

# Autism Diagnosis: The Gateway to Intervention

Rebecca McNally Keehn, PhD, HSPP  
Assistant Professor of Pediatrics  
Indiana University School of Medicine



# Disclosures

No relevant financial relationships

My own work has been funded by:

- National Institutes of Health
- Riley Children's Foundation
- Indiana State Department of Health
- Indiana Clinical and Translational Sciences Institute
- Purdue University
- Cook Group Incorporated Advances in Medicine (AIM)



# Introduction to the Problem



# Autism Diagnostic Delays & Disparities

1. Phenotypic differences in those who receive later autism diagnosis emerge in the first year of life (see Zwaigenbaum & Penner, 2018 for review)
2. Behavioral phenotype becomes stable in second year with > 80% diagnostic stability by 14 months (Pierce et al., 2019)
3. Median age of autism diagnosis is after age 4 in US (Maenner et al; 2023)
4. Children from minoritized racial, ethnic, and socioeconomic backgrounds and rural regions diagnosed later or less frequently (Wiggins et al., 2020)



# Delays in Diagnosis = Public Health & Military Problem

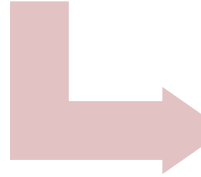


- Extended family separation
- Frequent moves
- Variable access to specialty care
- Family financial burdens
- Lack of social support

Shortage of expert  
clinicians  
Time/cost intensive  
evaluation models

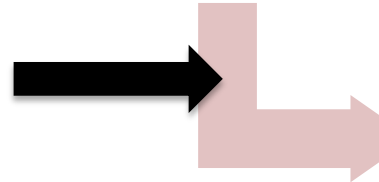


Long wait times  
Travel burden



Delays in age of diagnosis

**Medical diagnosis of autism is the  
GATEWAY to intervention**



Delays in entry into  
intervention

# Gateway Barriers

1. Specific diagnostic tests and assessments
2. Documentation of levels of support
3. Specialists as only valid diagnosticians
4. Modality of diagnostic evaluation
5. Regular diagnostic re-evaluation to continue intervention services



# Barriers & Opportunities





# Barrier # 1: Specific tests & assessments

Consensus suggests that, at minimum, evaluation of young children includes:

1. Developmental history & diagnostic interview
  - Developmental history and current symptoms of autism, including how symptoms impact current functional status across settings
2. Behavioral observation
  - Assess current social communication and interaction skills and behavior, which may include administration of a standardized tool

***No one assessment tool is universally appropriate or sufficient for diagnosis***



## Barrier # 2: Levels of support

A diagnosis is not sufficient for intervention planning

Intervention planning must consider

1. The unique needs of the individual
2. Family priorities and cultural considerations
3. Community resources

***DSM-5 Autism Severity Specifier/Level of Support is not an evidence-based method for determining support needs***



# Barrier # 3: Valid diagnosticians

Community-based diagnostic models reduce barriers to autism diagnosis

1. Improve equitable access
2. Reduce age of diagnosis
3. Result in accurate diagnosis
4. May improve access to specialists for children who require greater expertise

American Academy of Pediatrics now endorses primary care providers with training in application of DSM-5 autism criteria

***Requiring diagnostic evaluation to be conducted by specialists is not aligned with current evidence***



## Barrier # 4: Modality of evaluation

Evidence-base for tele-assessment of autism is rapidly growing

1. Caregiver and clinic-based remote assessment tools available
2. Acceptable to families and clinicians
3. Used with high degree of clinician certainty
4. High rates of diagnostic agreement with in-person assessment

***Requiring face-to-face diagnostic evaluation is not in line with current evidence***



# Barrier # 5: Diagnostic re-evaluation

Autism is lifelong developmental disability with high diagnostic stability

Repeated diagnostic evaluation for intervention authorization causes unnecessary burden on:

1. Families
2. Service systems
3. Payors

***Authorization for intervention should consider changes in functional needs and goals of the individual and family***



# Opportunities to Open the Gateway

Consider the evolving evidence in updating requirements for diagnosis

- Flexible selection of diagnostic methods tailored to individual, setting, clinician expertise
- Expand definition of qualified diagnosticians
- De-couple diagnosis with intervention planning

Consider the impact of policies on equitable access to care



# Thank You



**INDIANA UNIVERSITY**  
SCHOOL OF MEDICINE



**Riley Children's Health**  
Indiana University Health

- Zwaigenbaum L, Penner M. Autism spectrum disorder: advances in diagnosis and evaluation. *BMJ (Clinical research ed)*. May 21 2018;361:k1674. doi:10.1136/bmj.k1674
- Pierce K, Gazestani VH, Bacon E, et al. Evaluation of the Diagnostic Stability of the Early Autism Spectrum Disorder Phenotype in the General Population Starting at 12 Months. *JAMA pediatrics*. Jun 1 2019;173(6):578-587. doi:10.1001/jamapediatrics.2019.0624
- Maenner MJ, Warren Z, Williams AR, et al. Prevalence and characteristics of autism spectrum disorder among children aged 8 years—Autism and Developmental Disabilities Monitoring Network, 11 sites, United States, 2020. *MMWR Surveillance Summaries*. 2023;72(2):1.
- Wiggins LD, Durkin M, Esler A, et al. Disparities in documented diagnoses of autism spectrum disorder based on demographic, individual, and service factors. *Autism Research*. 2020;13(3):464-473.
- Farley BE, Griffith A, Mahoney A, Zhang D, Kruse L. Brief Report: Identifying Concerns of Military Caregivers with Children Diagnosed with ASD Following a Military Directed Relocation. *Journal of autism and developmental disorders*. 2022:1-7.
- Klin A, Wetherby AM, Woods J, et al. Toward innovative, cost-effective, and systemic solutions to improve outcomes and well-being of military families affected by autism spectrum disorder. *The Yale Journal of Biology and Medicine*. 2015;88(1):73.
- Cidav Z, Munson J, Estes A, Dawson G, Rogers S, Mandell D. Cost Offset Associated With Early Start Denver Model for Children With Autism. *Journal of the American Academy of Child and Adolescent Psychiatry*. Sep 2017;56(9):777-783. doi:10.1016/j.jaac.2017.06.007
- Kuhlthau KA, McDonnell E, Coury DL, Payakachat N, Macklin E. Associations of quality of life with health-related characteristics among children with autism. *Autism : the international journal of research and practice*. Oct 2018;22(7):804-813. doi:10.1177/1362361317704420
- Zwaigenbaum L, Warren Z. Commentary: embracing innovation is necessary to improve assessment and care for individuals with ASD: a reflection on Kanne and Bishop (2020). *Journal of Child Psychology and Psychiatry*. 2021;62(2):143-145.
- Hyman SL, Levy SE, Myers SM. Identification, Evaluation, and Management of Children With Autism Spectrum Disorder. *Pediatrics*. Jan 2020;145(1)doi:10.1542/peds.2019-3447
- Penner M, Anagnostou E, Andoni LY, Ungar WJ. Systematic review of clinical guidance documents for autism spectrum disorder diagnostic assessment in select regions. *Autism : the international journal of research and practice*. 2018;22(5):517-527.
- Weitlauf AS, Gotham KO, Vehorn AC, Warren ZE. Brief report: DSM-5 "levels of support:" a comment on discrepant conceptualizations of severity in ASD. *Journal of autism and developmental disorders*. Feb 2014;44(2):471-6. doi:10.1007/s10803-013-1882-z
- Penner M, Lai M-C. Enhancing access to autism diagnostic services for children in the community. *Autism : the international journal of research and practice*. 0(0):13623613231201212. doi:10.1177/13623613231201212
- Wieckowski AT, Zuckerman KE, Broder-Fingert S, Robins DL. Addressing current barriers to autism diagnoses through a tiered diagnostic approach involving pediatric primary care providers. *Autism Research*. 2022;
- Corona LL, Wagner L, Hooper M, et al. A Randomized Trial of the Accuracy of Novel Telehealth Instruments for the Assessment of Autism in Toddlers. *Journal of autism and developmental disorders*. 2023:1-12.
- Stavropoulos KK-M, Bolourian Y, Blacher J. A scoping review of telehealth diagnosis of autism spectrum disorder. *PloS one*. 2022;17(2):e0263062.
- Giserman-Kiss I, Carter AS. Stability of autism spectrum disorder in young children with diverse backgrounds. *Journal of autism and developmental disorders*. 2020;50:3263-3275.