

Biomedical and Nutritional Intervention Training Week 8



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Week #8: Putting it all together with a Treatment Blueprint

Information without implementation will not help heal the ASD individuals.
Providing a blueprint to follow to implement knowledge learned to get started with being an Autism Expert.

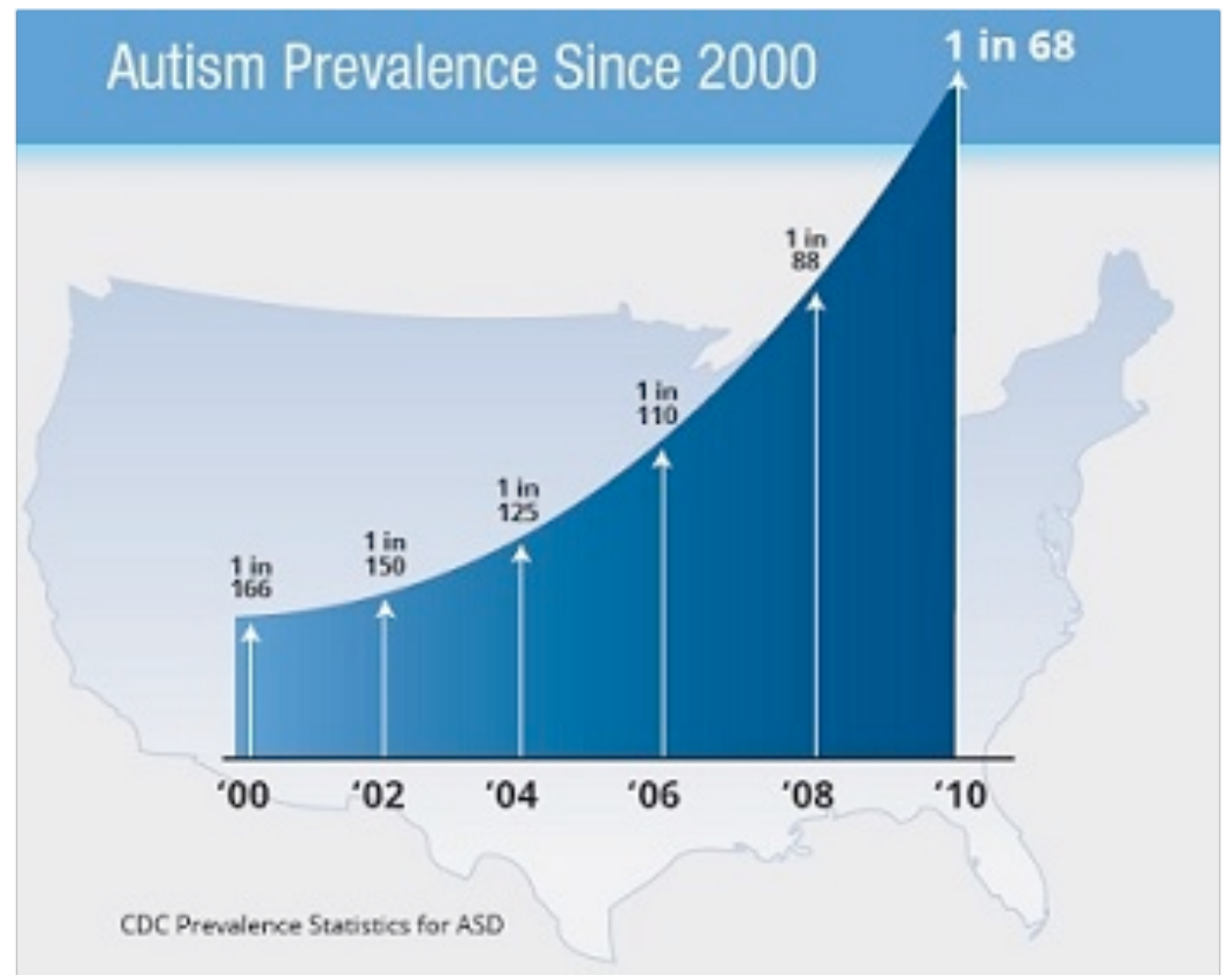
Will review resources, intake forms, and provide FAQ from parents and caregivers.

Review common challenges that families face and how you can offer solutions.
Discussion of common troubleshooting.

Prevalence:

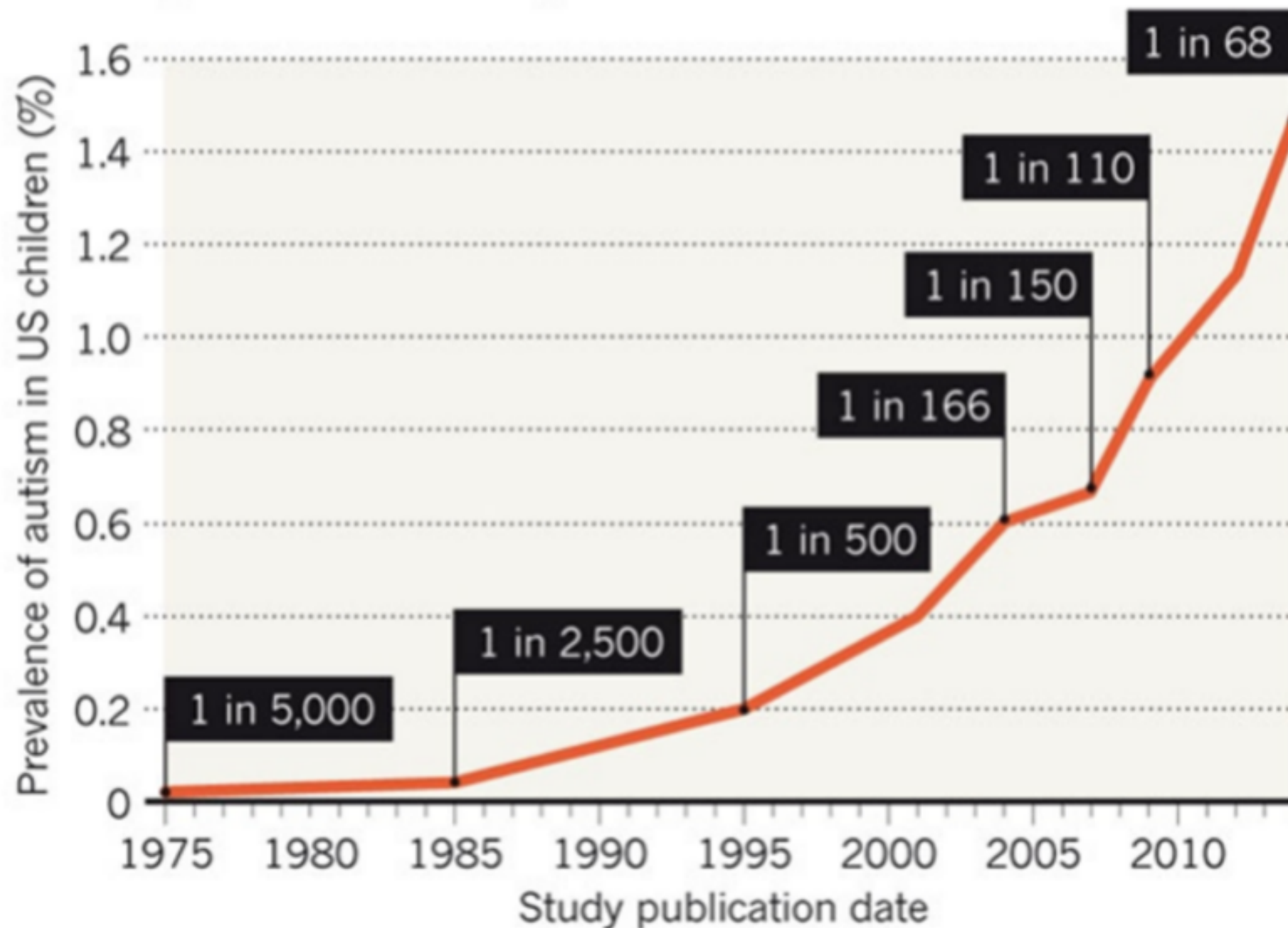
What once was rare...

- Old estimate for autism:
 - ~ 1/2500 (1985)
- Recent estimates for autism:
 - ~ 1/500 (1995)
- Newest estimates for ASD:
 - 1/150 (CDC, 2002)
 - 1/110 (CDC, 2006)
 - 1/88 (CDC, 2008)
 - 1/68 (CDC, 2010)
- NOW- 1/54 (CDC, 2020)

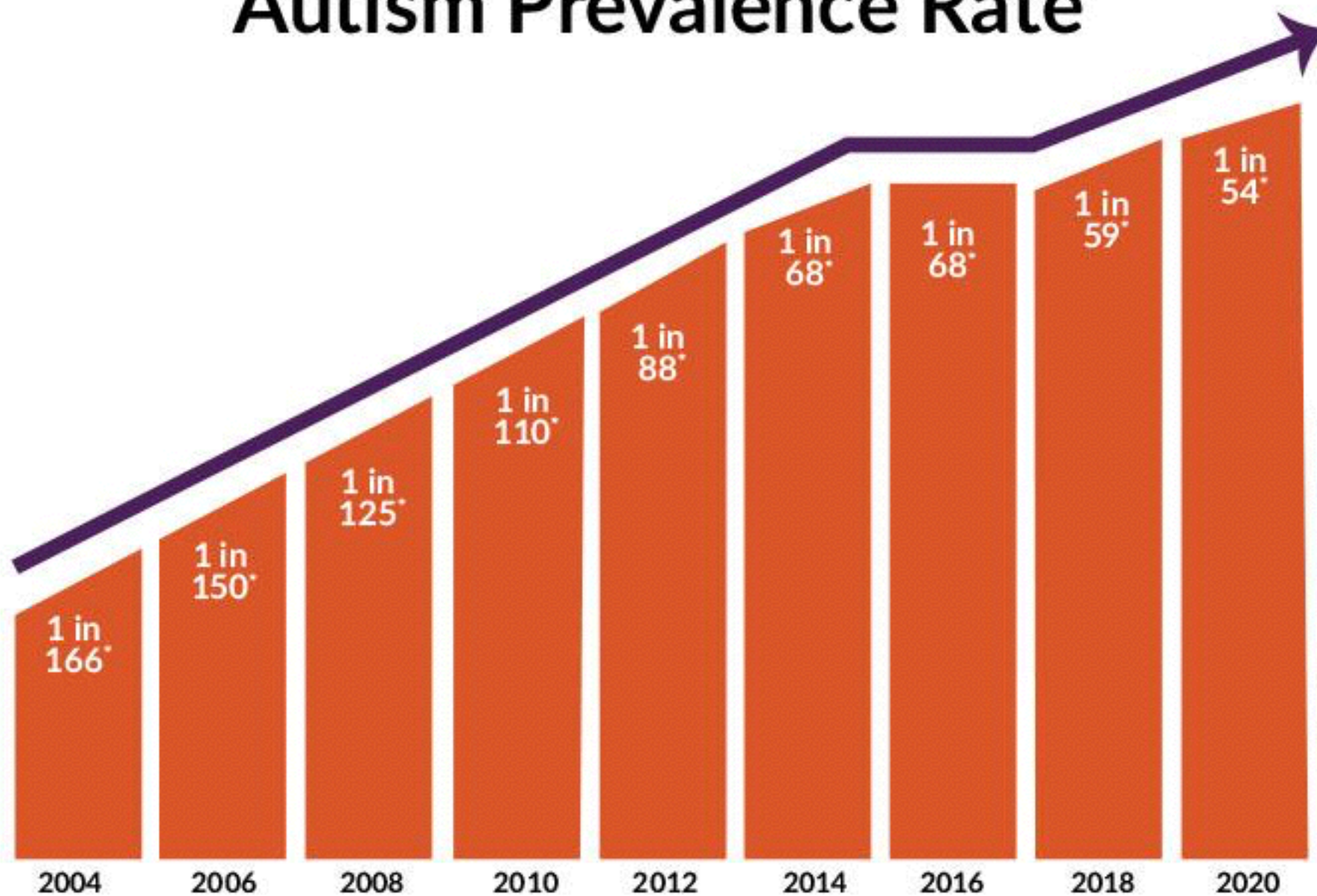


AUTISM DIAGNOSES RISING

Almost 1.5% of US children are now diagnosed with autism, according to data from 11 regions in the United States.



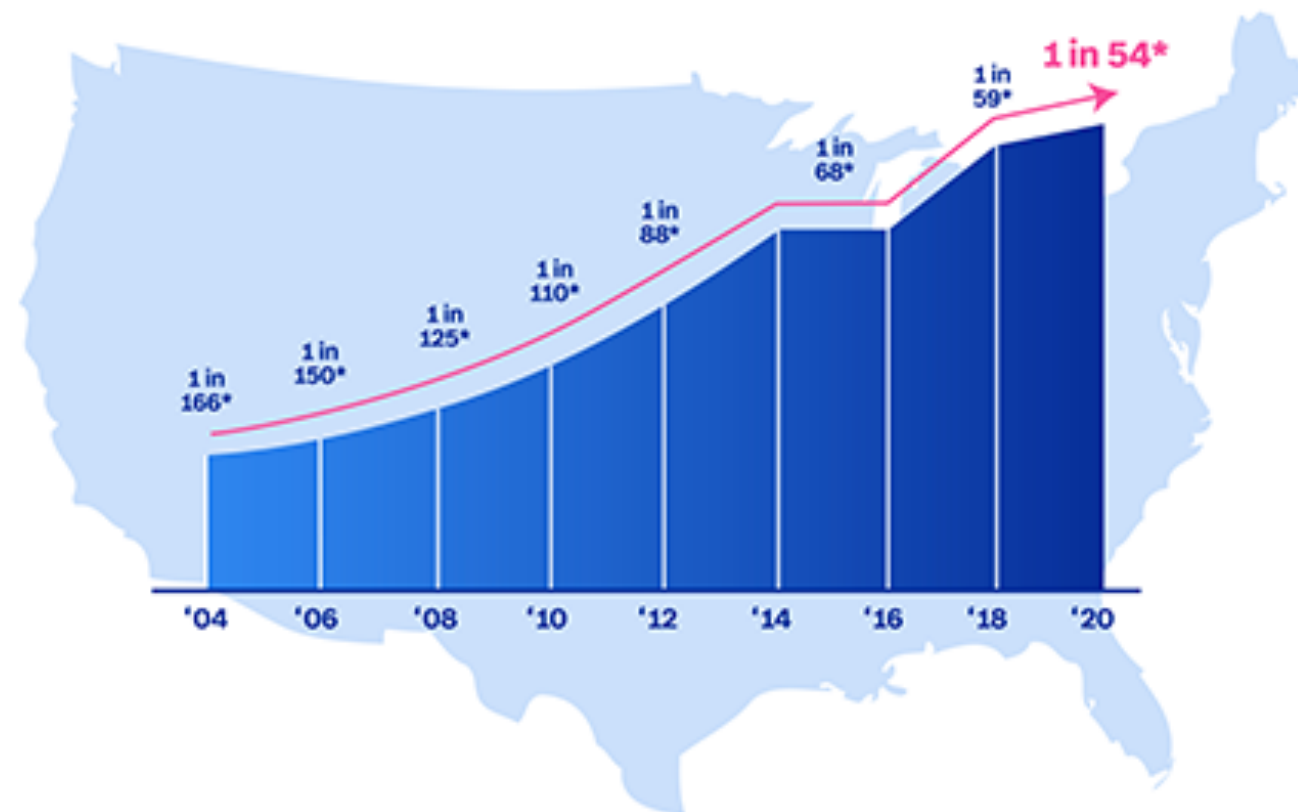
Through the Years: Autism Prevalence Rate



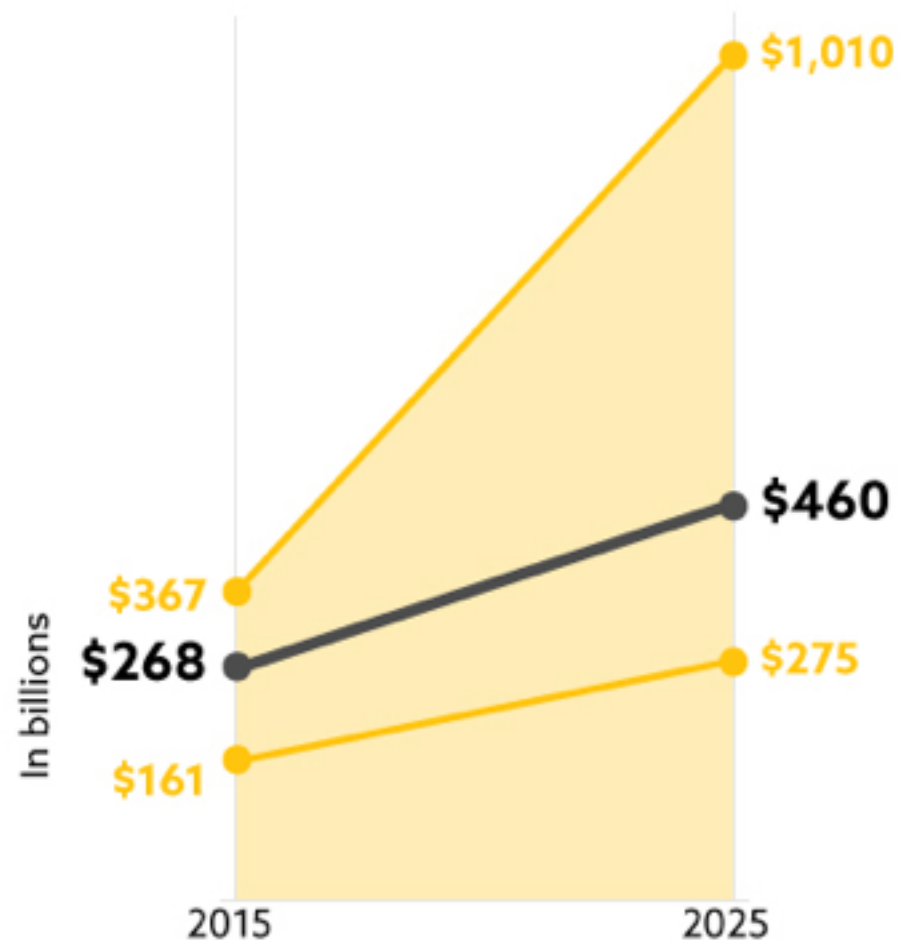
*Centers for Disease Control (CDC) prevalence estimates are for 4 years prior to the report data. i.e 2020 figures are from 2016.

The Centers for Disease Control and Prevention (CDC) released its latest prevalence estimates for autism. It reports 1 in 54 children have an autism spectrum disorder (ASD). The rate is an increase of 10% from two years ago, when the figure was 1 in 59 children. The new prevalence reflects a 2.76 fold jump in numbers since the CDC began collecting data in 2000.

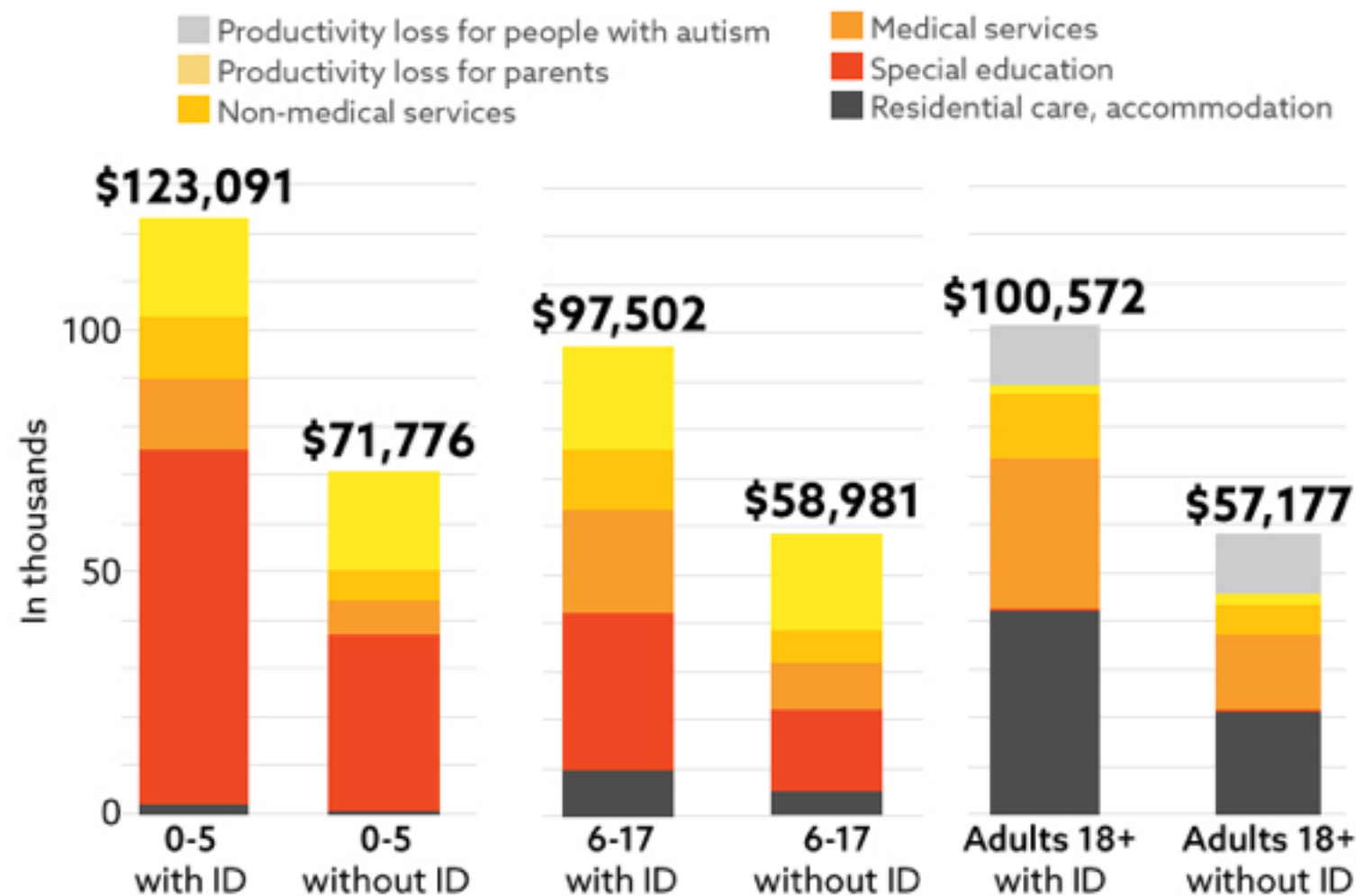
Estimated Autism Prevalence 2020



* Centers for Disease Control and Prevention (CDC) prevalence estimates are for 4 years prior to the report date (e.g. 2020 figures are from 2016)



Projected annual cost of autism assuming a prevalence of 1.1 percent
 Alternative projections appear in orange



Yearly cost in 2015 for an individual with autism, by age and presence or absence of intellectual disability (ID)

You are the Ripple Effect

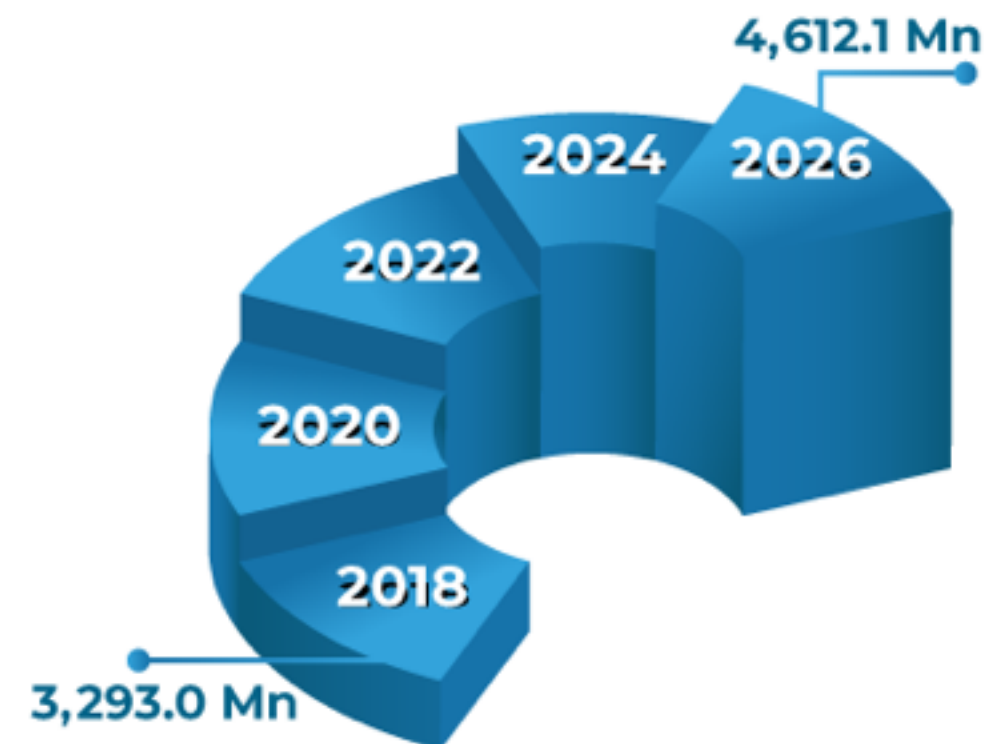


AUTISM SPECTRUM DISORDER THERAPEUTICS MARKET

North America Autism Spectrum Disorder Therapeutics Market Size (US\$ Mn), 2018



Global Autism Spectrum Disorder Therapeutics Market Size (US\$ Mn), 2018 to 2026



Global Autism Spectrum Disorder Therapeutics Market Share, By Type, 2018

Autistic Disorder - 49.1%

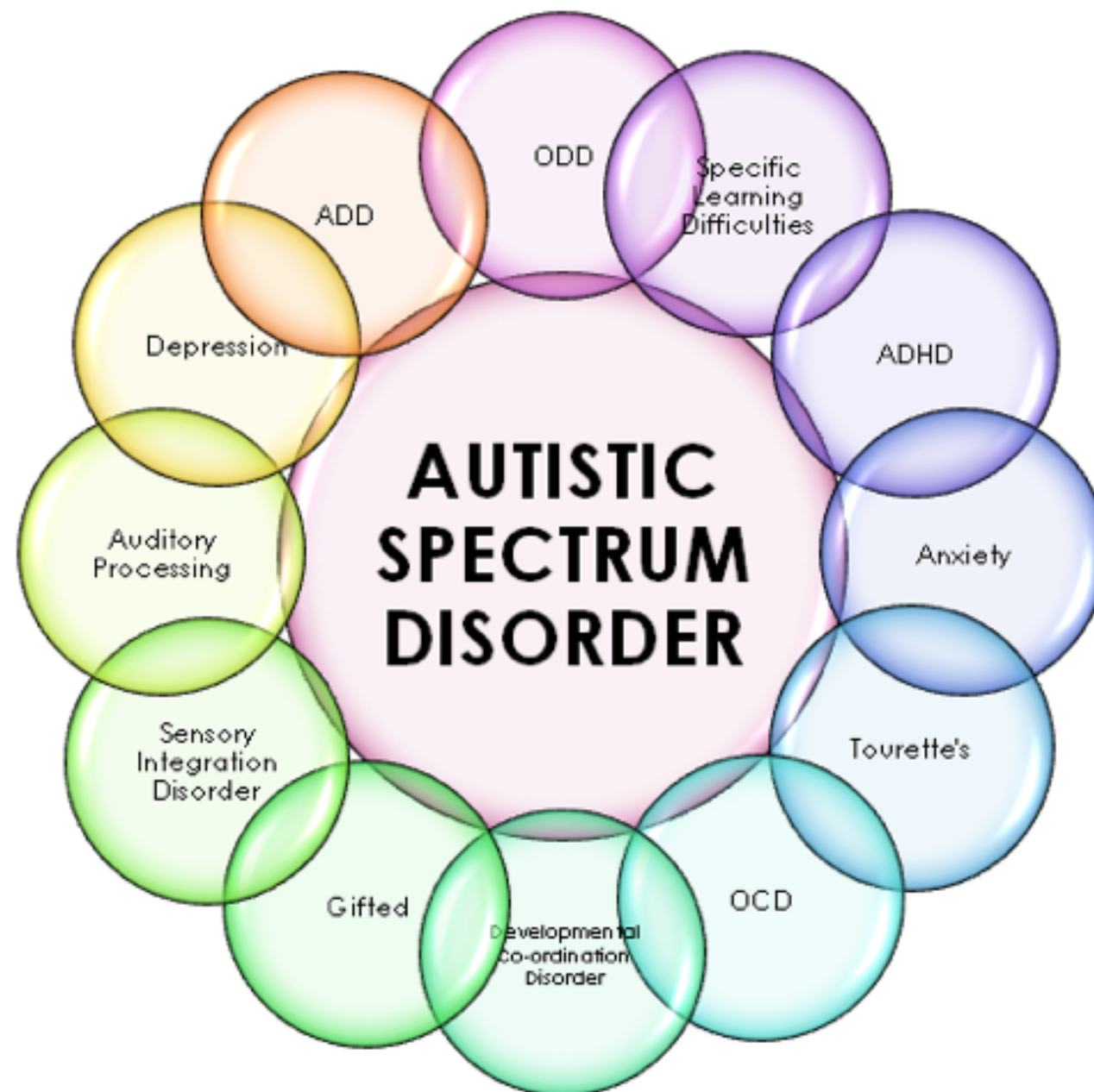
Asperger Syndrome

Pervasive Developmental Disorder

Others

General Notes

- Autism as a Syndrome: multiple disease entities
- Autism is a developmental syndrome
- Common deficit: theory of mind



Diagnostic Criteria

- Severe abnormality of reciprocal social relatedness
- Severe abnormality of communication development
- Restricted, repetitive behavior, patterns of behavior, interests, imagination
- Early onset (before 3-5 years)
- Lack of awareness of feelings of others
- Bizarre speech patterns
- Lack of spontaneous and make-believe play
- Preoccupation with parts of objects
- Repetitive motor movements
- Marked distress over changes

299.00 Autism Spectrum Disorder

A. Persistent deficits in social communication and social interaction across multiple contexts, as manifested by the following, currently or by history (examples are illustrative, not exhaustive; see text):

1. Deficits in social--emotional reciprocity, ranging, for example, from abnormal social approach and failure of normal back--and--forth conversation; to reduced sharing of interests, emotions, or affect; to failure to initiate or respond to social interactions.
2. Deficits in nonverbal communicative behaviors used for social interaction, ranging, for example, from poorly integrated-- verbal and nonverbal communication; to abnormalities in eye contact and body--language or deficits in understanding and use of gestures, to a total lack of facial expression and nonverbal communication.
3. Deficits in developing, maintaining, and understanding relationships, ranging, for example, from difficulties adjusting behavior to suit various social contexts; to difficulties in sharing imaginative play or in making friends; to absence of interest in peers

299.00 Autism Spectrum Disorder

B. Restricted, repetitive patterns of behavior, interests, or activities, as manifested by at **least two** of the following, currently or by history (examples are illustrative, not exhaustive; see text):

1. Stereotyped or repetitive motor movements, or use of objects, or speech (e.g., simple motor stereotypies, lining up toys or flipping objects, echolalia, idiosyncratic phrases).
2. Insistence on sameness, inflexible adherence to routines, or ritualized patterns of verbal or nonverbal behavior (e.g., extreme distress at small changes, difficulties with transitions, rigid thinking patterns, greeting rituals, need to take same route or eat same food every day).
3. Highly restricted, fixated interests that are abnormal in intensity or focus (e.g., strong attachment to or preoccupation with unusual objects, excessively circumscribed or perseverative interests).
4. Hyper-–or hypo-–reactivity to sensory input or unusual interest in sensory aspects of environment (e.g., apparent indifference to pain/temperature, adverse response to specific sounds or textures, excessive smelling or touching of objects, fascination with lights or spinning objects).

299.00 Autism Spectrum Disorder

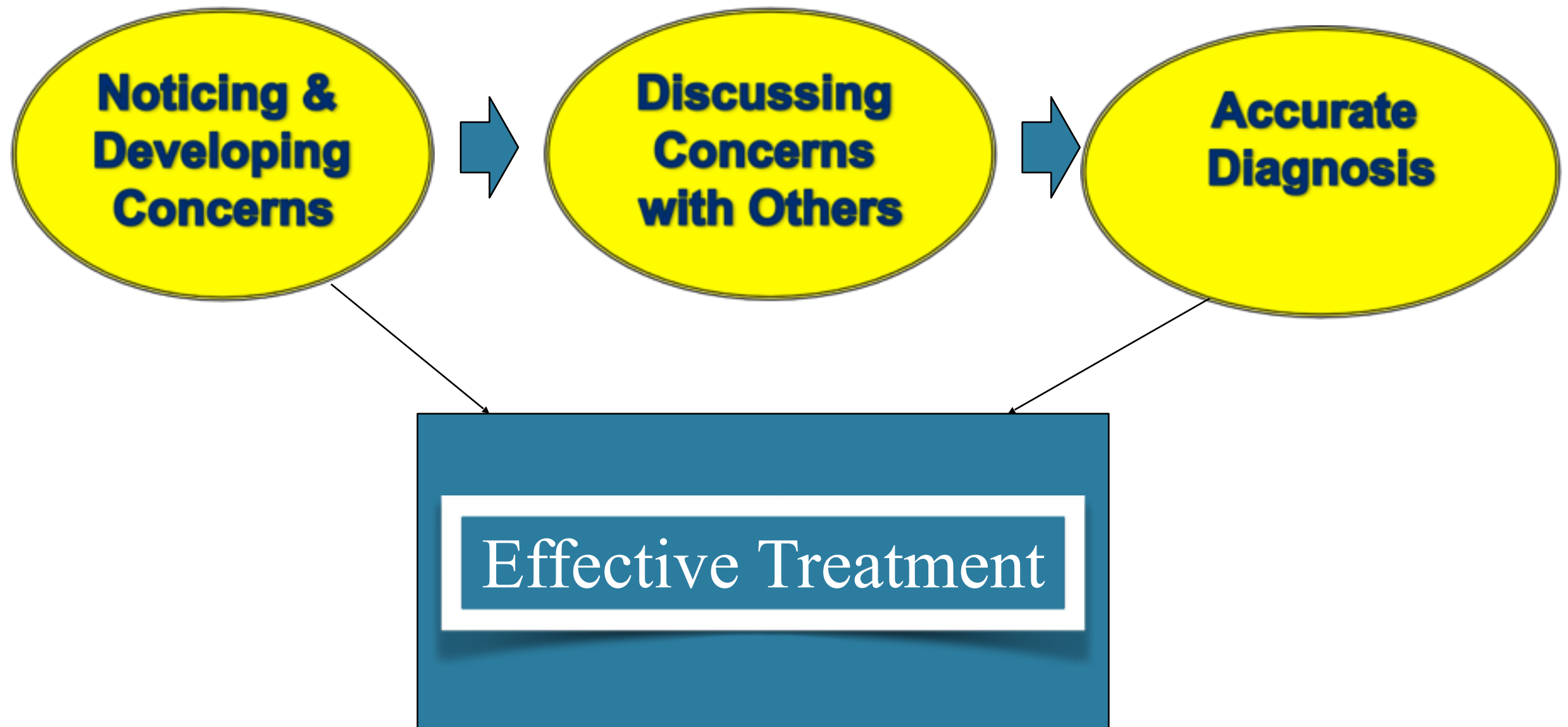
C. Symptoms must be present in early developmental period (but may not become fully manifest until social demands exceed limited capacities, or may be masked by learned strategies in later life).

D. Symptoms cause clinically significant impairment in social, occupational, or other important areas of current functioning.

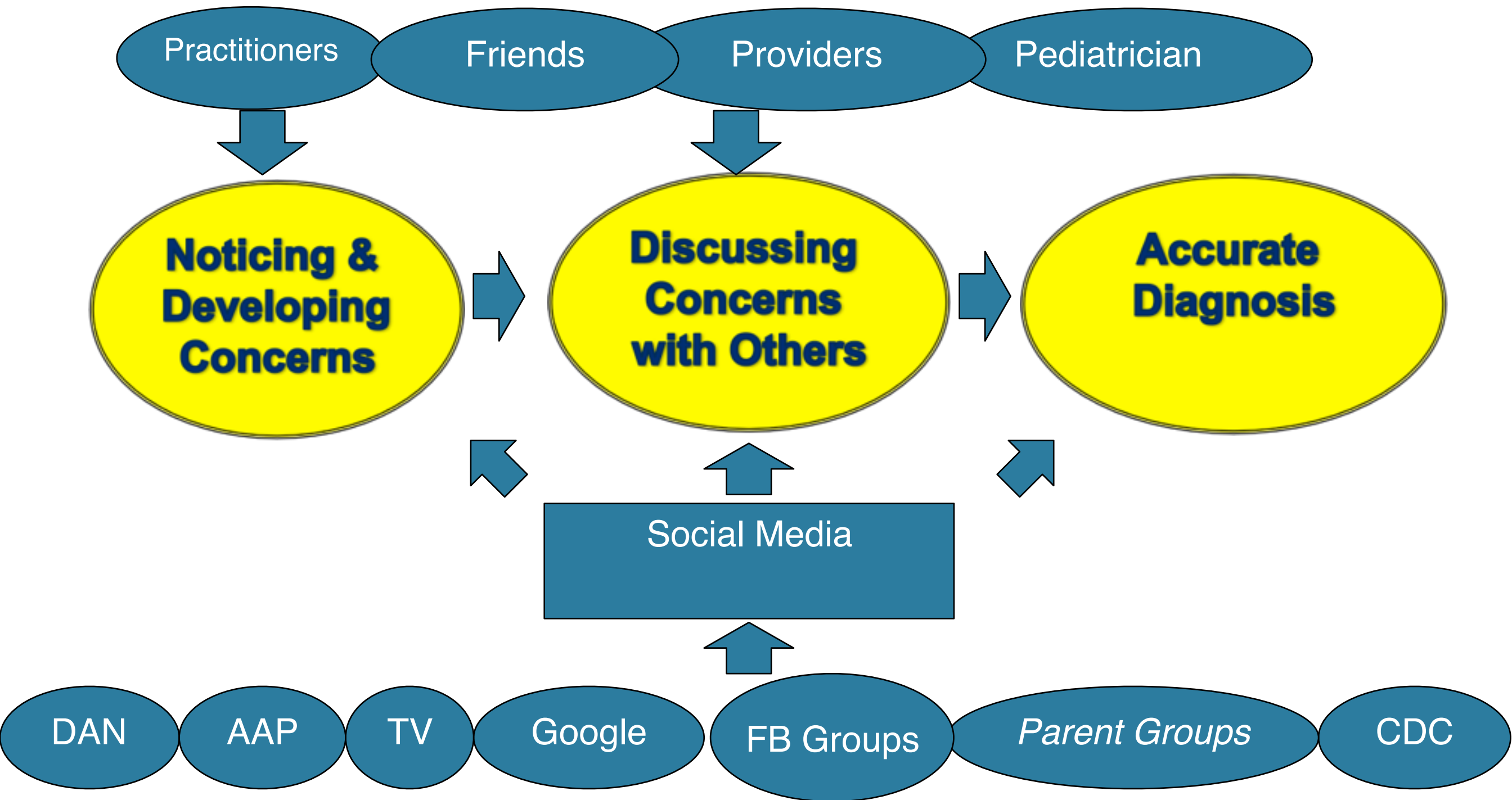
E. These disturbances are not better explained by intellectual disability (intellectual developmental disorder) or global developmental delay. Intellectual disability and autism spectrum disorder frequently co-occur; to make comorbid diagnoses of autism spectrum disorder and intellectual disability, social communication should be below that expected for general developmental level.

To meet diagnostic criteria for ASD according to DSM-5, a child must have persistent deficits in each of three areas of social communication and interaction plus at least two of four types of restricted, repetitive behaviors.

From Concern to Effective Treatment



Science in Context



Treatments and Therapies

- Auditory Integration
- Sensory Integration
- ABA
- Discrete Trial Training
- Lovaas/UCLA Intervention
- Early Start Denver Model
- Holding Therapy
- Dolphin Assisted Therapy
- Facilitated Communication
- Augmentative Communication
- Vision Therapy
- Vitamins
- Hyperbaric Oxygen
- Psychopharmacological treatments
- Floortime
- Music Therapy
- Social Skills Training
- Incidental Teaching
- TEACCH
- PECS
- Pivotal Response Therapy
- Son-Rise
- RDI
- Chelation
- Diets
- Drugs
- Supplements

Evidence-Based Interventions

Antecedent-Based Interventions (ABI)	Picture Exchange Communication System (PECS)
Computer-Aided Instruction	Pivotal Response Training
Differential Reinforcement	Prompting
Discrete Trial Training	Reinforcement
Extinction	Response Interruption/Redirection
Functional Behavior Assessment	Self-Management
Functional Communication Training	Social Narratives
Naturalistic Intervention	Social Skills Groups
Parent-Implemented Intervention	Speech Generating Devices/VOCA
Peer-Mediated Instruction and Intervention	Structured Work Systems
	Task Analysis
	Time Delay
	Video Modeling
	Visual Supports

How do we choose and value treatments?

Individualized intervention

- What works for which children and why
- What is the meaningful social and functional impact
- Range of outcomes to be expected
- How do we value therapeutic changes

A changing landscape

- Improved understanding of disorder
- Improved study and improved interventions
- Methodologically rigorous and meaningful investigation

Screening Model for Infantile Autism

- Is child's eye-to-eye contact normal?
- Is he/she comforted by proximity/body contact?
- Does he/she often smile or laugh unexpectedly?
- Does he/she prefer to be left alone?

Systematic Feature Examination

- Hand stereotypes (strange looking or posturing)
- Stiff gaze, avoidance of
- Little reaction to strong, unexpected noise
- Passive, obvious lack of interest

Altered States Compared to Normal

- Resistance to change, Insist on sameness
- Strong attachments to objects; Spins objects
- Difficulty in mixing with others
- Throw Temper Tantrums
- Tend not to want to cuddle or be cuddled
- Over-sensitivity or under-sensitivity to pain
- No fears of danger

Sensory Processing

- Painfully sensitive to certain sounds, textures, tastes, and smells.
- Either too sensitive or less sensitive than normal. Some autistic have difficulty interpreting sensory information.
- Like normal these experiences are not hallucinations but based on real experiences.
- Some avoid being touched, a gentle touch for most, will hurt or shock autistics.
- Some are insensitive to pain, and fail to notice injuries.

Emotions

- Take major emergencies in stride but become upset over minor disruption.
- Unemotional, but can be very emotional when things are important to them.
- More candid and expressive with their emotions than normal people.
- Small amount will have difficulty regulating their emotions. Individual will have verbal outburst, usually in strange or overwhelming environment.
- Theory of Mind may be impaired causing abnormalities in social interactions, communications, and imagination. Typically if milestone shave been reached then 4 year olds tend to have a TOM.

Communications

- Problem with semantic-pragmatic component, take a statement or question in a literal way.
- *i.e. "I'd like coffee with my cereal"*
- Repeating things that have been heard (echolalia)
- Inability to understand body language, tone of voice
- Some are non-verbal
- Difficult in sustaining a conversation. No normal "give and take" in a conversation
- Autistics tend to go on with their favorite subjects and do not give the other person a chance to talk.
- People with autism might stand too close to the other person.
- Body language, facial expressions, and gestures do not match what they are saying.

Behavioral & Communication

- Behavioral modification and communication approaches
- Applied Behavior Analysis Rewarded behavior
- TEACCH: Understand the world
- PECS: Picture exchange
- Social Stories: Theory of Mind
- Sensory Integration

Alternative Therapies

Improving Communication Skills

- Music Therapy
- Speech Development
- Art Therapy
 - Non-verbal, Symbolic Expression
- Animal Therapy
 - Physical and Emotional Benefits
- Infrared or Sauna for Detox
- Cranial Sacral
- Horse back Riding
- Swimming

Autism Blueprint Treatment

1. Biomedical & Nutritional Intake Session
obtaining as much data/information to
formulate pieces to the puzzle.

2. Functional Medicine Testing: Organic Acid
and Glyphosate Testing at minimum.

Depending on budget, heavy metal test,
environmental toxins, mycotoxins, food
intolerance testing

3. Implement Gluten-Casein-Soy-Corn-Free
Diet while waiting for test results.

Autism Blueprint Treatment

- 4. Create Customized Supplement Regime**
depending on data from intake session, observation and functional medicine test results.
- 5. Keep daily journal and progress notes to review at Monthly Progress Session. Tweak regime according to progress. Discuss lifestyle factors such as sleep, exercise, learning modulates, visiting museums, ‘I Spy’ games, get siblings involved with fun ways to learn together.**
- 6. Gain feedback from other therapy caregivers, teachers, and therapists.**

Autism Blueprint Treatment

7. Remove environmental toxins, scan each room in the home and replace any toxic produce with a healthier version. i.e. Laundry detergent with dye-free, perfume-free detergent. Further refine diet.

8. Focus on personal care products and replace with healthier product. Goto EWG.org and obtain the free database of tested products.

9. Support family caregivers with empowering information to care for ASD individual as well as themselves. Preserve relationships, marriage, family life. Get both parents involved whenever possible.

Autism Blueprint Treatment

10. Create Online & In-Person Support group (Social Skills) and connect families with others for socializing. Help them with organizing pertinent progress data, test results, forms, insurance, school communication binders.

11. Retest to check progress of replenishing muslin nutrients and getting markers balanced. Run Organic

Acid test and glyphosate test on annual basis. Change regime accordingly.

12. Join Total Wellness Empowerment Membership to keep being empowered with the latest research, gain access to the database and live monthly presentation. Review cases during the monthly 15 to 30 minute Zoom session to gain another set of eyes on your ASD individual. <http://totalwellnessempowerment.com/membership/>

Biomedical & Nutritional Intervention Checklist

Currently Doing It – what effects?	Tried It In Past – what effect?	Considering for Future – any questions?	<u>Treatments</u>
			Healthy Diets
			Food Sensitivities
			GFCF Diet
			Vitamin/Mineral Supplements (or Juicing)
			High-Dose Vitamin B6 & Magnesium
			Essential Fatty Acids
			Gut Treatments Antifungals Probiotics Digestive Enzymes
			Amino Acids
			Carnitine
			Melatonin
			Thyroid Testing/Supplementation
			Sulfation
			Methylation/Glutathione/Oxidative Stress
			Immune System Regulation
			Hyperbaric Oxygen Therapy

You are the Ripple Effect



for the betterment of the ASD individual and their loved ones