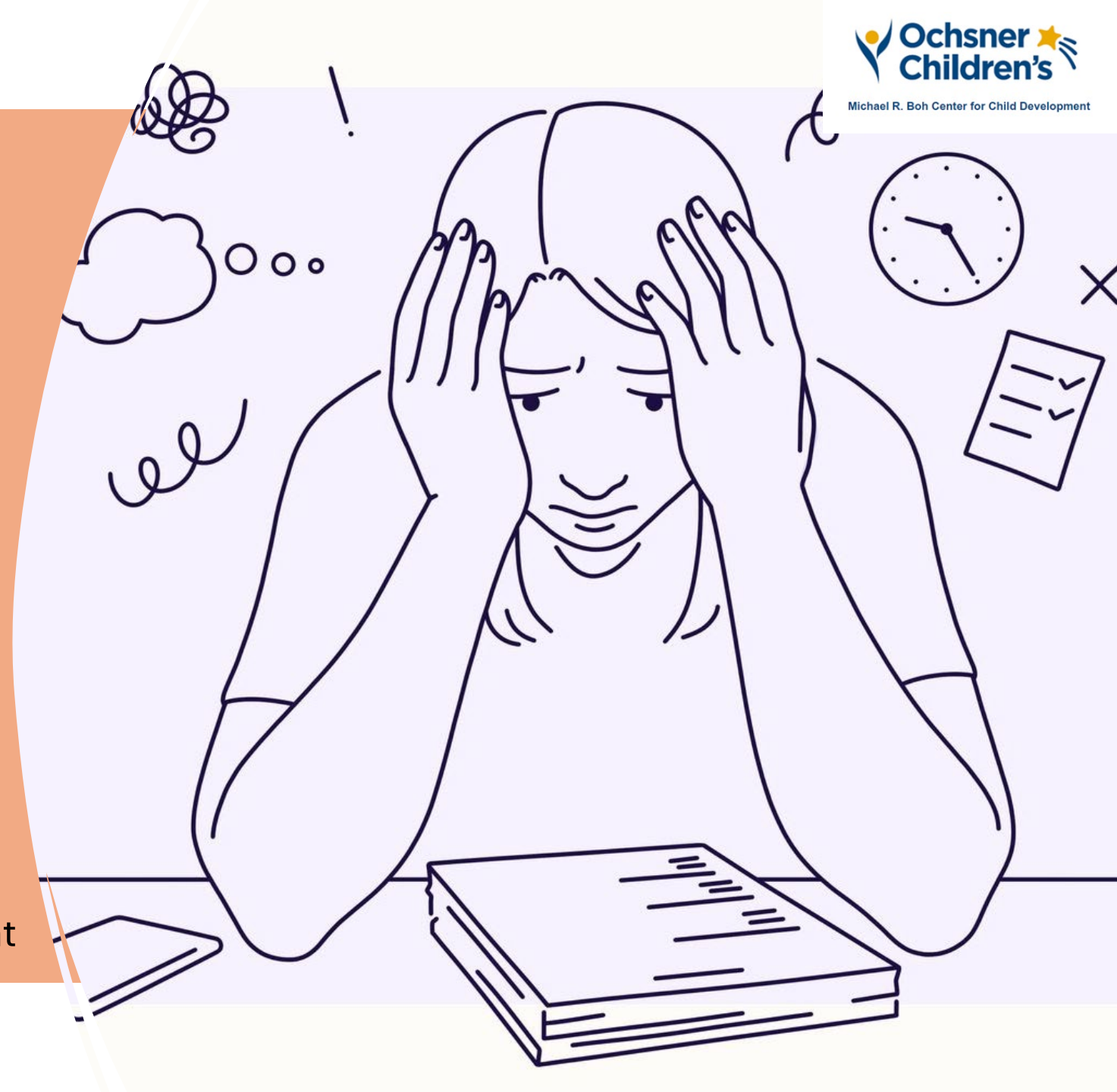


Academic Difficulties

The Pediatrician's Role
in Supporting the Struggling
Student

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Michael R. Boh Center for Child Development



Hospital For

Children


Michael R. Boh Center for Child Development

Conflict of Interest Disclosure

- I have no conflicts of interest.

Objectives

- Establish the vital role a pediatrician can play for children struggling with academic difficulties.
- Identify the "Struggling Student" and recognize clinical and behavioral presentations for children with neurodevelopmental disorders
- Identify differential diagnoses for academic difficulties in a pediatric setting.
- Discuss the definition, diagnosis and epidemiology of learning disabilities and the pediatrician's role in school-based services and community-based interventions.
- Discuss evidence-based interventions for learning disabilities, including dyslexia.

A female pediatrician with brown hair tied back, wearing a white lab coat and a stethoscope, is smiling and looking down at a young girl. The girl has brown hair and is wearing a blue dress with white polka dots. They are in a clinical setting with a white wall in the background.

Pediatricians play a vital role for children with academic difficulties.

The American Academy of Pediatrics (AAP) recommends that primary care providers perform developmental surveillance **at every health supervision visit.**

AAP recommends that the identification of developmental delays should lead to **developmental and medical evaluations, diagnosis, and treatment.**

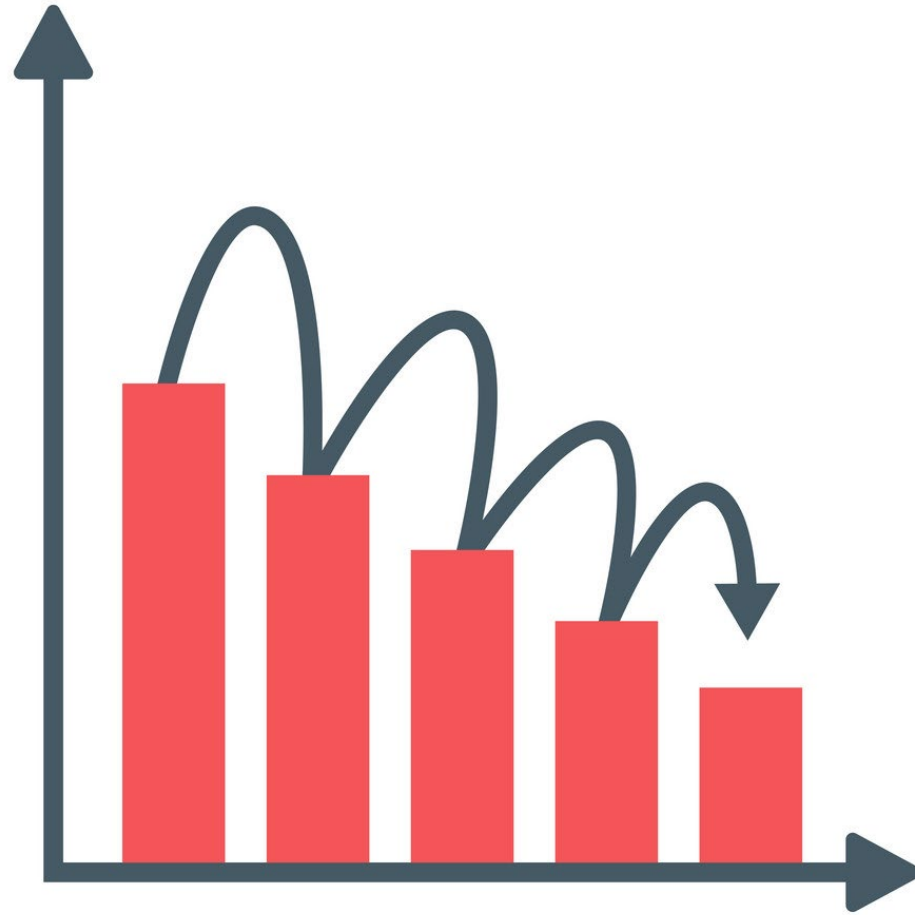
(Lipkin et al., 2020)



Limited access to specialty care for developmental disabilities.

- General pediatricians are often the **only** contact for children with developmental disabilities and learning difficulties.





There is a **growing national shortage** of access to developmental behavioral specialty care for diagnosis and care of all neurodevelopmental disabilities

Growing Unmet Workforce Need for Neurodevelopmental Disabilities:

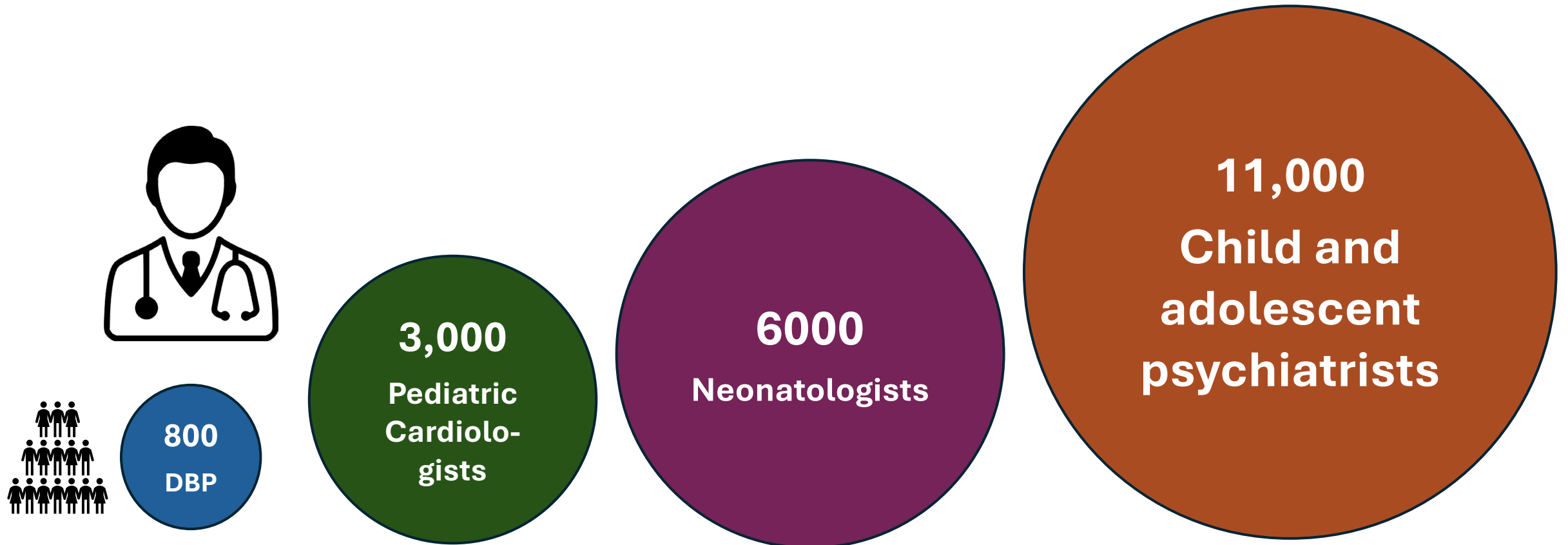
Neurodevelopmental disorders (NDD) occur in 17 % of the population (vs. ~1% have congenital heart disease).

~12.5 million children in the US have a neurodevelopmental disorder.

~800 developmental and behavioral pediatricians (DBPs) in the US.

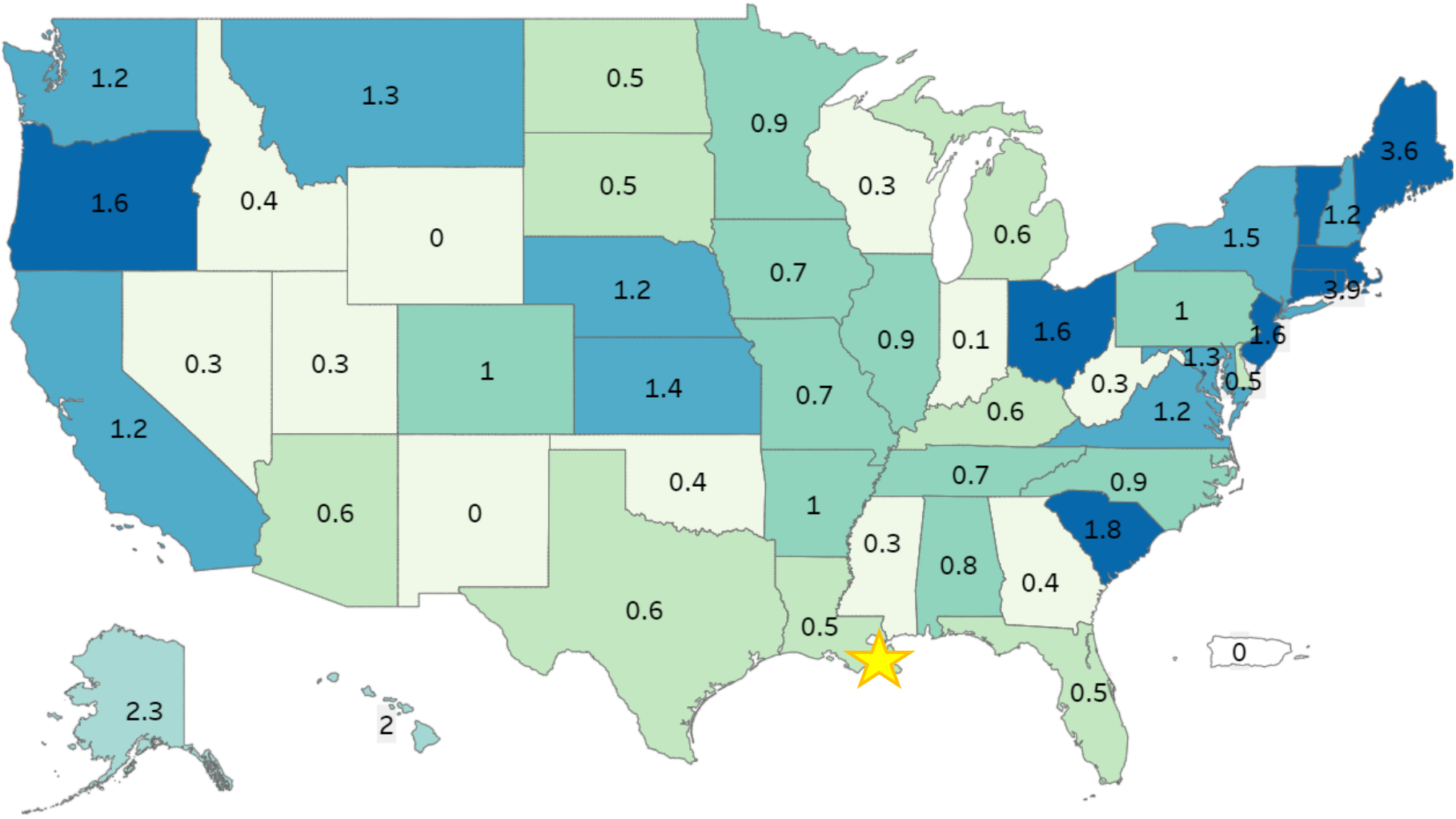
Comparison of National Provider Workforce Data:

(ABP 2024 and AACAP 2022 data)

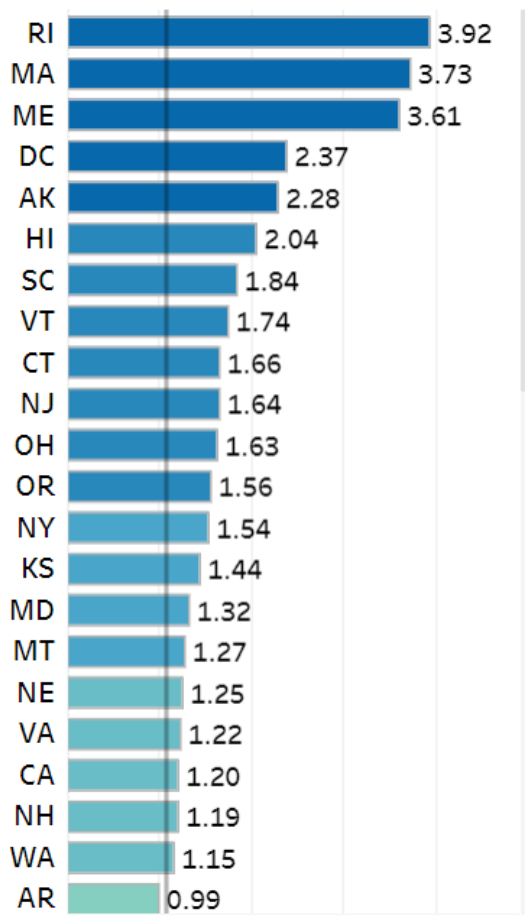


National Distribution of Developmental-Behavioral Pediatrics

Distribution of Developmental-Behavioral Pediatrics by Pediatricians per 100,000 children (0-17)



State Rank of Those Certified in Developmental-Behavioral Pediatrics per 100,000 Children (0-17)



(ABP Certification Management System, 2024)

Growing Unmet Workforce Need for Neurodevelopmental Disabilities:

~1.0 developmental and behavioral pediatrician (DBP) per 100 000 US children aged 0 to 17 years nationally.

2023

2040

Adjusting for population growth over time and based on predictive modeling, approximately **0.5** DBP per 100 000 children.



Growing Unmet Workforce Need for Neurodevelopmental Disabilities:

Pediatricians are vital in identifying and managing neurodevelopmental disabilities.

Role of the Pediatrician

1. **Early identification of learning disabilities.**

Struggling Student

- **Frequent chief complains:**

- Failing grades.
- Grade retention.
- Refusal to complete schoolwork.
- Frustration with homework.
- Difficulty focusing.
- Poor peer interactions.



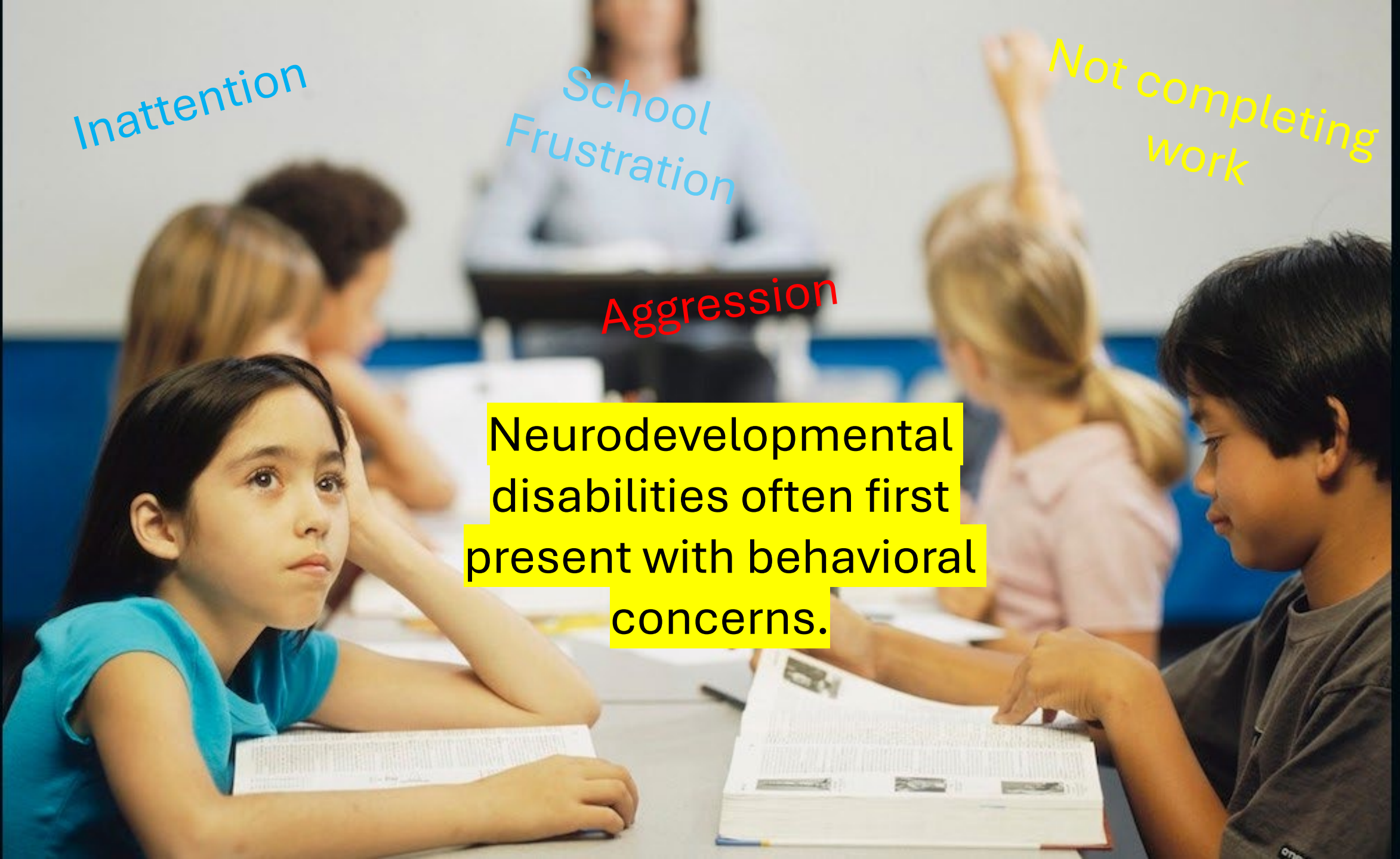
Inattention

School
Frustration

Not completing
work

Aggression

Neurodevelopmental
disabilities often first
present with behavioral
concerns.



Struggling Student

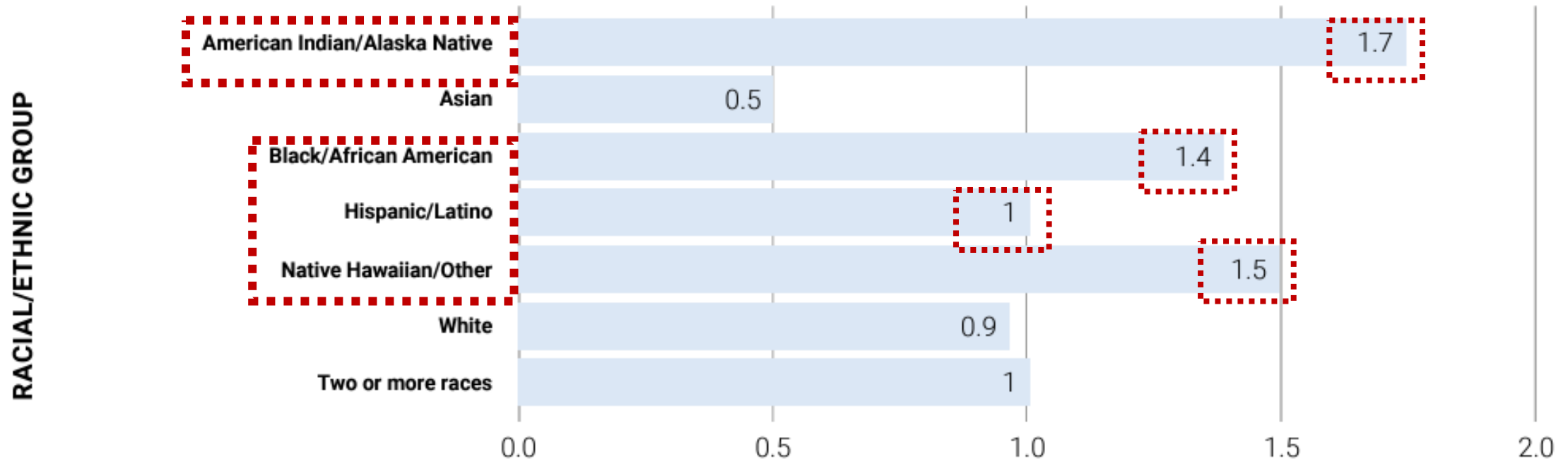
- **Risk factors:**

- Personal history of developmental delays.
- Prior behavioral/mental health diagnosis.
- Family history of learning difficulties.
- Neurologic disorders.
- Genetic syndromes.
- Low birth weight and prematurity.
- Prenatal exposure to alcohol or other substances in utero.
- Lead exposure.
- Poverty.



Struggling Student: Racial Disparities in Special Education

Figure 1. Risk ratios for students ages 6 through 21 served under the Individuals with Disabilities Education Act (IDEA), Part B, within racial/ethnic groups: Fall 2016.⁷



Specifically, when looking at students **within the same income bracket** **Black and Hispanic** students are more likely to be identified for special education

Systemic racial biases in our schools and communities exist (inclusion in gen. ed, restraint use, suspensions, etc..)

Role of the Pediatrician

1. Early identification of learning disabilities.
2. **Investigate potential etiologies of learning difficulties.**

Differentials for “Learning Difficulties”

Attention-
deficit/hyperactivity
disorder (ADHD)

Intellectual Disability

Specific Learning
Disabilities/Disorders
(in Math, Reading,
etc.)

Autism

Mood Disorders
(Major Depressive
Disorder, Anxiety
Disorders)

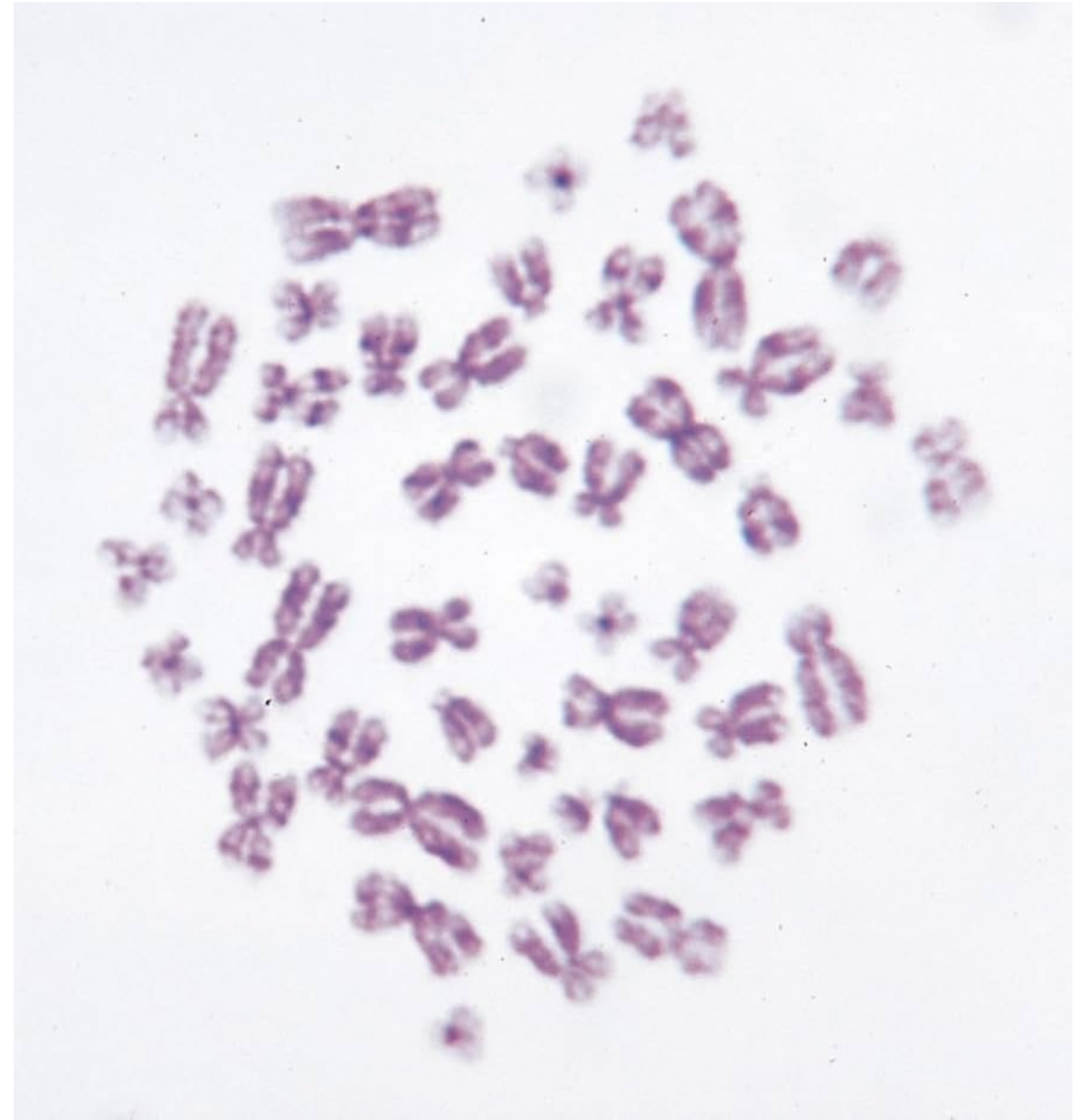
Social Stressors
(Divorce, Bullying,
Death in the family,
etc.)

Seizures (Neurological
disorders)

Vision and Hearing
Impairment

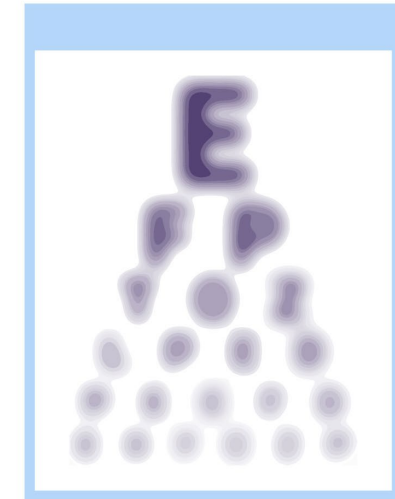
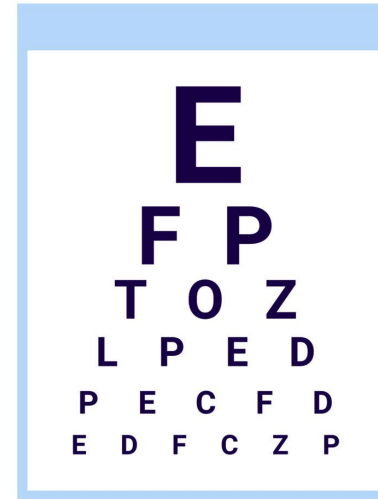
Investigate potential medical etiologies of learning difficulties.

- **Consider genetic etiologies.**
 - **Whole Exome Sequencing** for global developmental delay or intellectual disability recommended by American College of Medical Genetics and Genomics (ACMG) and American Academy of Pediatrics AAP (July 2025).
 - **Chromosomal microarray analysis** and **Fragile X testing** for global developmental delay or intellectual disability.
 - **Specific learning disabilities** (with normal intellectual quotient) common in:
 - **Neurofibromatosis Type I (NF1) (80%)**
 - **Klinefelter Syndrome (70%)**
 - **Turner Syndrome (50%)**
 - **etc..**



Investigate potential medical etiologies of learning difficulties.

- **Vision** and/or **hearing impairment** must be ruled out.
- American Academy of Pediatrics (AAP) recommends vision and hearing screenings for children aged 4 through adolescence.



Role of the Pediatrician

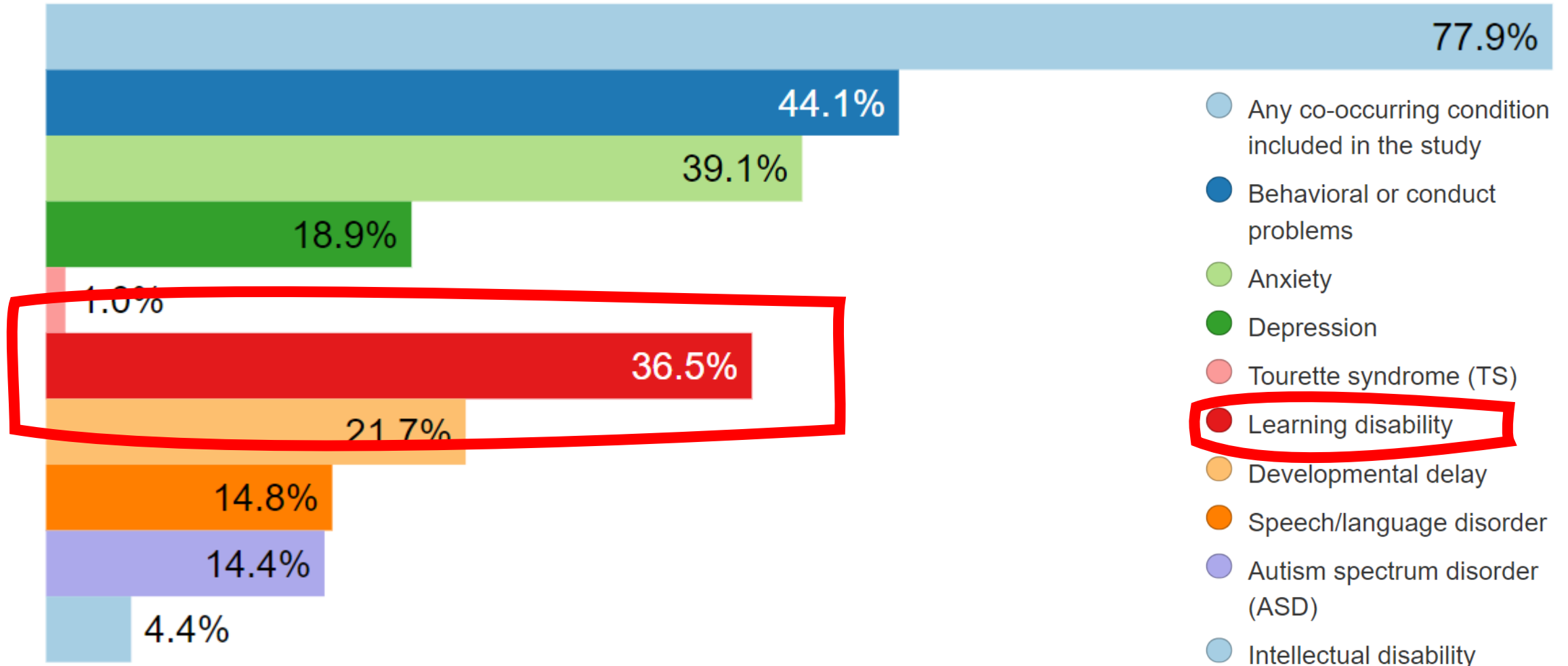
1. Early identification of learning disabilities.
2. Investigate potential etiologies of learning difficulties.
3. **Manage other comorbid behavioral diagnoses (i.e. ADHD)**

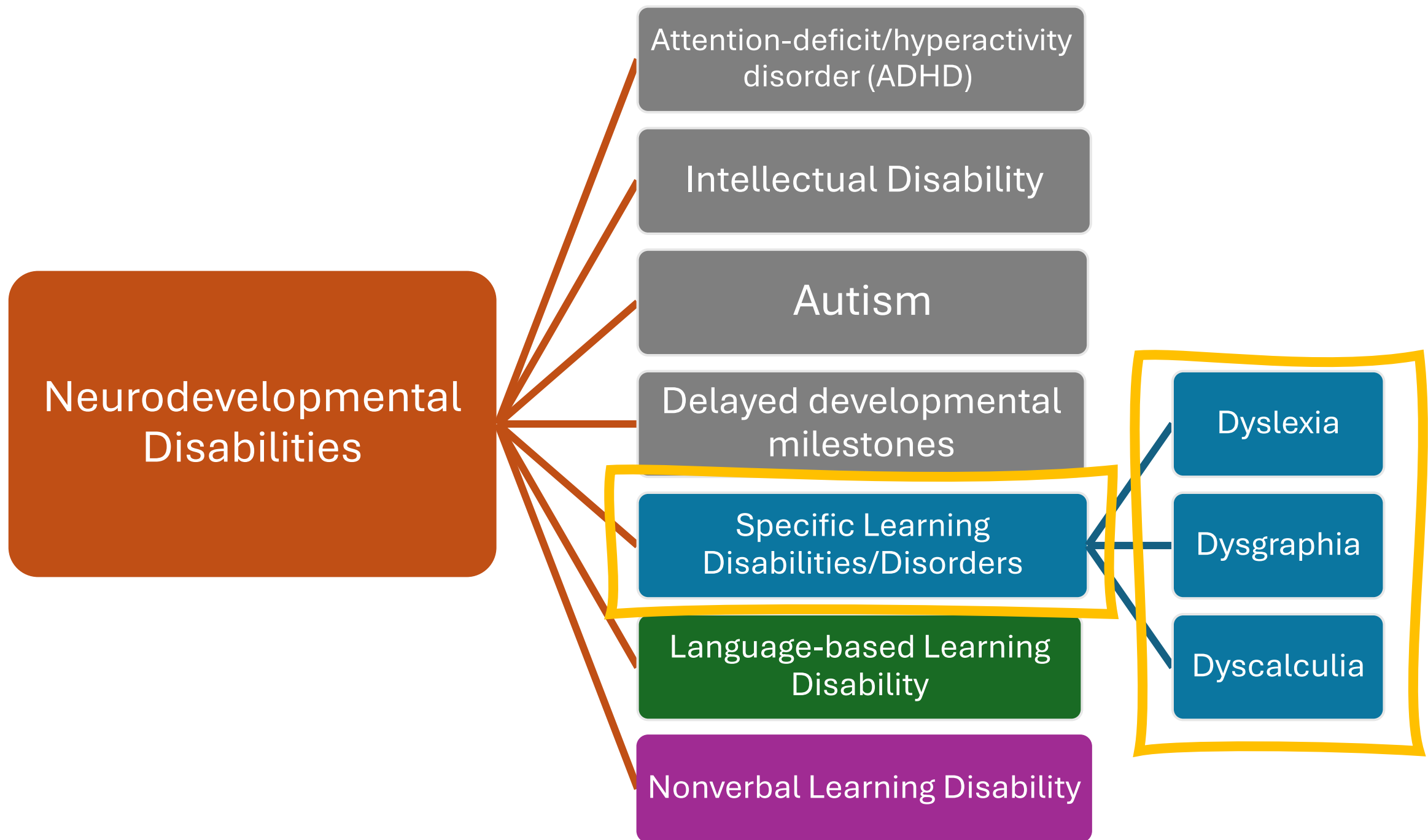
Pediatricians are also experts in ADHD.

- In a survey of pediatricians (including pediatric residents) in an academic setting, 88% indicated they **routinely** diagnosed and treated ADHD.
- More than **>50%** of children were first diagnosed with ADHD by a **primary care provider**, often a pediatrician.

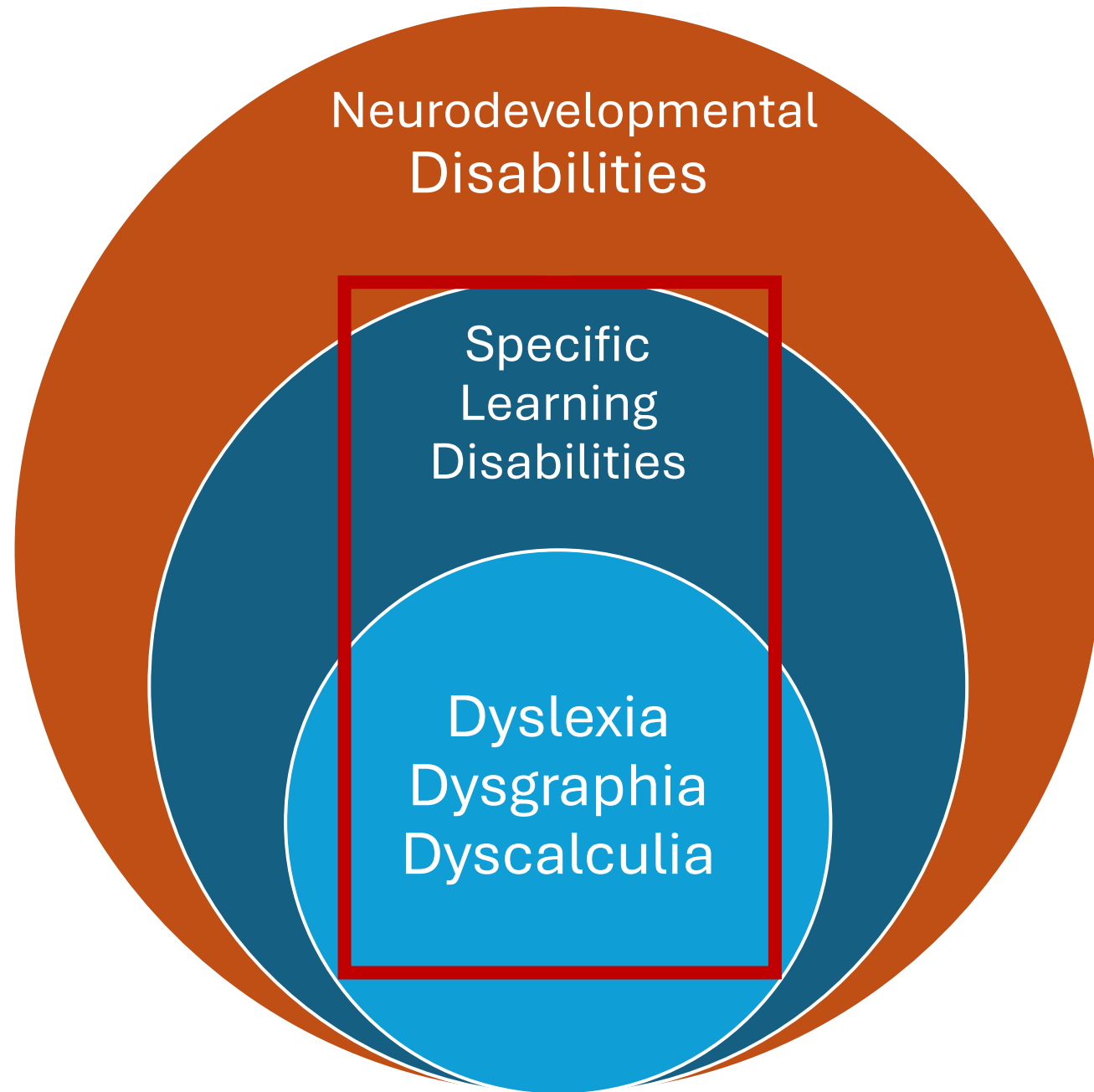


ADHD commonly presents with co-occurring developmental disabilities.





Identifying Specific Learning Disabilities



SPECIFIC Learning Disability

Defined as:

- **Academic** deficit in one or more areas **for at least 6 months** **despite persistent intervention**
- Cannot be explained by intellectual disability or other neurological disorder or limited proficiency in a language, etc.
- “*Disorder*” in DSM-V; “*Disability*” in educational classifications



Types of SPECIFIC Learning Disabilities:

~1 in 5 students have a
specific learning disability.



In large population studies prevalence
of specific learning disability in:



Reading (~17 percent)



Writing (~10 percent)

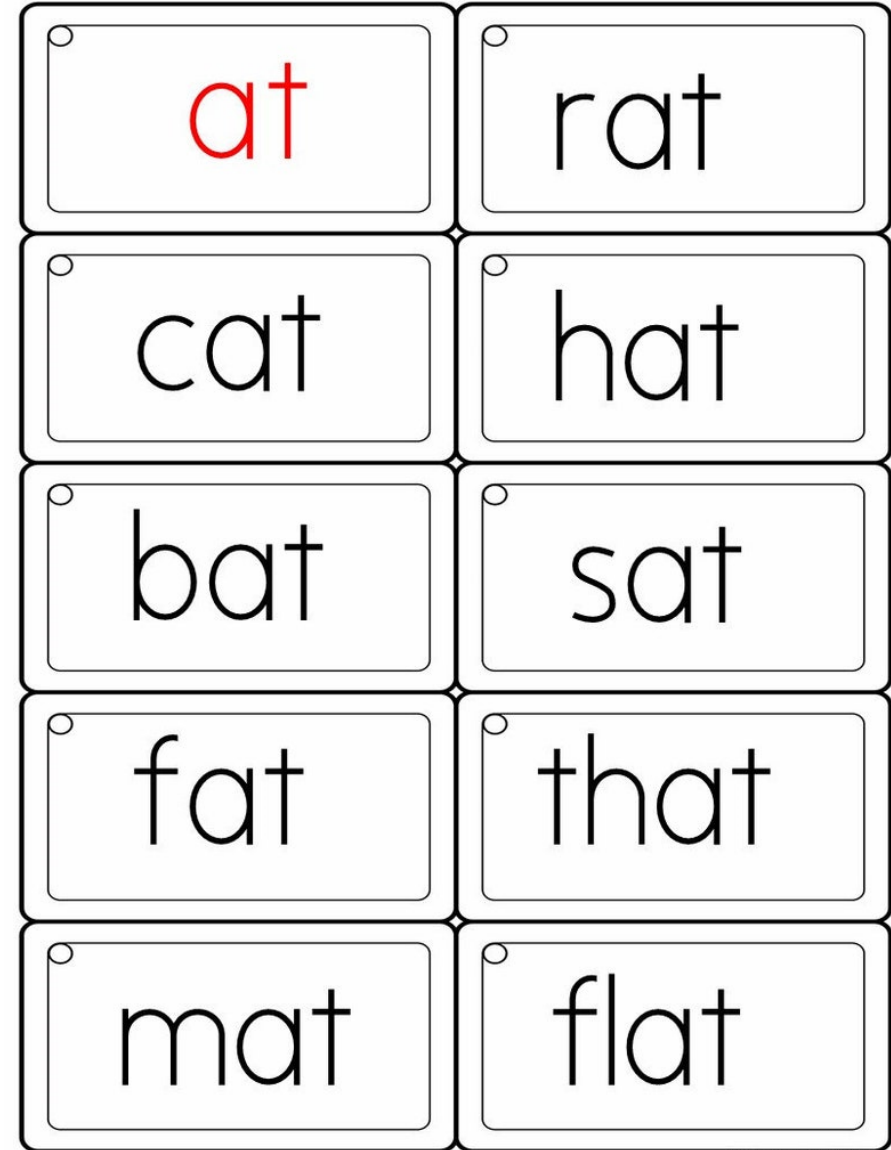


Math (~5 percent)

Dyslexia

Defined as:

- "Impairment in Reading"
- Impairment in:
 - Phonological processing.
 - Word Decoding (Reading)
 - Coding (Writing and Spelling)

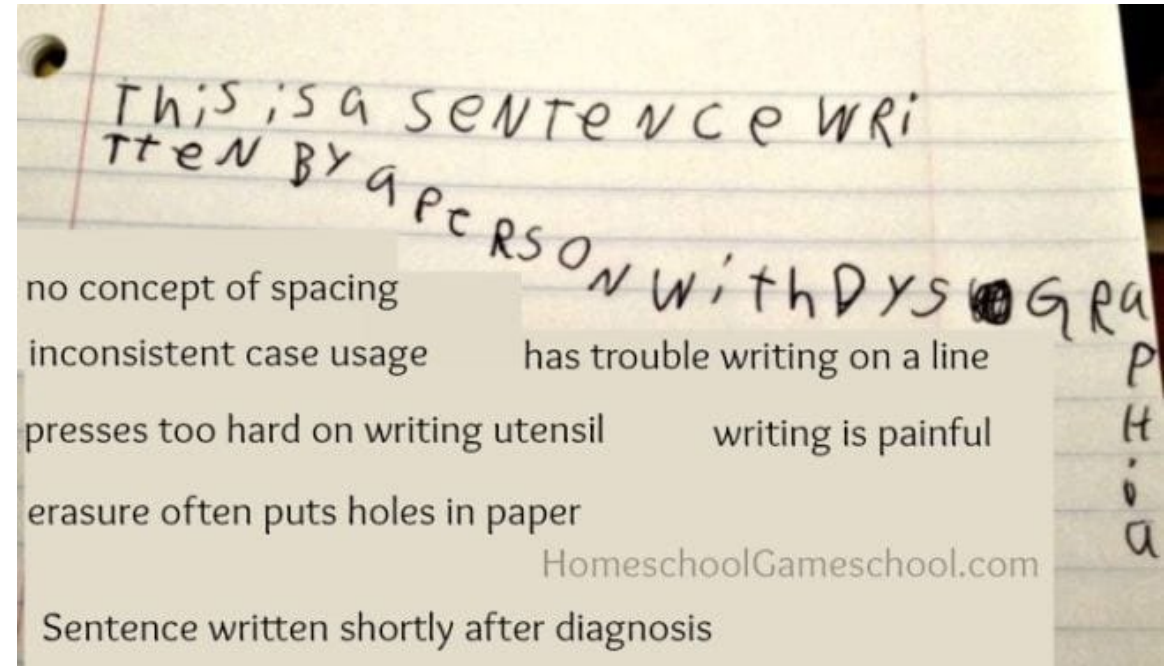


© Homeschool Cart

Dysgraphia

Defined as:

- "Impairment in Handwriting"
- Impairment in:
 - Letter production (writing letters)
 - Storing and finding letters in long-term memory
 - Planning serial finger movements



Dyscalculia

Defined as:

- “Impairment in Math”
- Most rare specific learning disability.

$$\begin{array}{r} 6 \\ \times 7 \\ \hline \end{array}$$

$$\begin{array}{r} 8 \\ \times 9 \\ \hline \end{array}$$

$$\begin{array}{r} 9 \\ \times 2 \\ \hline \end{array}$$

$$\begin{array}{r} 7 \\ \times 9 \\ \hline \end{array}$$

$$\begin{array}{r} 9 \\ \times 5 \\ \hline \end{array}$$

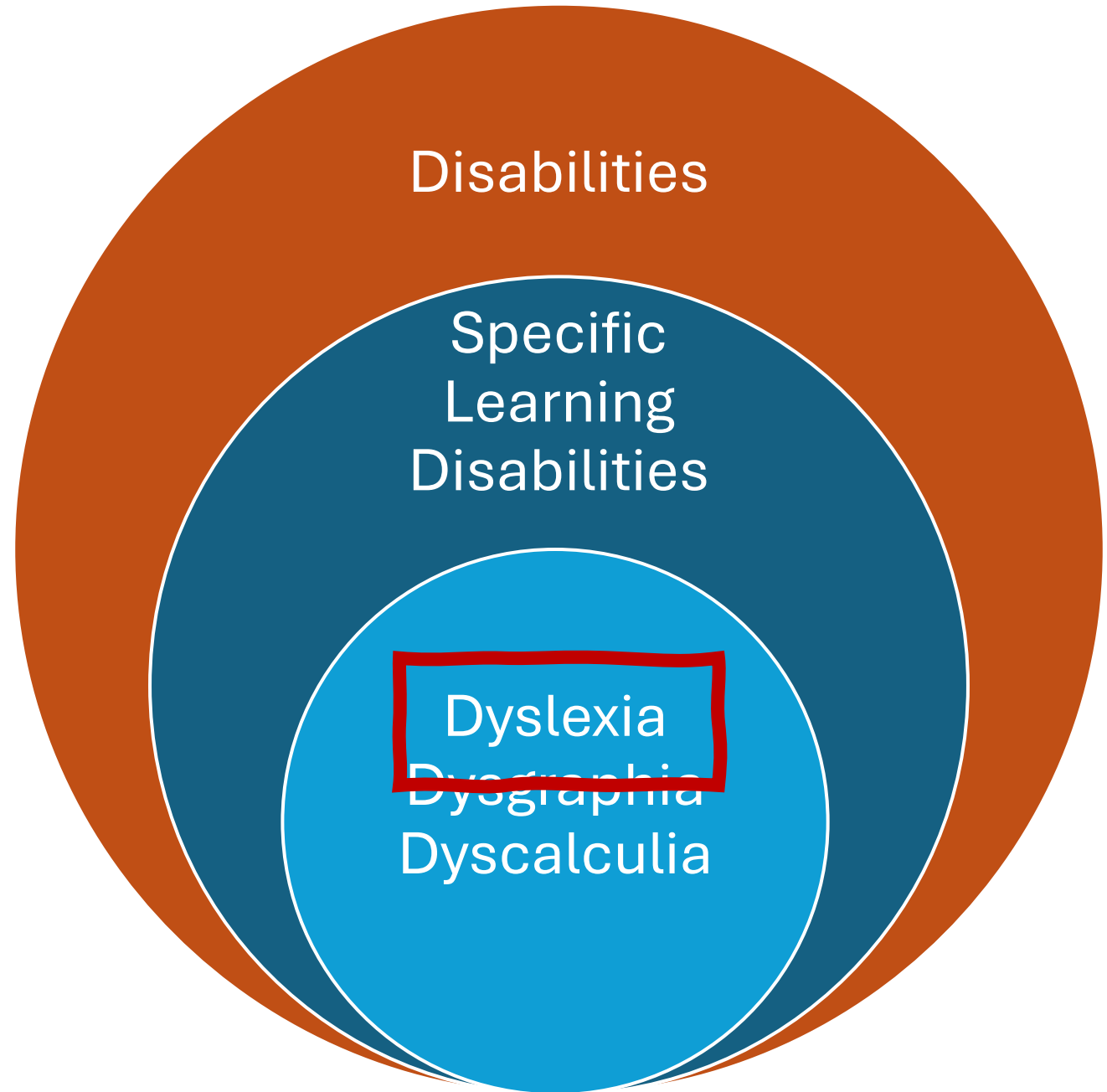
$$\begin{array}{r} 2 \\ \times 8 \\ \hline \end{array}$$

$$\begin{array}{r} 8 \\ \times 7 \\ \hline \end{array}$$

$$\begin{array}{r} 10 \\ \times 9 \\ \hline \end{array}$$

$$\begin{array}{r} 4 \\ \times 9 \\ \hline \end{array}$$

Dyslexia



Dyslexia




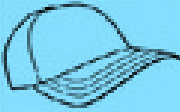
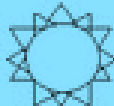

Most common specific learning disability.

Most well-researched.

Accounts for >80% of learning disabilities identified.

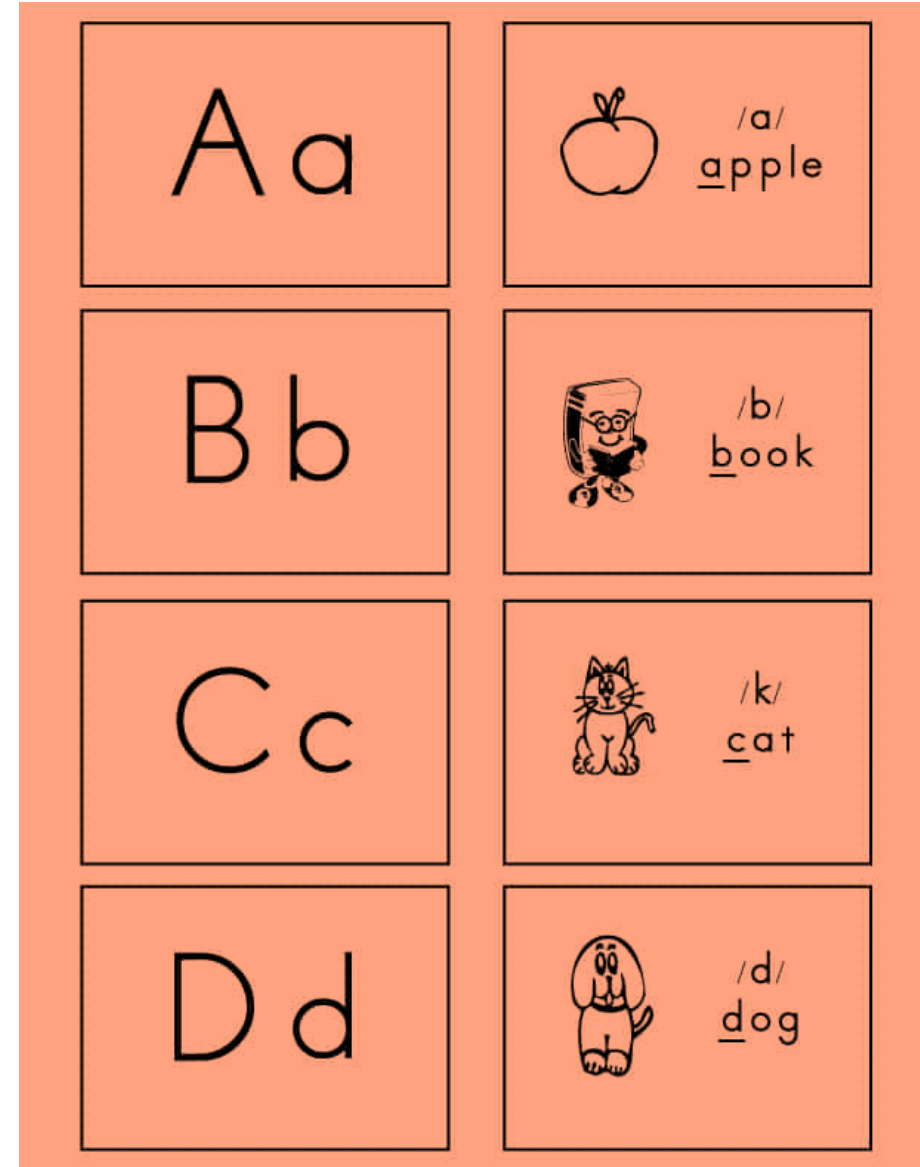
Name: _____ Date: _____

Learn to Read Three Letter Words.

	P	I	G	PIG
	B	E	E	BEE
	I	C	E	ICE
	C	A	P	CAP
	S	U	N	SUN
	C	A	N	CAN

Dyslexia is due to limited phonological awareness.

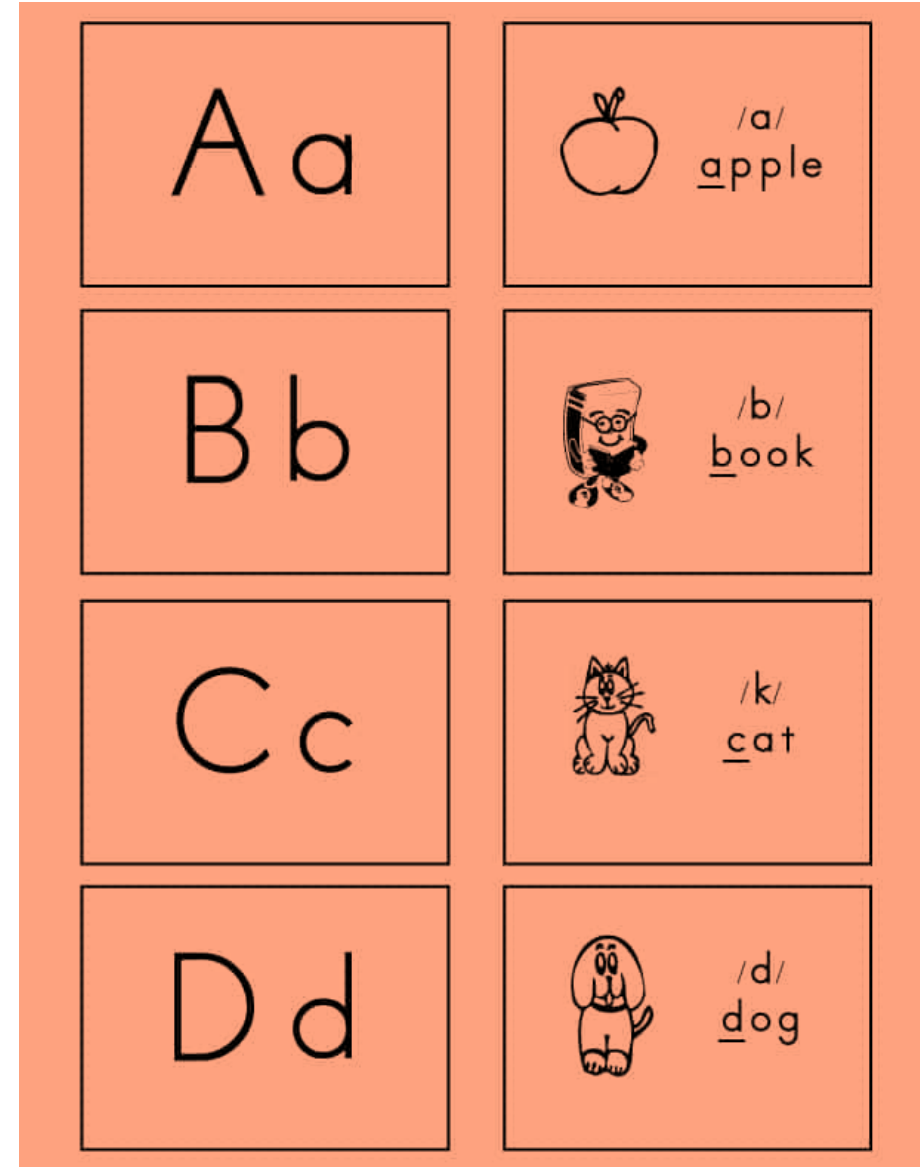
- **Phonological awareness** is the ability to recognize and manipulate the sounds in spoken words.
 - Difficulty attaching the letter form to the sound.
 - i.e. 'a' as in apple
 - Impacts fluency of reading, then reading comprehension, vocabulary etc..



Dyslexia is due to limited phonological awareness.

- **Not** secondary to visual processing/eye tracking deficits.
- **Not** related to flipping letters.

b -> d



Dyslexia Risk Factors:

- **Family history*****
- **Speech and language impairment** before or after PreK
- **Limited letter knowledge at the end of kindergarten.**



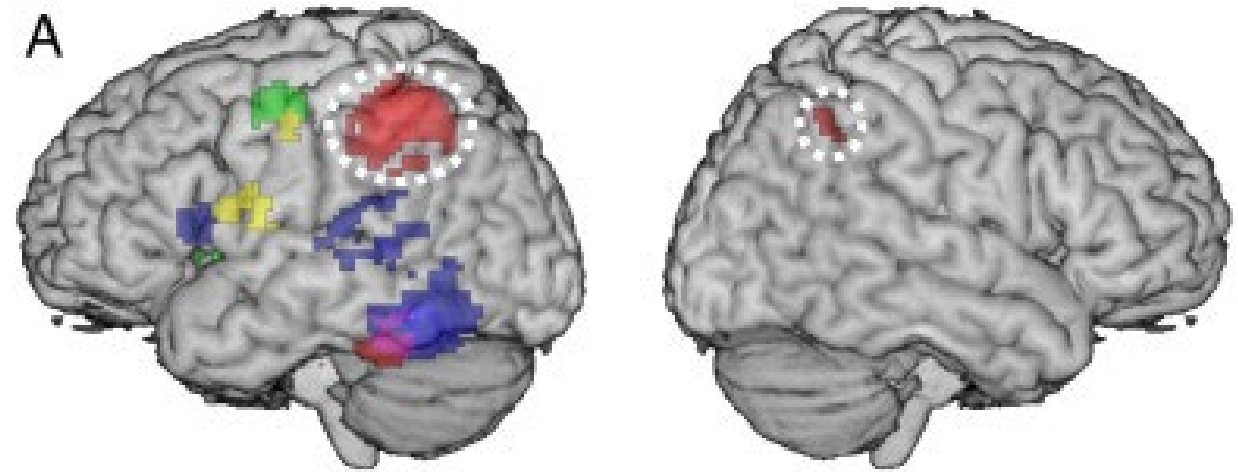
Dyslexia Risk Factors:

- Limited **phonological awareness**.
 - **Early Preschooler signs include:**
 - Difficulty rhyming/nursery rhymes.
 - Pronouncing words (may confuse words that sound alike).



Neuropathway Differences in Dyslexia

- Functional MRI (fMRI) studies indicate altered **left-hemisphere areas** including ventral occipito-temporal, temporo-parietal, and inferior frontal cortices (and their connections).
 - **Decreased difference** on fMRI **following reading interventions** in children with dyslexia as compared to controls have been identified.



- (A) Children dyslexic **underactivation** (red)
Adult dyslexic **underactivation** (blue)
Children dyslexic **overactivation** (yellow)
Adult dyslexic **overactivation** (green)
Overlapping regions are shown in violet.

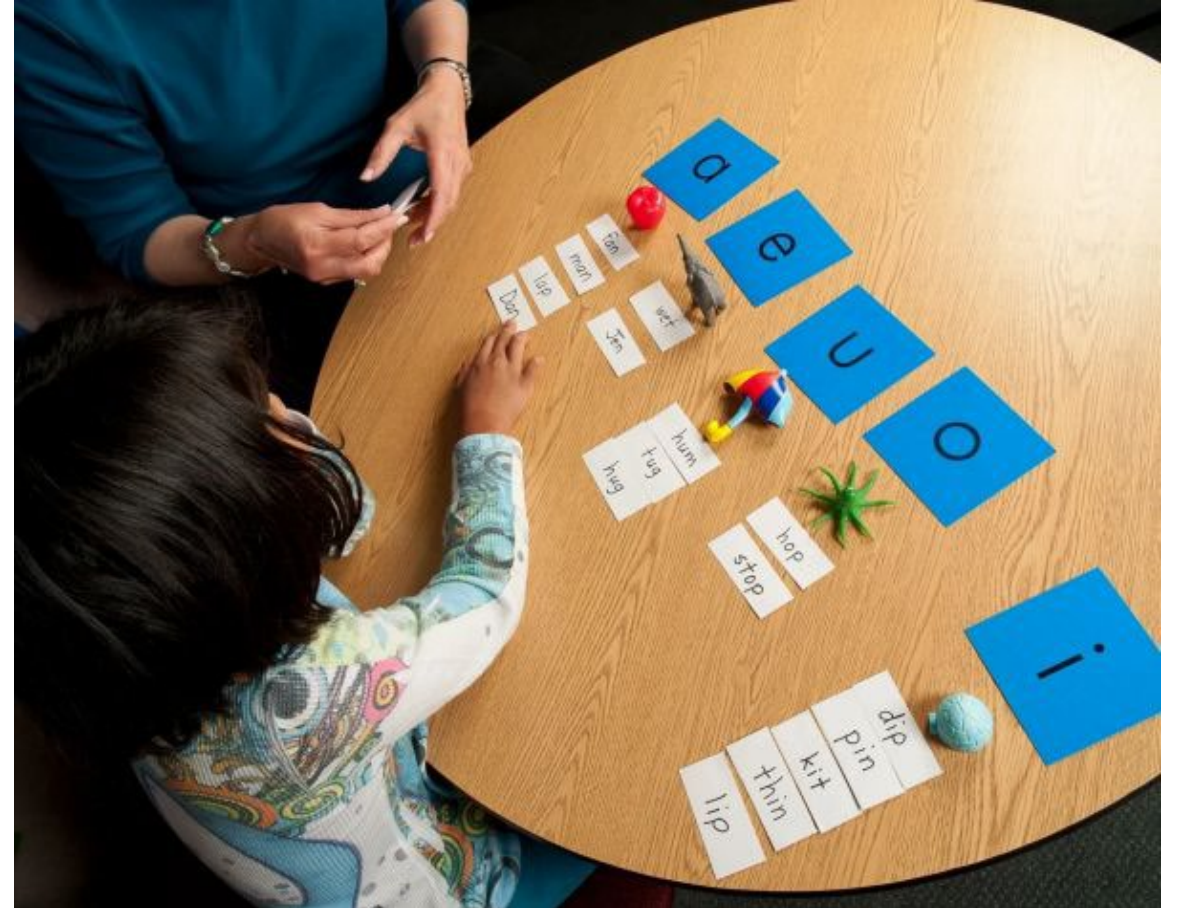
Dyslexia Evidence-based Interventions:

International Dyslexia Foundation recommends:

Structured Literacy Intervention

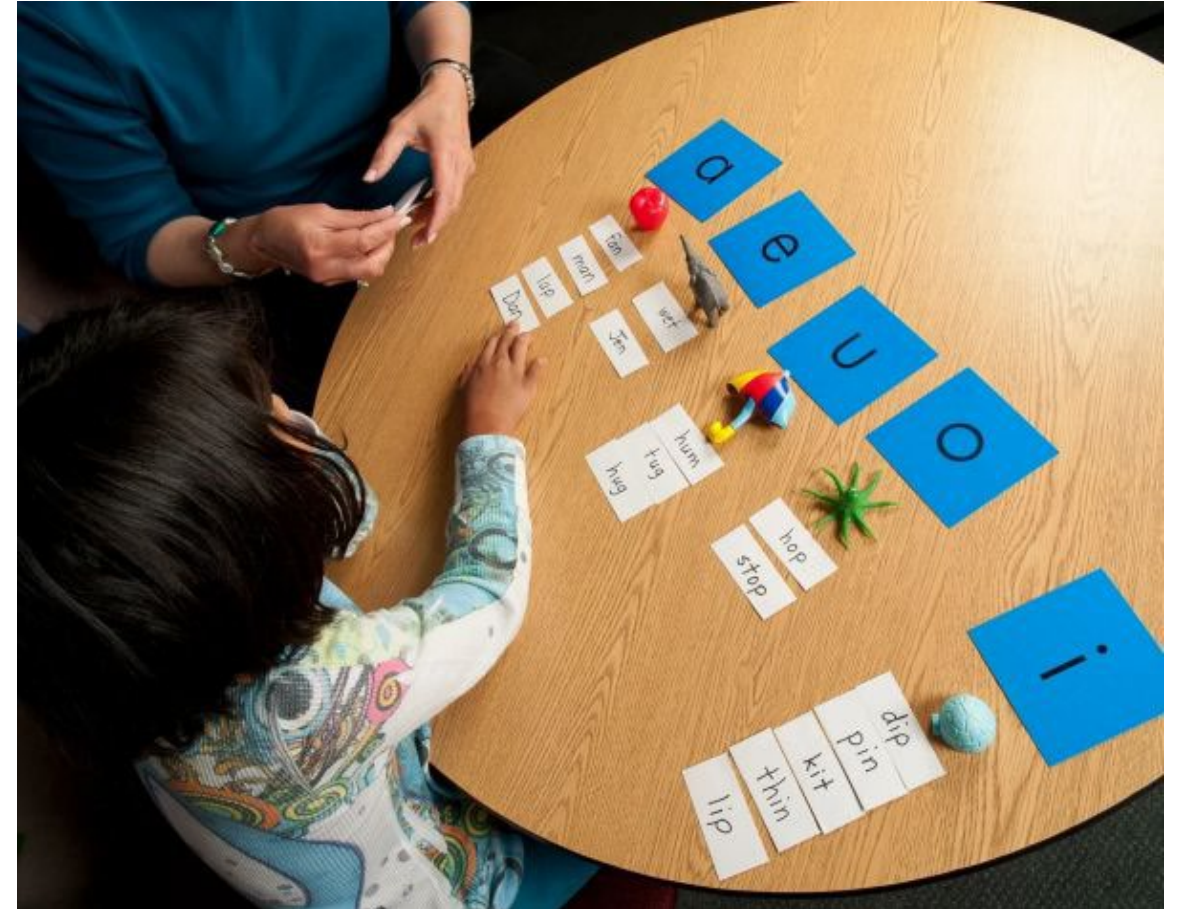
Must be:

- ***Systematic and Cumulative.***
 - Systematic = the organization of material follows the logical order of the language.
 - Cumulative = each step must be based on concepts previously learned.
- ***Explicit Instruction.***
 - Direct student-teacher interaction.
- ***Diagnostic Teaching.***
 - Individualized instruction that meets a student's needs.
 - Implements continuous assessment.



Dyslexia Evidence-based Interventions:

- Research suggests that reading intervention effects are **greatest** for younger students (minimally during or before **2nd** grade).
- Early intervention is required.



Dyslexia Evidence-based Interventions:

May obtained through:

1. **Private centers:** Structured Intervention Programs

- May use Orton Gillingham: Established in 1930s and uses multisensory approach in addition to components of evidence-based strategies.
- Self-pay with average costs of \$80-100 per hour.

2. **School-based Special education** and related services

- Individual education plan (IEP)



Interventions without Evidence for Dyslexia:

- Vision therapy
- Traditional tutoring
- Grade Retention





Dyslexia Prognosis:

- Longitudinal studies demonstrate reading scores can improve, but **gap remains** between them and children without reading disability.
- Gaps are more likely to remain when patient receives interventions **AFTER 2nd grade.**

Role of the Pediatrician

1. Early identification of learning disabilities.
2. Investigate potential medical etiologies of learning difficulties.
3. Manage other comorbid behavioral diagnoses (i.e. ADHD)
4. **Referral to local public school system for further psychoeducational evaluation or community-based interventions.**

Navigating Special

The pediatrician is a child's
guide and advocate.



Individuals with Disabilities Education Act (IDEA)

- **Individuals with Disabilities Education Act (IDEA)** is a law first passed in 1975 that makes available a ***free appropriate public education*** to eligible children with disabilities throughout the nation.



Obtaining School-based Special education and related services is essential when identifying any learning difficulties.

Obtaining Special Education starts at 3 years of age.

- **Psychoeducational evaluations** may test for:
 - Language skills
 - Cognitive abilities
 - Adaptive skills
 - Academic skills
 - Behavioral evaluation (i.e. Autism)




Obtaining Special Education:

- **Individual Education Plan (IEP)** includes specific **goals** and **services** with amounts and frequency.
 - Examples of services on an IEP include:
 - Therapies (speech therapy, occupational therapy etc..)
 - An augmentative communication device
 - Behavioral intervention plan (BIP)
 - Individual instruction with remediation for reading, math etc. for school-aged children.



IEP Eligibility Categories (**Exceptionalities**):

1. Speech/Language Impairment
2. Specific Learning Disability
3. Intellectual Disability
4. Autism Spectrum Disorder
5. Other Health Impairment
6. Emotional/Behavioral Disorder
7. Orthopedic Impairment
8. Hearing Impairment
9. Deafness
10. Vision Impairment
11. Deaf-Blindness
12. Traumatic Brain Injury
13. Multiple Disabilities

 **With exception of Other Health Impairment (including ADHD)**
NO MEDICAL DIAGNOSIS IS REQUIRED TO OBTAIN SPECIAL
EDUCATION SERVICES (or an IEP).



Parent/caregiver Request for Psychoeducational Evaluation Timeline

15:60:30:30 RULE

15 days

60 days

30 days

30 days

Initial
Evaluation
Request by
Caregiver*



Consent
from
Parents to
Initiate
Evaluation



Psychoedu
-cational
Evaluation
Completed



IEP
Meeting



Implement
IEP

*The school district can refuse this request but must provide you with a written explanation of the reason the request was denied.

***Recommended parents request evaluation in writing.**

Re-evaluation for Children with IEP

- Public schools are responsible to re-evaluate students eligible for services at least **every 3 years.**
- Evaluations will **not be completed more than once in a year.**



SPECIFIC Learning Disability (SLD) most common exceptionality nationally.

SLD accounts for ~32% of children receiving special education services.

Speech or language impairment (SLP) (19%)

Other health impairment (OHI)(15%)

Autism spectrum disorder (ASD) (13%)

Developmental Delay (7%)



504 Plans

- The name comes from **Section 504 of the Rehabilitation Act**.
- Prohibits discrimination against people with disabilities in federally funded programs and activities. This includes public schools and publicly funded private schools.
- May apply to other medical conditions (i.e. diabetes, epilepsy)
- Examples include:
 - Preferential seating
 - Extended time for tests and/or assignments
 - Testing alone
 - Supplementing verbal instructions with visual/written instructions
 - Extra books to take home

Pediatrician's can empower a caregiver to be his/her child's advocate in the special education system.

Disability Rights are Human Rights

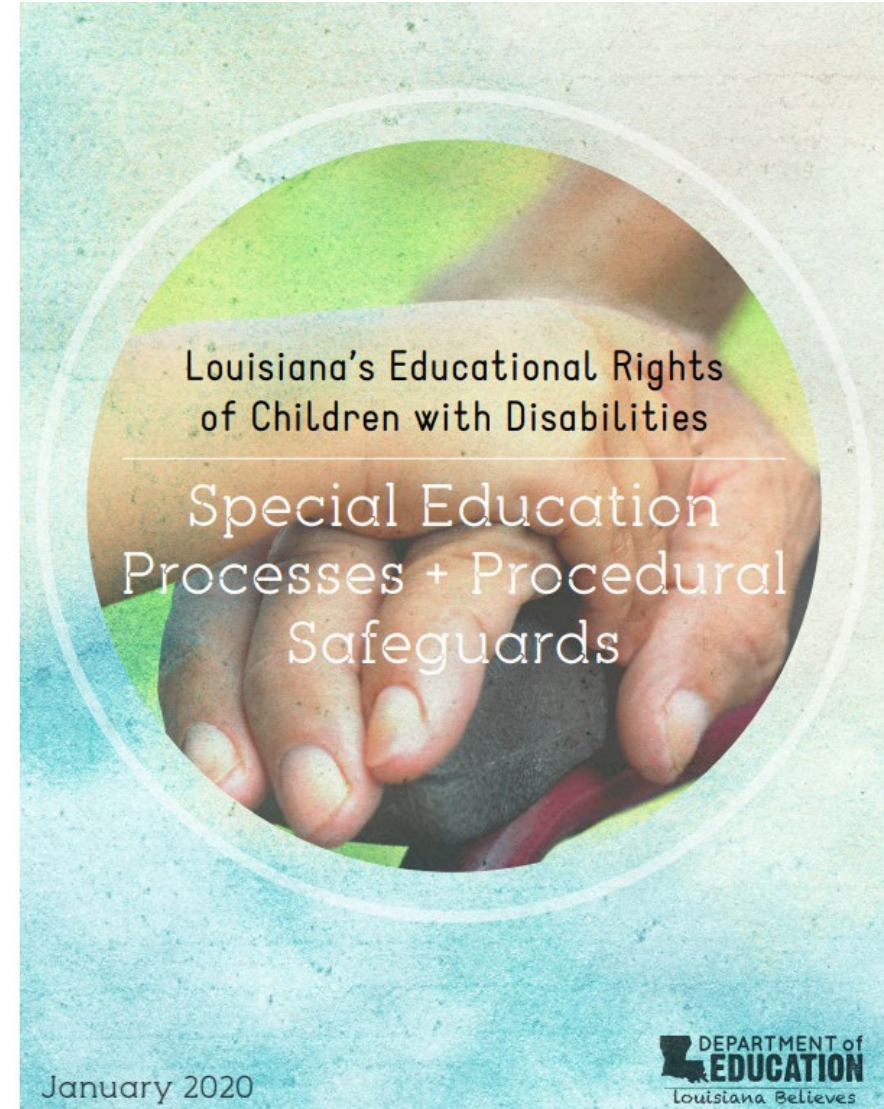
Know your rights and empower yourself!



Resources for Advocating for Special Education Services

Written resources include:

- **Louisiana Department of Education Special Education Processes and Procedural Safeguards**
 - Parent/caregiver friendly booklet about rights.
- **Bulletin 1508 - Pupil Appraisal Handbook**
- **Bulletin 1706—Regulations for Implementation of the Children with Exceptionalities Act**



Resources for Advocating for Special Education Services

Organizations to support families include:

- **Disability Rights LA**
 - Statewide non-profit agency providing **free** legal services, advocacy, and other supports to people with disabilities of all ages.
- **Families Help Families**
 - Statewide network of ten family-directed and family-staffed regional resource centers which provide information on all types of services.
 - Obtain a **school advocate** and guidance.



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QUESTIONS