

# Autism Assessments by Developmental Behavioral Pediatricians at Academic Medical Centers: A DBPNet study



Robin L Hansen, M.D.<sup>1,2</sup> Nathan J. Blum<sup>3,4</sup>, Amy Gahman<sup>3</sup>, Justine Shults<sup>3,4</sup> and the DBPNet Steering Committee:  
<sup>1</sup>Pediatrics, UC Davis, Sacramento, CA; <sup>2</sup>UC Davis MIND Institute, Sacramento, CA; <sup>3</sup>The Children's Hospital of Philadelphia;  
<sup>4</sup>Perelman School of Medicine at the University of Pennsylvania



## Introduction

The prevalence of autism spectrum disorders (ASD) continues to increase(1), as does the evidence of the importance of early identification and treatment for optimal outcomes(2). Long waiting lists and other barriers to early diagnosis exist in many parts of the United States and Canada. Varying recommendations for assessment of ASD in clinical practice have been proposed (3,4,5,6) that include the use of inter-disciplinary assessments as well as standardized assessment using research validated instruments such as the Autism Diagnostic Observation Schedules (ADOS) and Autism Diagnostic Interview-revised (ADI-R). However, little is known about the actual practices used by clinicians in general pediatric practice or by subspecialists.

The objectives of this study were to describe the clinical practices used to diagnose ASD by physicians in DBPNet, a research consortium of twelve developmental behavioral pediatrics training sites.

## Methods

This is a prospective descriptive study. All board certified/eligible developmental behavioral (DBP) or neurodevelopmental disabilities (NDD) pediatricians at each of the twelve academic medical centers of DBPNet sites who provided care for children with autism spectrum disorders were asked to complete a self-report clinician survey providing demographic data including age, gender, subspecialty certification and information about their clinical practices, and a one page encounter form of demographic/clinical information for up to 10 consecutive new cases given a diagnosis of either ASD or ADHD. 65 of 78 eligible physicians (83%) returned at least encounter one form; 56 returned forms for ASD analyzed for this study and 52 of these completed the clinician survey (see table 1). For sites regularly using multi-visit diagnostic assessments, physicians were instructed to complete the form at the final visit and to consider the information gathered at earlier visits in completing the survey. Physicians participated until they completed 10 surveys or had participated in the study for 2 months, whichever period was shorter. Data were summarized using descriptive statistics. Analysis of the statistical significance of differences between sites was restricted to the 10 sites reporting 13 or more ASD forms and utilized general estimating equations to adjust for clustering by clinician within site.

## Results

Table 1. Participating Clinician Demographic Data (N=52)<sup>1</sup>

CHARACTERISTICS	Mean or percent	Standard Deviation or Range
Mean Age $\pm$ SD <sup>2</sup>	48.1	$\pm$ 8.7 years
% female	85%	
% full time	64%	
Mean % FTE Effort for part-time physicians $\pm$ SD (n=19)	7.18%	$\pm$ 17.6% (30-90%)
% Board Certified or eligible in DBP	98.1%	
% Board Certified or eligible in NDD	15.4%	
Years Since Completing Fellowship (n = 47)	13.9	$\pm$ 11.2 years (0-50)
Clinical Sessions per Week Seeing Patients on Own	3.5	$\pm$ 2.4 sessions 0-8
Clinical Sessions per Week Seeing Patients in Supervisory Capacity	1.3	$\pm$ 1.4 sessions (0-7)

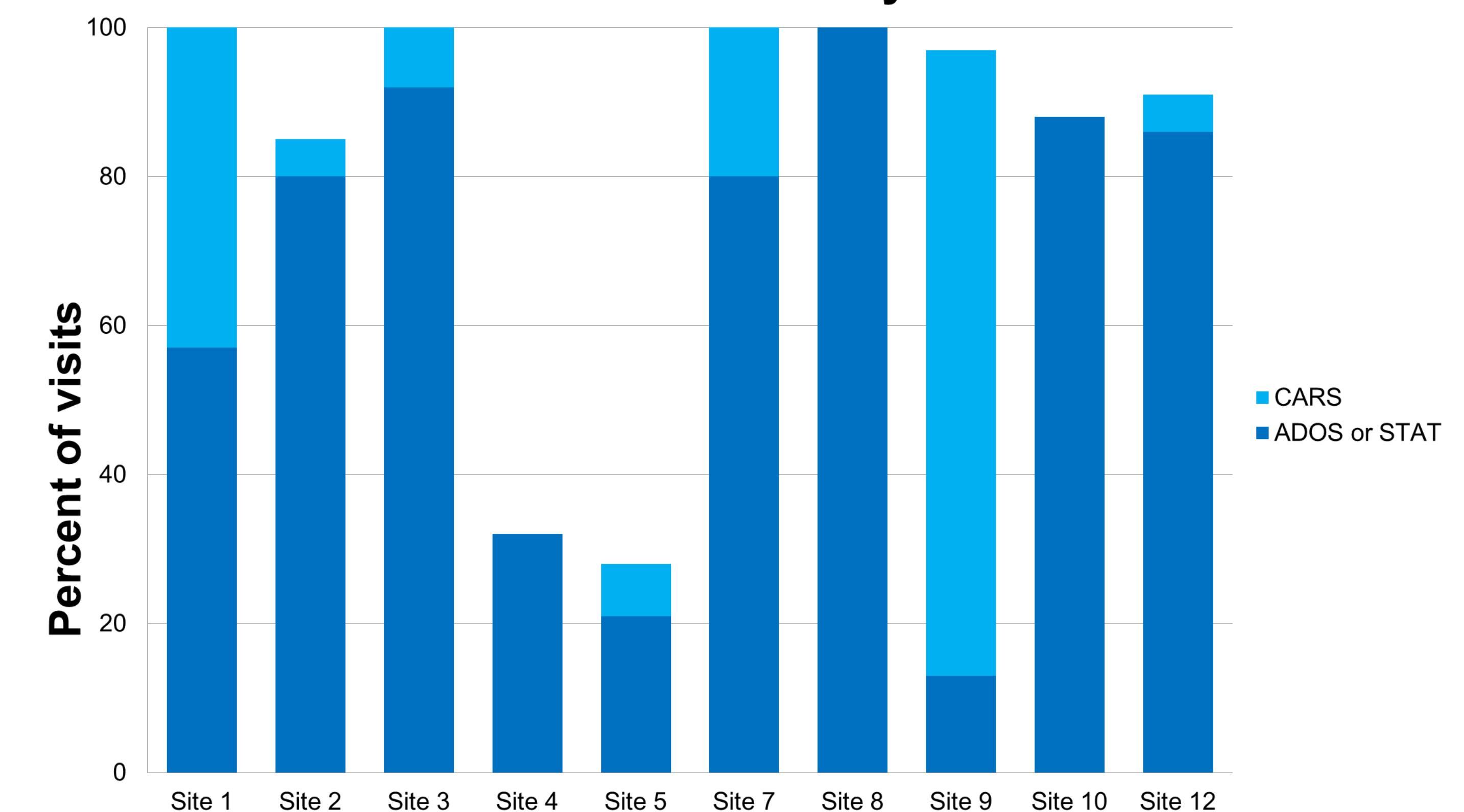
<sup>1</sup>Data was missing for four physicians  
<sup>2</sup>Data on age was available for 51 clinicians

284 ASD forms were submitted (range 3-49 per site). Most assessments (159/284, 56%) were completed in one visit to the DBP, 27.5% in 2 and 8.6% in 3 visits. Structured parent interviews using the ADI-R or DISC were done in only 3.9% of visits.

A developmental assessment was reviewed or done at 87.7% of encounters (range 77.8-100%; p=0.061). A parent behavior rating scale was reviewed or done at 65.9% of diagnostic encounters (range 35.7-91.4%; p<0.01) and a teacher behavior rating scale at 38.4% (range 15-69.2%; p=0.09).

The Autism Diagnostic Observation Schedules (ADOS) or Screening Tool for Autism in Toddlers and Young Children (STAT) was reviewed or done at 66.2% of diagnostic encounters and the CARS at 21.5%. ADOS or STAT use varied from 12.9% to 100 % (p<0.001) at 10 sites reporting at least 13 encounters; CARs use varied from 0-83.9% (P<0.001). Use of the CARS, ADOS, or STAT varied from 28.6% to 100 % of encounters (p<0.001). Figure 1

ASD Tests Used By Site



## Conclusions

The majority of diagnostic evaluations for ASD within DBPNet included a developmental assessment, ASD specific assessment tools and parent rating scales, with significant variability in the ASD assessment tools used and in the use of parent behavior rating scales. These findings document the multiple components of assessment utilized by DBPNet physicians for clinical ASD diagnostic evaluations as well as the variability across academic training sites.

## References

1. Prevalence of autism spectrum disorder among children aged 8 years- autism and developmental disabilities monitoring network, 11 sites, United States, 2010. MMWR Surveill Summ 2014; Mar 28; 63 Suppl2:1-21
2. Rogers SJ, Vismara L Evidence-based comprehensive treatments for early autism. J Clin Child Adolesc Psychol 2008; 37:8-38
3. Johnson CP, Syers SM. AAP Council on Children with Disabilities. Identification and evaluation of children with autism spectrum disorders. Pediatrics. 2007; 120:1183-1215
4. Volkmar F, Siegel M, Woodbury-Smith M et al. Practice parameter for the assessment of children and adolescents with autism spectrum disorder J Am Acad Child Adolesc Psychiatry 2014; 53: 237-257
5. Falkmer T, Anderson K, Falkmer M, Horlin C Diagnostic procedures in autism spectrum disorders: a systematic literature review. Eur Child Adolesc Psychiatry 2013; 22:329-340
6. Filipek PA, Acardo PJ, Ashwal S Practice parameter: screening and diagnosis of autism: report of the quality standards subcommittee of the American Academy of Neurology and the Child Neurology Society. Neurology 2000; 55: 468-479

DBPNet is supported by Project UA3MC20218 from the Maternal Child Health Bureau (Public Health Service Act, Section 399BB(e)(1)(A), as amended by the Combating Autism Act of 2006), Health Resources and Services Administration, Department of Health and Human Services