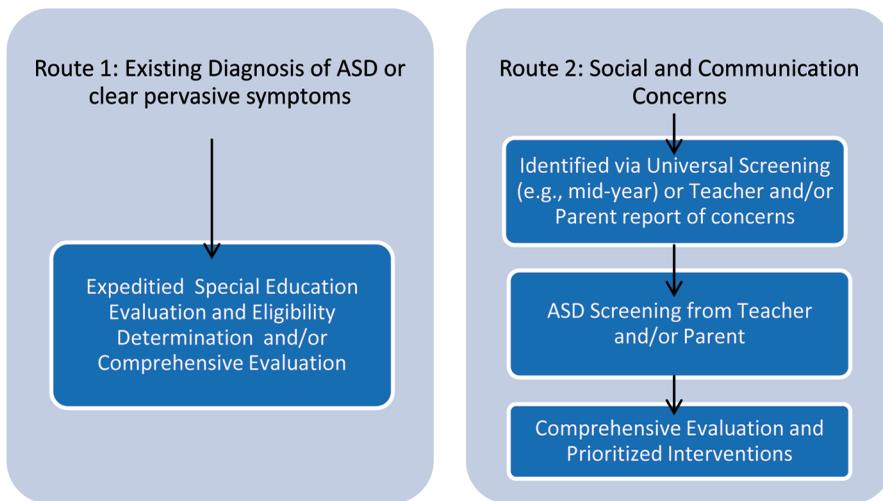


FIGURE 1 Decision-making framework for referral, screen, and evaluation of autism spectrum disorder (color figure available online).

and communication concerns are identified, then the teacher and/or parent would complete a formal ASD screening (e.g., Autism Spectrum Screening Questionnaire, Ehlers, Gillberg, & Wing, 1999; Social Communication Questionnaire, Rutter, Bailey, & Lord, 2003). If the student fails this screening, then they would move to the evaluation referral process. Due to the previously mentioned need for interventions, it is strongly suggested that a school-based problem-solving team identify a few prioritized areas of concern, develop a plan encompassing two to three EBIs, and, concurrently with the ASD evaluation, implement the intervention plan. Thus, there is no delay for the evaluation, and helpful data would be obtained for an Individualized Education Plan (IEP) if the student were to meet educational eligibility. If the student passes the screening, then they would move to the existing RTI framework to be monitored and potentially rescreened as problems persist and the student does not respond to implemented interventions. We clearly realize the financial demands and resources required for a form of screening for ASD; however, the impact of delayed intensive intervention, both for long-term outcomes as well as what has been outlined by OSEP and recent case law (e.g., A.J. v. Board of Education, 2010), demonstrates that schools need to consider necessary steps to identify and serve students with ASD.

*Tiered interventions and an RTI framework of prevention.* The principle of tiered interventions does not appear to align well with current thinking regarding EBP for students with ASD. The main issues with tiered interventions serving as part of a preventive framework for ASD are as follows: (a) delaying ASD identification; (b) complexity of a tiered intervention program addressing social, communication, behavior, adaptive, and motor skills; and (c) initiating the least intensive intervention rather than considering intensive, comprehensive programming. The first point regarding delayed identification was reviewed in detail through our outline of a proposed screening process. The second point relates to the challenge of, even in higher functioning individuals, a tiered intervention process for students with suspected ASD. Overall, it would be extremely challenging and seemingly impractical based on resources, training, and intensity needed to address all areas of concern for prevention. The last point deserves additional discussion. Schwartz and Davis (2008) noted that individuals with ASD can be serviced across all educational settings and, for example, might just need “surveillance” if in a Tier 1 or core educational program. While we clearly agree that children with ASD can and should receive services in various instructional settings, the incongruence is in “what” versus “where”; we are more concerned about RTI implications for what is being implemented. Above all, in consideration of RTI and ASD, one must understand inherent differences in this population, for example, deficits in imitation, understanding social cues, and communication impairments, which ultimately make a tiered intervention process not appropriate. Through implementing a comprehensive program, generalization and reduction in supports can be considered based on student response rather than the opposite direction as outlined in RTI. In sum, based on NRC and NAC guidelines, students would be provided with an individualized plan, whereupon intensity and service delivery is determined by the IEP team.

*Focus on evidence-based practice.* A clear component of RTI is the utilization of EBIs to link research to practice (Power et al., 2010) and to ensure that educators are implementing sound practices, as available for the various areas of concern. As noted in the first section

of the article, use of EBP should be the expectation for service delivery for individuals with ASD. Perhaps one reason why teachers do not use research supported classroom practices for students with ASD is that there is no single intervention effective or appropriate for all children with ASD. A one-size-fits-all model does not apply (Ruble, Dalrymple, & McGrew, 2010). Unlike academic skills of reading or math, where a single concept is addressed, autism affects several key developmental skills that impact all learning. Social communication development varies from child-to-child and neither a single assessment measure nor intervention captures the varied learning strengths and weaknesses of all children with ASD (Ruble, McGrew, & Toland, 2012).

*Focus on progress monitoring and frequent data analysis.* A key component of RTI, progress monitoring and frequent analysis, is a clear fit for service delivery for individuals with ASD. Indeed, some may argue that progress monitoring may be a practice that is more readily applied within an RTI framework for students in general education classroom than for students with ASD who have IEPs. Special educators and their students will benefit from the use of data-based decision making that occurs frequently and allows for adjustments in intervention plans so that children avoid being taught throughout an entire school year without assurance that they are making appropriate gains. Indeed, little research is available on how well children with ASD respond to their IEPs.

*Focus on other core components of RTI and ASD.* Other core components of RTI previously described have a valid place for a service provision for individuals with ASD. Specifically, family involvement and team approaches can have a great impact at the individual student level; the second two components, fidelity and professional development, can extend beyond and apply to a broader, systems change level. First, as noted in the RTI process, families should have important roles in developing IEPs, developing transition plans, and planning for the future. Further, for developing and implementing IEPs, multidisciplinary team involvement is crucial to meet the complex needs of a student with ASD. The RTI team should include a member with autism expertise, so that for children identified via the aforementioned Route 2, prioritized interventions could be implemented and monitored. Within this framework, an essential component for any program, in particular when considering system change such as RTI and reexamining special education programming, fidelity of interventions and overall programming will be necessary. Finally, for all of this to occur, structured PD plans must be instituted. Berkeley et al. (2009) had noted that PD was a part of states implementation plans, and as RTI continues to have a broad reach, we would purport ASD and other special populations to be included in this plan.

Ultimately, appropriate interventions as part of service delivery, not as preventive, but as sound instructional practice through EBI, ongoing progress monitoring, and ancillary components such as family involvement and PD are of clear relevance to individuals with ASD. Similar to Fuchs et al. (2012), the authors argue that components of RTI should be available to all students; that is, even after students are identified with disabilities, they should continue to have access to the best practices, regardless of setting. If RTI is to become a true overhaul of the educational system in order to service *all* students, then purposeful, service provision makes the utmost sense.

## CONCLUSIONS

In conclusion, we argue that implementation of or modification to an RTI model should not result in delayed referral, evaluation, or service delivery for a student identified with or suspected of having an ASD. We propose that individual differences of children be addressed through two routes, whereupon a modified universal screening could be utilized. Interventions can be implemented concurrently during the evaluation process in order to assist with baseline data collection, and then if the student is identified, can be implemented as part of the IEP. Our ultimate hope for the RTI movement and recent questions of its relation to ASD is that programming for these students will ultimately have the same scope and investigation in determining effective individual plans via frequent progress monitoring and analysis, and effective implementation of EBI. The opportunity for collaborative partnership within the schools, where ownership of all children regardless of level of support needed, could be a valuable potential outcome.

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