2022 Summary of Advances Nominations

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Editorial note from the Office of Autism Research Coordination (OARC):
As a reminder, through discussions in recent Committee meetings, the *IACC Summary of Advances* mainly focuses on original research articles. The Committee has also avoided including articles that represent preliminary results or very small studies, as well as commentaries, literature reviews, and working group recommendations. OARC staff have indicated in **bolded yellow highlight** select studies that might not meet the criteria for inclusion in this list of nominations, for Committee consideration.

Screening and Diagnosis

HRSA	**Nominated article:** Barbaresi W, Cacia J, Friedman S, Fussell J, Hansen R, Hofer J, Roizen N, Stein REK, Vanderbilt D, Sideridis G. Clinician Diagnostic Certainty and the Role of the Autism Diagnostic Observation Schedule in Autism Spectrum Disorder Diagnosis in Young Children. *JAMA Pediatr*. 2022 Dec 1;176(12):1233-1241. [PMID: 36251287]
	Justification from IACC member who nominated article: This is a study on the consistency between a Developmental Behavioral Pediatricians (DBP) diagnostic impression (ASD or not ASD) before the Autism Diagnostic Observation Schedule (ADOS) and then again after the ADOS was administered. ADOS is considered part of comprehensive clinical evaluations for a diagnosis for ASD and is frequently required by insurers (including Tricare), Early Intervention programs or schools for children to access intervention and treatment for ASD. It requires at least 45 minutes to administer and another 30 minutes for scoring and report writing. In this study, clinical diagnoses of ASD by DBPs prior to the ADOS and after the ADOS were consistent in 90% of cases. Further analysis suggests that the ADOS is often not required for ASD diagnosis by DBPs and that DBPs can identify children for whom the ADOS may be helpful. ASD diagnostic assessments that do not include the ADOS are less time consuming and costly, potentially leading to more streamlined assessments that could improve access to timely diagnosis and reduced barriers to intervention and treatment
NICHD	**Nominated article:** Bodfish JW, Lecavalier L, Harrop C, Dallman A, Kalburgi SN, Hollway J, Faldowski R, Boyd BA. Measuring the Functional Impact of Behavioral Inflexibility in Children with Autism Using the Behavioral Inflexibility Scale: Clinical Interview (BIS-CI). *J Autism Dev Disord*. 2022 Feb;52(2):782-790. [PMID: 33811282]
	Justification from IACC member who nominated article: The objective of this study was to develop and validate a clinical interview version of the Behavioral Inflexibility Scale (BIS-CI) to address the need for psychometrically sound outcome measures in autism intervention studies. One of the features of ASD is the presence of restrictive and repetitive behaviors (RRBs), interests, and activities. This study provided data to show that the BIS-CI is a reliable, stable, valid and unidimensional measure of functional impairment associated with RRBs in children with ASD. If these psychometric characteristics are replicated in an independent sample, the BIS-CT will be a good candidate as a treatment outcome measure.
Lindsey Nebeker	**Nominated article:** Dursun OB, Turan B, Öğütlü H, Binici NC, Örengül AC, Alataş E, Özdemir RM, Taşlıbeyaz E, Karaman S, Mukaddes NM, on behalf of Turkish Autism Workgroup. A new model for recognition, referral, and follow-up of autism spectrum disorder: A nationwide program. *Autism Research*. 2022. 15(10), 1961– 1970. https://doi.org/10.1002/aur.2813
	Justification from IACC member who nominated article: In this study, a nationwide recognition and referral model for early identification of autism is presented. Scale-based screening (SBS) is the most recommended model for autism, however, it is clear that most countries can not implement this model in their health system. The results of this study, which reached to the largest sample to date,

	suggest that SBS may not be the only method for screening ASD and that alternative methods should be tried, as there is an obvious need for exploratory approaches.
ED	**Nominated article:** Rooney T, Stern YS, Hampton LH, Grauzer J, Hobson A, Levin A, Jones MK, Kaat AJ, Roberts MY. Screening for Autism in 2-Year-Old Children: The Application of the Systematic Observation of Red Flags to the Screening Tool for Autism in Toddlers and Young Children. *Am J Speech Lang Pathol*. 2022 Nov 16;31(6):2759-2769. [PMID: 36306799]
	Justification from IACC member who nominated article: A multi-measure approach was developed to capitalize on the strengths of two screening measures: the Screening Tool for Autism in Toddlers and Young Children (STAT), an observational measure of social communication, and the Systematic Observation of Red Flags (SORF), a checklist including restricted and repetitive behavior (RRB) items. This approach offers a novel method of identifying autism in toddlers. This was a retrospective study of data collected from a multidisciplinary diagnostic program for 24- to 36-month-olds with developmental delays. Raters with autism expertise but naïve to diagnoses applied the SORF to STAT videos. Psychometrics were derived for the SORF on STAT observations and a multiple-measure approach that used a Least Absolute Shrinkage and Selection Operator modeling framework to construct a STAT-SORF RRB Hybrid, retaining SORF RRB items based on individual predictive abilities. The SORF alone correctly classified 84% of the sample (84% sensitivity and 86% specificity). The STAT-SORF RRB Hybrid model, which retained four SORF RRB items, correctly classified 90% of a validation sample (95% sensitivity and 75% specificity). These findings highlight the potential utility of using multiple autism identification tools and regression-based scoring to establish presumptive eligibility and facilitate early access to autism interventions. This approach could be used to determine presumptive eligibility for autism-specific services for toddlers enrolled in early intervention, which has the potential to address disparities in early autism identification.
NIMH, NICHD	**Nominated article:** Schaaf RC, Mailloux Z, Ridgway E, Berruti AS, Dumont RL, Jones EA, Leiby BE, Sancimino C, Yi M, Molholm S. Sensory Phenotypes in Autism: Making a Case for the Inclusion of Sensory Integration Functions. *J Autism Dev Disord*. 2022 Sep 27. [PMID: 36167886]
	Justification from IACC member who nominated article: Sensory features are part of the diagnostic criteria for autism and include sensory hypo/hyper reactivity and unusual sensory interest; however, additional sensory differences, namely differences in sensory integration, have not been routinely explored. This study characterized sensory integration differences in a cohort of children with a confirmed diagnosis of autism using a standardized, norm-referenced battery. Findings suggest additional sensory difficulties that are not typically assessed or considered when characterizing sensory features in autism. These data have implications for a greater understanding of the sensory features in the autism phenotype.
CDC	**Nominated article:** Wiggins LD, Tian LH, Rubenstein E, Schieve L, Daniels J, Pazol K, DiGuiseppi C, Barger B, Moody E, Rosenberg S, Bradley C, Hsu M, Robinson Rosenberg C, Christensen D, Crume T, Pandey J, Levy SE. Features that best define the heterogeneity and homogeneity of autism in preschool-age children: A multisite case-control analysis replicated across two independent samples. *Autism Res*. 2022 Mar;15(3):539-550. [PMID: 34967132]

	Justification from IACC member who nominated article: The diverse nature of autism spectrum disorder (ASD) makes it difficult to find risk factors and treatment options. The authors identified the most dissimilar and most similar symptom(s) in children classified as ASD and as having subthreshold ASD characteristics. Factors associated with dysregulation and developmental abilities contributed to diversity in both groups of children. Sensory dysfunction was the most common symptom in children with ASD but not those with subthreshold characteristics. Findings can inform clinical practice and research.
Biology	
Lindsey Nebeker	**Nominated article:** Ahmed E, Mansour A, Amer A. Screening of gastrointestinal symptoms and celiac disease in children with autism spectrum disorder. *Egypt J Otolaryngol.* 2022; 38, 81. https://doi.org/10.1186/s43163-022-00270-6
	Justification from IACC member who nominated article: Gastrointestinal issues are frequent in ASD children and may lead to ASD behavioral symptoms. This research found no evidence to demonstrate a connection between autism spectrum disorder and celiac illness.
Alycia Halladay	**Nominated article:** Baribeau DA, Vigod SN, Pullenayegum E, Kerns CM, Vaillancourt T, Duku E, Smith IM, Volden J, Zwaigenbaum L, Bennett T, Elsabbagh M, Zaidman-Zait A, Richard AE, Szatmari P. Developmental cascades between insistence on sameness behaviour and anxiety symptoms in autism spectrum disorder. *Eur Child Adolesc Psychiatry*. 2022 Jul 24. [PMID: 35871413]
	Justification from IACC member who nominated article: Member justification pending.
Alycia Halladay	**Nominated article:** Bradshaw J, Schwichtenberg AJ, Iverson JM. Capturing the complexity of autism: Applying a developmental cascades framework. *Child Dev Perspect*. 2022 Mar;16(1):18-26. [PMID: 36407945]
	Justification from IACC member who nominated article: Member justification pending.
Lindsey Nebeker	**Nominated article:** Burrows CA, Grzadzinski RL, Donovan K, Stallworthy IC, Rutsohn J, St John T, Marrus N, Parish-Morris J, MacIntyre L, Hampton J, Pandey J, Shen MD, Botteron KN, Estes AM, Dager SR, Hazlett HC, Pruett JR Jr, Schultz RT, Zwaigenbaum L, Truong KN, Piven J, Elison JT; IBIS Network. A Data-Driven Approach in an Unbiased Sample Reveals Equivalent Sex Ratio of Autism Spectrum Disorder-Associated Impairment in Early Childhood. *Biol Psychiatry*. 2022 Oct 15;92(8):654-662. [PMID: 35965107]
	Justification from IACC member who nominated article: Sex differences in the prevalence of neurodevelopmental disorders are particularly evident in autism. Researchers examined trajectories of social communication (SC) and restricted and repetitive behaviors (RRBs) in a sample of infant siblings of children with ASD, adjusting for age- and sex-based measurement bias. Sex differences were also observed in the SC high-concern cluster, indicating that girls classified as having elevated social concerns demonstrated milder symptoms than boys in this group. This novel approach for characterizing ASD symptom progression highlights the utility of

	assessing and adjusting for sex-related measurement bias and identifying sex-specific patterns of symptom emergence.
Alycia Halladay	**Nominated article:** Che X, Hornig M, Bresnahan M, Stoltenberg C, Magnus P, Surén P, Mjaaland S, Reichborn-Kjennerud T, Susser E, Lipkin WI. Maternal mid-gestational and child cord blood immune signatures are strongly associated with offspring risk of ASD. *Mol Psychiatry*. 2022 Mar;27(3):1527-1541. [PMID: 34987169]
	Justification from IACC member who nominated article: Member justification pending.
NIMH, Joseph Piven, Helen Tager-Flusberg, Alycia Halladay	**Nominated article:** Gandal MJ, Haney JR, Wamsley B, Yap CX, Parhami S, Emani PS, Chang N, Chen GT, Hoftman GD, de Alba D, Ramaswami G, Hartl CL, Bhattacharya A, Luo C, Jin T, Wang D, Kawaguchi R, Quintero D, Ou J, Wu YE, Parikshak NN, Swarup V, Belgard TG, Gerstein M, Pasaniuc B, Geschwind DH. Broad transcriptomic dysregulation occurs across the cerebral cortex in ASD. *Nature*. 2022 Nov;611(7936):532-539. Epub 2022 Nov 2. [PMID: 36323788]
	Justification from IACC member who nominated article: **NIMH**: Neuropsychiatric disorders classically lack defining brain pathologies, but recent work has demonstrated dysregulation at the molecular level, characterized by transcriptomic and epigenetic alterations. However, in autism, whether these changes are limited to cortical association regions or are more widespread remains unknown. Researchers performed RNA-sequencing analysis of 725 brain samples spanning 11 cortical areas from 112 post-mortem samples from individuals with autism and neurotypical controls. The results highlight widespread molecular changes across the cerebral cortex in autism, extending beyond association cortex to broadly involve primary sensory regions. **Piven**: This study conducted RNA-sequencing analysis of 725 brain samples spanning 11 cortical areas from 112 post-mortem samples from individuals with ASD and neurotypical controls. Unexpectedly the greatest transcriptomic changes were observed in primary visual cortex. These results indicate the central importance of sensory systems in the pathogenesis of autism and suggest new and important hypotheses about future studies to elucidate specific mechanisms underlying the development of autism. **Halladay**: Member justification pending.
Joseph Piven, NICHD	**Nominated article:** Girault JB, Donovan K, Hawks Z, Talovic M, Forsen E, Elison JT, Shen MD, Swanson MR, Wolff JJ, Kim SH, Nishino T, Davis S, Snyder AZ, Botteron KN, Estes AM, Dager SR, Hazlett HC, Gerig G, McKinstry R, Pandey J, Schultz RT, St John T, Zwaigenbaum L, Todorov A, Truong Y, Styner M, Pruett JR Jr, Constantino JN, Piven J; IBIS Network. Infant Visual Brain Development and Inherited Genetic Liability in Autism. *Am J Psychiatry*. 2022 Aug;179(8):573-585. [PMID: 35615814]
	Justification from IACC member who nominated article: **Piven**: This prospective brain imaging study followed infants at high likelihood of developing autism by virtue of having an older sibling with autism. Findings revealed that severity of autism in the older autistic sibling (an index of genetic liability for autism in families) was significantly related to three different measures of the visual

	sensory portion of the brain (anatomy of the cortical surface, white matter microstructural organization and functional connectivity), in infants at 6 months of age, who later developed autism. This study is the first to document the potential role of the visual system prior to the first appearance of autistic symptoms, in the cascade of brain and behavior changes leading to emergence of autistic symptoms in early childhood. **NICHD**: Published by the IBIS Network, this research shows that brain changes in the size, white matter integrity and functional connectivity of the visual processing systems of six-month olds are evident well before they show symptoms of autism as toddlers. The presence of brain changes in the visual system is also associated with the severity of autism traits in their older siblings. The researchers theorized that disruption in visual processing could interfere with how infants see the world around them, changing how they interact with and learn from caregivers and their environment. These early changes could affect further brain development and play a role in ASD symptoms. Behavioral interventions directed at the brain's visual areas in early life could potentially reduce the severity of ASD symptoms.
NIMH	**Nominated article:** Hirsch J, Zhang X, Noah JA, Dravida S, Naples A, Tiede M, Wolf JM, McPartland JC. Neural correlates of eye contact and social function in autism spectrum disorder. *PLoS One*. 2022 Nov 9;17(11):e0265798. [PMID: 36350848]
	Justification from IACC member who nominated article: While reluctance toward eye contact in person-to-person interactions is a well-known feature of autism spectrum disorders (ASD), researchers have been hampered in their ability to better understand the neurological basis of this dynamic because of the inability to capture neural images of two persons while engaged in an interaction. Researchers at Yale developed an innovative method that enabled them to capture real-time neural images of two individuals engaged a natural interaction. Using near infrared spectroscopy, the investigators examined the brain activity of adult pairs (one with ASD and the other without ASD) engaged in brief social interactions. The findings showed that during eye contact, participants with ASD had significantly reduced activity in the dorsal parietal cortex brain region, compared to participants without ASD. These early findings provide the potential for a diagnostic biomarker of ASD and a test for the efficacy of services and treatments toward the disorder.
Alycia Halladay	**Nominated article:** Lee JK, Andrews DS, Ozturk A, Solomon M, Rogers S, Amaral DG, Nordahl CW. Altered Development of Amygdala-Connected Brain Regions in Males and Females with Autism. *J Neurosci*. 2022 Aug 3;42(31):6145-6155. [PMID: 35760533]
	Justification from IACC member who nominated article: Member justification pending.
NIMH	**Nominated article:** Lyons-Warren AM, Wangler MF, Wan YW. Cluster Analysis of Short Sensory Profile Data Reveals Sensory-Based Subgroups in Autism Spectrum Disorder. *Int J Mol Sci*. 2022 Oct 27;23(21):13030. [PMID: 36361815]
	Justification from IACC member who nominated article: Prior sensory subgrouping in autism has focused on categories of seeking verses avoiding and levels of sensitivity, which cannot be directly translated to animal models. Further, none of the previously proposed sensory-based subgroups have been linked to

	underlying molecular mechanisms or genetic variants which are important for translating sensory behaviors into a molecular biomarker. Therefore, the aim of this study was to determine if individuals with autism could be sub-grouped based on modality specific hyper- and hypo-sensitivity and evaluate if those subgroups could be linked to patterns of associated genes. These results support the use of sensory features to identify autism spectrum disorder subgroups with shared genetic variants.
Lindsey Nebeker	**Nominated article:** Niarchou M, Singer EV, Straub P, Malow BA, Davis LK. Investigating the genetic pathways of insomnia in Autism Spectrum Disorder. *Res Dev Disabil*. 2022 Sep;128:104299. [PMID: 35820265]
	Justification from IACC member who nominated article: Sleep problems are common in children with autism. There is sparse research to date to examine whether insomnia in people with autism is related to autism genetics or insomnia genetics. Moreover, there is a lack of research examining whether circadian-rhythm related genes share potential pathways with autism. To address this research gap, researchers tested whether polygenic scores of insomnia or autism are related to risk of insomnia in people with autism, and whether the circadian genes are associated with insomnia in people with autism. Overall, they did not find evidence for strong effects of genetic scores influencing sleep in people with autism, however, they cannot rule out the possibility that smaller genetic effects may play a role in sleep problems. Their study indicated the need for a larger collection of data on sleep problems and sleep quality among people with autism.
Alycia Halladay	**Nominated article:** Northrup JB, Goodwin MS, Peura CB, Chen Q, Taylor BJ, Siegel MS, Mazefsky CA. Mapping the time course of overt emotion dysregulation, self-injurious behavior, and aggression in psychiatrically hospitalized autistic youth: A naturalistic study. *Autism Res*. 2022 Oct;15(10):1855-1867. [PMID: 35751466]
	Justification from IACC member who nominated article: Member justification pending.
Alycia Halladay	**Nominated article:** Pecukonis M, Young GS, Brian J, Charman T, Chawarska K, Elsabbagh M, Iverson JM, Jeste S, Landa R, Messinger DS, Schwichtenberg AJ, Webb SJ, Zwaigenbaum L, Tager-Flusberg H. Early predictors of language skills at 3 years of age vary based on diagnostic outcome: A baby siblings research consortium study. *Autism Res*. 2022 Jul;15(7):1324-1335. [PMID: 35652157]
	Justification from IACC member who nominated article: Member justification pending.
NIMH	**Nominated article:** Pickles A, Wright N, Bedford R, Steiman M, Duku E, Bennett T, Georgiades S, Kerns CM, Mirenda P, Smith IM, Ungar WJ, Vaillancourt T, Waddell C, Zaidman-Zait A, Zwaigenbaum L, Szatmari P, Elsabbagh M; Pathways in ASD Study Team. Predictors of language regression and its association with subsequent communication development in children with autism. *J Child Psychol Psychiatry*. 2022 Nov;63(11):1243-1251. Epub 2022 Jan 30. [PMID: 35098539]
	Justification from IACC member who nominated article: Little is known about the factors underlying language regression or the prognosis of children who exhibit regression. The study examined potential predictors of language regression and test its association with language development in a prospective

	longitudinal sample of children with autism from diagnosis to age 10 years. Overall, those with language regression continued to exhibit expressive but not receptive communication delay compared to those without regression. Communication trajectories were heterogeneous to age 10 years, irrespective of regression status. These findings confirm that the occurrence of language regression does not necessarily foreshadow worse developmental outcomes relative to those without regression. Although a discrepancy in age-equivalent communication skills may persist, this can be expected to be of less practical importance with rising average levels of skills. Variability in communication outcomes in our sample was associated with some of the factors known to impact rates of language development in the general population, such as income. Future research identifying modifiable factors linked to the external environment could prove especially useful in promoting early language as a protective mechanism for subsequent development
Alycia Halladay	**Nominated article:** Safar K, Vandewouw MM, Pang EW, de Villa K, Crosbie J, Schachar R, Iaboni A, Georgiades S, Nicolson R, Kelley E, Ayub M, Lerch JP, Anagnostou E, Taylor MJ. Shared and Distinct Patterns of Functional Connectivity to Emotional Faces in Autism Spectrum Disorder and Attention-Deficit/Hyperactivity Disorder Children. *Front Psychol*. 2022 Mar 9;13:826527. [PMID: 35356352]
	Justification from IACC member who nominated article: Member justification pending.
Joseph Piven, NICHD	**Nominated article:** Shen MD, Swanson MR, Wolff JJ, Elison JT, Girault JB, Kim SH, Smith RG, Graves MM, Weisenfeld LAH, Flake L, MacIntyre L, Gross JL, Burrows CA, Fonov VS, Collins DL, Evans AC, Gerig G, McKinstry RC, Pandey J, St John T, Zwaigenbaum L, Estes AM, Dager SR, Schultz RT, Styner MA, Botteron KN, Hazlett HC, Piven J; IBIS Network. Subcortical Brain Development in Autism and Fragile X Syndrome: Evidence for Dynamic, Age- and Disorder-Specific Trajectories in Infancy. *Am J Psychiatry*. 2022 Aug;179(8):562-572. [PMID: 35331012]
	Justification from IACC member who nominated article: **Piven**: The role of the amygdala and reports of amygdala enlargement, have appeared in the literature on autism for a number of years. This prospective brain imaging studied followed infants at high likelihood of developing autism, by virtue of having an older sibling with autism. Findings revealed that amygdala overgrowth occurred between 6 and 12 months of age, prior to the consolidation of the defining features of autism in second and third years of life. The timing of amygdala overgrowth suggests that it has a central role in the development of autistic symptoms and is a potential target for consideration in early, presymptomatic intervention. **NICHD**: The amygdala—a brain structure enlarged in two-year-old children diagnosed with autism spectrum disorder (ASD)—begins its accelerated growth between six and 12 months of age, suggests a study funded by the National Institutes of Health. They amygdala is involved in processing emotions, such as interpreting facial expressions or feeling afraid when exposed to a threat. The findings indicate that therapies to reduce the symptoms of ASD in at risk children might have the greatest chance of success if they begin in the first year of life, before the amygdala begins its accelerated growth.
NIMH	**Nominated article:**

	Supekar K, de Los Angeles C, Ryali S, Cao K, Ma T, Menon V. Deep learning identifies robust gender differences in functional brain organization and their dissociable links to clinical symptoms in autism. *Br J Psychiatry*. 2022 Feb 15:1-8. Epub ahead of print. [PMID: 35164888]
	Justification from IACC member who nominated article: The neurobiological basis of gender differences in autism is poorly understood, as most studies have neglected females and used methods ill-suited to capture such differences. This study aimed to identify robust functional brain organization markers that distinguish between females and males with autism. The findings reveal that the brains of females and males with autism are functionally organized differently, contributing to their clinical traits in distinct ways. They inform the development of gender-specific diagnoses and intervention strategies for autism, and ultimately advance precision psychiatry.
NIMH	**Nominated article:** Supekar K, Ryali S, Yuan R, Kumar D, de Los Angeles C, Menon V. Robust, Generalizable, and Interpretable Artificial Intelligence-Derived Brain Fingerprints of Autism and Social Communication Symptom Severity. *Biol Psychiatry*. 2022 Oct 15;92(8):643-653. Epub 2022 Feb 16. [PMID: 35382930]
	Justification from IACC member who nominated article: The neurobiology of autism is still poorly understood because inconsistent findings from underpowered individual studies preclude the identification of robust and interpretable neurobiological markers and predictors of clinical symptoms. This group of researchers leveraged multiple brain imaging cohorts and recent advances in explainable artificial intelligence to develop a novel spatiotemporal deep neural network (stDNN) model, which identifies robust and interpretable dynamic brain markers that distinguish autism from neurotypical control subjects and predict clinical symptom severity. Their findings, replicated across independent cohorts, reveal robust individualized functional brain fingerprints of autism psychopathology, which could lead to more objective and precise phenotypic characterization and targeted interventions.
NIMH	**Nominated article:** Xiao Y, Wen TH, Kupis L, Eyler LT, Goel D, Vaux K, Lombardo MV, Lewis NE, Pierce K, Courchesne E. Neural responses to affective speech, including motherese, map onto clinical and social eye tracking profiles in toddlers with ASD. *Nat Hum Behav*. 2022 Mar;6(3):443-454. [PMID: 34980898]
	Affective speech, including motherese, captures an infant's attention and enhances social, language and emotional development. Decreased behavioral response to affective speech and reduced caregiver-child interactions are early signs of autism in infants. To understand this, researchers measured neural responses to mild affect speech, moderate affect speech and motherese using natural sleep functional magnetic resonance imaging and behavioral preference for motherese using eye tracking in typically developing toddlers and those with autism. By combining diverse neural-clinical data using similarity network fusion, researchers discovered four distinct clusters of toddlers. Researchers concluded that significantly reduced behavioral preference for motherese in autism is related to impaired development of temporal cortical systems that normally respond to parental affective speech.
CDC	**Nominated article:**

	Wiggins LD, Nadler C, Hepburn S, Rosenberg S, Reynolds A, Zubler J. Toileting Resistance Among Preschool-Age Children with and Without Autism Spectrum Disorder. *J Dev Behav Pediatr*. 2022 May 1;43(4):216-223. [PMID: 35170572]
	Justification from IACC member who nominated article: Children with autism spectrum disorder (ASD) may achieve continence later than other children. Little is known about factors associated with toileting resistance in children with ASD or with other developmental delays/disabilities (DD). The authors sought to describe toileting resistance in children with ASD or with other DD and in those from the general population (POP) and identify factors associated with toileting resistance in children with ASD or other DD. Toileting resistance was more common among children with ASD (49.1%) than children with other DD (23.6%) and those from the POP (8.0%). Diarrhea and deficits in social awareness were significantly associated with toileting resistance in children with ASD or other DD. Constipation, expressive language delays, and low social motivation were significantly associated with toileting resistance only in children with ASD; very low visual reception skills and oppositional behaviors were significantly associated with toileting resistance only in children with other DD (all $p \leq 0.05$). Evaluating gastrointestinal issues, developmental delays, and social deficits before toileting training may help identify children with atypical development who are likely to present with toileting resistance. These evaluations can be incorporated into health supervision visits.

Genetic and Environmental Factors

Alycia Halladay	**Nominated article:** Antaki D, Guevara J, Maihofer AX, Klein M, Gujral M, Grove J, Carey CE, Hong O, Arranz MJ, Hervas A, Corsello C, Vaux KK, Muotri AR, Iakoucheva LM, Courchesne E, Pierce K, Gleeson JG, Robinson EB, Nievergelt CM, Sebat J. A phenotypic spectrum of autism is attributable to the combined effects of rare variants, polygenic risk and sex. *Nat Genet*. 2022 Sep;54(9):1284-1292. [PMID: 35654974]
	Justification from IACC member who nominated article: Member justification pending.
Helen Tager-Flusberg, Alycia Halladay	**Nominated article:** Havdahl A, Wootton RE, Leppert B, Riglin L, Ask H, Tesli M, Bugge Askeland R, Hannigan LJ, Corfield E, Øyen AS, Andreassen OA, Tilling K, Davey Smith G, Thapar A, Reichborn-Kjennerud T, Stergiakouli E. Associations Between Pregnancy-Related Predisposing Factors for Offspring Neurodevelopmental Conditions and Parental Genetic Liability to Attention-Deficit/Hyperactivity Disorder, Autism, and Schizophrenia: The Norwegian Mother, Father and Child Cohort Study (MoBa). *JAMA Psychiatry*. 2022 Aug 1;79(8):799-810. [PMID: 35793100]
	Justification from IACC member who nominated article: **Tager-Flusberg**: Does maternal genetic liability for attention-deficit/hyperactivity disorder, autism, and schizophrenia predict exposure to pregnancy factors hypothesized to be causal for neurodevelopmental conditions in offspring? In this cohort study of 14 539 mothers and 14 897 fathers, associations between polygenic scores for attention-deficit/hyperactivity disorder, autism, and schizophrenia and 37 pregnancy-related predisposing factors were assessed. Higher genetic liability in mothers was found to be modestly but robustly associated with likelihood of experiencing several of the pregnancy-related factors associated with offspring

	neurodevelopmental conditions. Observed associations between some pregnancy-related factors and offspring neurodevelopmental conditions are likely subject to genetic confounding and may not be causal. **Halladay**: Member justification pending.
Aisha Dickerson	Hertz-Picciotto I, Korrick SA, Ladd-Acosta C, Karagas MR, Lyall K, Schmidt RJ, Dunlop AL, Croen LA, Dabelea D, Daniels JL, Duarte CS, Fallin MD, Karr CJ, Lester B, Leve LD, Li Y, McGrath M, Ning X, Oken E, Sagiv SK, Sathyanaraya S, Tylavsky F, Volk HE, Wakschlag LS, Zhang M, O'Shea TM, Musci RJ; program collaborators for Environmental influences on Child Health Outcomes (ECHO). Maternal tobacco smoking and offspring autism spectrum disorder or traits in ECHO cohorts. *Autism Res*. 2022 Mar;15(3):551-569. [PMID: 35199959]
	It shows that prenatal tobacco use is associated with autism-related symptoms in the general population, though not strongly associated with ASD diagnosis in offspring using a large sample size and prospectively collected data.
Joseph Piven	**Nominated article:** Hessami K, Norooznezhad AH, Monteiro S, Barrozo ER, Abdolmaleki AS, Arian SE, Zargarzadeh N, Shekerdemian LS, Aagaard KM, Shamshirsaz AA. COVID-19 Pandemic and Infant Neurodevelopmental Impairment: A Systematic Review and Meta-analysis. *JAMA Netw Open*. 2022 Oct 3;5(10):e2238941. [PMID: 36306133]
	Justification from IACC member who nominated article: Studies to date were included in this systematic review and meta-analysis of covid exposure during pregnancy to risk of neurodevelopmental impairment in offspring. This large-scale analysis concluded that overall neurodevelopment in the first year of life was not changed by either being born or raised during the SARS-CoV-2 pandemic or by gestational exposure to SARS-CoV-2.
Aisha Dickerson	**Nominated article:** Lyall K, Ning X, Aschner JL, Avalos LA, Bennett DH, Bilder DA, Bush NR, Carroll KN, Chu SH, Croen LA, Dabelea D, Daniels JL, Duarte C, Elliott AJ, Fallin MD, Ferrara A, Hertz-Picciotto I, Hipwell AE, Jensen ET, Johnson SL, Joseph RM, Karagas M, Kelly RS, Lester BM, Margolis A, McEvoy CT, Messinger D, Neiderhiser JM, O'Connor TG, Oken E, Sathyanarayana S, Schmidt RJ, Sheinkopf SJ, Talge NM, Turi KN, Wright RJ, Zhao Q, Newschaffer C, Volk HE, Ladd-Acosta C, Environmental Influences On Child Health Outcomes OBOPCF. Cardiometabolic Pregnancy Complications in Association With Autism-Related Traits as Measured by the Social Responsiveness Scale in ECHO. *Am J Epidemiol*. 2022 Jul 23;191(8):1407-1419. [PMID: 35362025]
	Justification from IACC member who nominated article: Further evidence for maternal obesity/diabetes associations with ASD-related traits across the population.
NIMH	**Nominated article:** Mattheisen M, Grove J, Als TD, Martin J, Voloudakis G, Meier S, Demontis D, Bendl J, Walters R, Carey CE, Rosengren A, Strom NI, Hauberg ME, Zeng B, Hoffman G, Zhang W, Bybjerg-Grauholm J, Bækvad-Hansen M, Agerbo E, Cormand B, Nordentoft M, Werge T, Mors O, Hougaard DM, Buxbaum JD, Faraone SV, Franke B, Dalsgaard S, Mortensen PB, Robinson EB, Roussos P, Neale BM, Daly MJ, Børglum AD. Identification of shared and differentiating genetic architecture for autism spectrum disorder, attention-deficit

	hyperactivity disorder and case subgroups. *Nat Genet*. 2022 Oct;54(10):1470-1478. Epub 2022 Sep 26. [PMID: 36163277]
	Justification from IACC member who nominated article: Attention-deficit hyperactivity disorder (ADHD) and autism are highly heritable neurodevelopmental conditions, with considerable overlap in their genetic etiology. Researchers dissected their shared and distinct genetic etiology by cross-disorder analyses of large datasets. Analyses revealed that individuals diagnosed with both autism and ADHD were double-loaded with genetic predispositions for both conditions and showed distinctive patterns of genetic association with other traits compared with the autism-only and ADHD-only subgroups. These results provide insights into the biological foundation of the development of one or both conditions and of the factors driving psychopathology discriminatively toward either ADHD or autism.
Joseph Piven	**Nominated article:** Suarez EA, Bateman BT, Hernández-Díaz S, Straub L, Wisner KL, Gray KJ, Pennell PB, Lester B, McDougle CJ, Zhu Y, Mogun H, Huybrechts KF. Association of Antidepressant Use During Pregnancy With Risk of Neurodevelopmental Disorders in Children. *JAMA Intern Med*. 2022 Oct 3;182(11):1149–60. [PMID: 36190722]
	Justification from IACC member who nominated article: Perinatal depression is a significant risk factor for adverse outcomes in newborns. Antidepressant use during pregnancy has been associated with increased risk for autism in some studies. Interpretation of results from studies to date have been limited by sample size and methodological issues. In this large-scale study of multiple neurodevelopmental disorders, no increase in risk for autism was identified. This is important information for parents prospectively and retrospectively concerned about risk for autism in their children.
Aisha Dickerson	**Nominated article:** Schendel D, Munk Laursen T, Albiñana C, Vilhjalmsson B, Ladd-Acosta C, Fallin MD, Benke K, Lee B, Grove J, Kalkbrenner A, Ejlskov L, Hougaard D, Bybjerg-Grauholm J, Baekvad-Hansen M, Børglum AD, Werge T, Nordentoft M, Mortensen PB, Agerbo E. Evaluating the interrelations between the autism polygenic score and psychiatric family history in risk for autism. *Autism Res*. 2022 Jan;15(1):171-182. [PMID: 34664785]
	Justification from IACC member who nominated article: There is an ongoing debate around the value of polygenic risk scores (PRS) versus family history and what this means for population-based work in ASD, but this paper highlights the importance of the independence of the data types in genetic considerations.
NIMH	**Nominated article:** Trost B, Thiruvahindrapuram B, Chan AJS, Engchuan W, Higginbotham EJ, Howe JL, Loureiro LO, Reuter MS, Roshandel D, Whitney J, Zarrei M, Bookman M, Somerville C, Shaath R, Abdi M, Aliyev E, Patel RV, Nalpathamkalam T, Pellecchia G, Hamdan O, Kaur G, Wang Z, MacDonald JR, Wei J, Sung WWL, Lamoureux S, Hoang N, Selvanayagam T, Deflaux N, Geng M, Ghaffari S, Bates J, Young EJ, Ding Q, Shum C, D'Abate L, Bradley CA, Rutherford A, Aguda V, Apresto B, Chen N, Desai S, Du X, Fong MLY, Pullenayegum S, Samler K, Wang T, Ho K, Paton T, Pereira SL, Herbrick JA, Wintle RF, Fuerth J, Noppornpitak J, Ward H, Magee P, Al Baz A, Kajendirarajah U, Kapadia S, Vlasblom J, Valluri M, Green J, Seifer V, Quirbach M, Rennie O, Kelley E, Masjedi N, Lord C, Szego MJ, Zawati MH, Lang M, Strug LJ, Marshall CR, Costain G, Calli K, Iaboni A, Yusuf A, Ambrozewicz P, Gallagher L, Amaral DG, Brian J, Elsabbagh M, Georgiades S, Messinger

	DS, Ozonoff S, Sebat J, Sjaarda C, Smith IM, Szatmari P, Zwaigenbaum L, Kushki A, Frazier TW, Vorstman JAS, Fakhro KA, Fernandez BA, Lewis MES, Weksberg R, Fiume M, Yuen RKC, Anagnostou E, Sondheimer N, Glazer D, Hartley DM, Scherer SW. Genomic architecture of autism from comprehensive whole-genome sequence annotation. *Cell*. 2022 Nov 10;185(23):4409-4427.e18. [PMID: 36368308]
	Justification from IACC member who nominated article: Fully understanding autism genetics requires whole-genome sequencing (WGS). The researchers present the latest release of the Autism Speaks MSSNG resource, which includes WGS data from 5,100 individuals with autism and 6,212 non-autism parents and siblings (total n = 11,312). The team found 134 genes linked with ASD and discovered a range of genetic changes, most notably gene copy number variations (CNVs), likely to be associated with autism, including autism-associated rare variants in about 14% of participants with autism. This study provides a guidebook for exploring genotype-phenotype correlations in families who carry autism-associated rare variants and serves as an entry point to the expanded studies required to dissect the etiology in the ~85% of the autism population that remain idiopathic.
HRSA	Wang Y, Guo X, Hong X, Wang G, Pearson C, Zuckerman B, Clark AG, O'Brien KO, Wang X, Gu Z. Association of mitochondrial DNA content, heteroplasmies and inter-generational transmission with autism. *Nat Commun*. 2022 Jul 1;13(1):3790. [PMID: 35778412]
	Justification from IACC member who nominated article: Compared to nuclear DNA (the human genome), Mitochondria genome (mtDNA) is under-studied but holds enormous promise to understanding autism spectrum disorder (ASD). This is the first and the largest study that investigated the association of mothers' and newborns' mtDNA and ASD, in two US study populations. This study reveals that both mothers' and newborn's mtDNA content and heteroplasmies (i.e. co-existence of mutated and unmutated mtDNA in the cell) may play a role in ASD, particularly among males. A deeper understanding of mtDNA and ASD may help identify new opportunities for early intervention.
NIMH, Lindsey Nebeker	**Nominated article:** Warrier V, Zhang X, Reed P, Havdahl A, Moore TM, Cliquet F, Leblond CS, Rolland T, Rosengren A; EU-AIMS LEAP; iPSYCH-Autism Working Group; Spectrum 10K and APEX Consortia; Rowitch DH, Hurles ME, Geschwind DH, Børglum AD, Robinson EB, Grove J, Martin HC, Bourgeron T, Baron-Cohen S. Genetic correlates of phenotypic heterogeneity in autism. *Nat Genet*. 2022 Sep;54(9):1293-1304. [PMID: 35654973]
	Justification from IACC member who nominated article: The substantial phenotypic heterogeneity in autism limits our understanding of its genetic etiology. To address this gap, researchers investigated genetic differences between autistic individuals based on core and associated features of autism, co-occurring developmental disabilities, and sex. They conducted a comprehensive factor analysis of core autism features in autistic individuals and identified six factors. Common genetic variants were associated with the core factors, but de novo variants were not. They found that higher autism polygenic scores (PGS) were associated with lower likelihood of co-occurring developmental disabilities in autistic individuals. Furthermore, in autistic individuals without co-occurring intellectual disability (ID), autism PGS are overinherited by autistic females compared to males. Finally, they observed higher SNP heritability for autistic males and for autistic individuals without

	ID. Deeper phenotypic characterization will be critical in determining how the complex underlying genetics shape cognition, behavior and co-occurring conditions in autism.
Alycia Halladay	**Nominated article:** Wigdor EM, Weiner DJ, Grove J, Fu JM, Thompson WK, Carey CE, Baya N, van der Merwe C, Walters RK, Satterstrom FK, Palmer DS, Rosengren A, Bybjerg-Grauholm J, Hougaard DM, Mortensen PB, Daly MJ, Talkowski ME, Sanders SJ, Bishop SL, Børglum AD, Robinson EB. The female protective effect against autism spectrum disorder. *Cell Genomics*. 2022; Volume 2, Issue 6. https://doi.org/10.1016/j.xgen.2022.100134.
	Justification from IACC member who nominated article: Member justification pending.
Helen Tager-Flusberg	**Nominated article:** Zhou X, Feliciano P, Shu C, Wang T, Astrovskaya I, Hall JB, Obiajulu JU, Wright JR, Murali SC, Xu SX, Brueggeman L, Thomas TR, Marchenko O, Fleisch C, Barns SD, Snyder LG, Han B, Chang TS, Turner TN, Harvey WT, Nishida A, O'Roak BJ, Geschwind DH; SPARK Consortium; Michaelson JJ, Volfovsky N, Eichler EE, Shen Y, Chung WK. Integrating de novo and inherited variants in 42,607 autism cases identifies mutations in new moderate-risk genes. *Nat Genet*. 2022 Sep;54(9):1305-1319. [PMID: 35982159]
	Justification from IACC member who nominated article: To capture the full spectrum of genetic risk for autism, researchers performed a two-stage analysis of rare de novo and inherited coding variants in 42,607 autism cases, including 35,130 new cases recruited online by SPARK. They identified 60 genes with exome-wide significance ($P < 2.5 \times 10^{-6}$), including five new risk genes (*NAV3*, *ITSN1*, *MARK2*, *SCAF1* and *HNRNPUL2*). The association of *NAV3*with autism risk is primarily driven by rare inherited loss-of-function (LoF) variants, with an estimated relative risk of 4, consistent with moderate effect. Autistic individuals with LoF variants in the four moderate-risk genes (*NAV3*, *ITSN1*, *SCAF1* and *HNRNPUL2*; $n = 95$) have less cognitive impairment than 129 autistic individuals with LoF variants in highly penetrant genes (*CHD8, SCN2A, ADNP, FOXP1* and *SHANK3*) (59% vs 88%, $P = 1.9 \times 10^{-6}$). Power calculations suggest that much larger numbers of autism cases are needed to identify additional moderate-risk genes.
	Interventions
DOL	**Nominated article:** Benevides TW, Tao S, Becker A, Verstreate K, Shea L. Occupational Therapy Service Delivery Among Medicaid-Enrolled Children and Adults on the Autism Spectrum and With Other Intellectual Disabilities. *Am J Occup Ther*. 2022 Jan 1;76(1):7601180100. [PMID: 35030249]
	Justification from IACC member who nominated article: This study conducted a retrospective review (case study) of Medicaid claims records from 2009 to 2012 to learn about use of occupational therapy (OT) services. It examined and compared data from records for children, youth, and adults from three groups. These groups included autistic people with intellectual disability (ID), autistic people with ID, and non-autistic people with ID. The study found that only 3.7% to 6.3% of adult beneficiaries who were eligible to receive services accessed OT services. Only 20.5% to 24.2% of eligible children accessed OT services. Service use for OT services varied markedly by age, race, economic status, and location.
ED	**Nominated article:**

	Hume K, Odom SL, Steinbrenner JR, Smith DaWalt L, Hall LJ, Kraemer B, Tomaszewski B, Brum C, Szidon K, Bolt DM. Efficacy of a School-Based Comprehensive Intervention Program for Adolescents With Autism. *Exceptional Children*. 2022. 88(2), 223–240. https://doi.org/10.1177/00144029211062589
	Justification from IACC member who nominated article: The authors tested the efficacy of a comprehensive intervention program designed for high school students across the autism spectrum, the Center on Secondary Education for Students with Autism (CSESA) model, in a cluster randomized control trial involving 60 high schools in three states (California, North Carolina, Wisconsin), with implementation occurring over a 2-year period. The study examined outcomes for the schools, students (N=547), and families. At the conclusion of the study, CSESA schools had significantly higher program quality than the services-as-usual (SAU) schools. In addition, students in the CSESA schools had significantly higher total attainment of educational goals than students in SAU schools. There were not significant differences between the two groups on standardized assessment outcomes. The article discusses implications for intervention implementation and future research with this population in the public-school context. This article presents information on an intervention program for high school students with ASD, which is a significant area of need in the field. This study was funded by the Department of Education.
ED	**Nominated article:** Li C, Haegele JA, Sun F, Alves MLT, Ang SHC, Lee J, Ng K, Dos Santos Alves I, Healy S, Huang WY, Rintala P, Tan JSY, Wu Y, Yang H, Kärnä E, Maeng H, Schliemann AL, Ding D. Meeting the 24-h movement guidelines and health-related outcomes among youth with autism spectrum disorder: a seven-country observational study. *Child Adolesc Psychiatry Ment Health*. 2022 Jun 23;16(1):50. [PMID: 35739543]
	Justification from IACC member who nominated article: Meeting daily guidelines for physical activity, screen time, and sleep duration is associated with a host of health indicators for youth. This cross-sectional observational study investigated the associations between adherence to the movement guidelines and health-related outcomes among youth with autism spectrum disorder (ASD). Parents of youth with ASD (10–17 years) from seven countries and regions were invited to provide online proxy-reports for child's movement behaviors (i.e., physical activity, sleep and screen time), and health-related outcomes (i.e., body mass index [BMI], general health, and quality of life). A series of multiple linear regression analyses were used to examine the associations between meeting movement guidelines and health-related outcomes, adjusted for covariates. The final sample consisted of 1165 youth with ASD. Compared with youth meeting all three guidelines, a higher BMI z-score was observed in those who met no guidelines (B = 0.62, P = 0.04), "sedentary time only" (B = 0.60, P = 0.047), and "physical activity plus sleep only" (B = 0.85, P = 0.04). Compared with meeting all three guidelines, meeting no guidelines was associated with poorer general health (B = − 0.46, P = 0.02). Further, compared with youth meeting all three guidelines, a lower quality of life score was observed in those who met no guidelines (B = − 0.47, P = 0.02) and "physical activity only" (B = − 0.62, P = 0.03). Lastly, there were dose–response associations between the number of guidelines met and all three health-related outcomes (all Ptrend < 0.05). In conclusion, meeting more 24-h movement guidelines was generally associated with more favorable health-related outcomes in youth with ASD. The low level of adherence to all three guidelines (2.0%) suggests the urgent need to promote the adoption of all the guidelines in this group.

	There are implications for physical education and recreation in school settings for children with ASD to improve their overall health and fitness outcomes.
NICHD	**Nominated article:** Panganiban J, Kasari C. Super responders: Predicting language gains from JASPER among limited language children with autism spectrum disorder. *Autism Res*. 2022 Aug;15(8):1565-1575. [PMID: 35437928]
	Justification from IACC member who nominated article: The goal of this study was to identify predictors of language gains after receiving 2 to 6 months of the JASPER intervention in preschool children (ages 3-5) who have limited language and ASD (N=99). Child characteristics before intervention were used to predict which children would improve their language the most. The children who showed the ability to play appropriately with a wide variety of toys made the most improvements in expressive language (super responders). By contrast, children who had a limited variety of play and fine-motor impairments tended to show improvement slowly (slow responders). Since there is not a comparison group of children who received a different intervention, one cannot rule out that play diversity could be an outcome predictor for other forms of behavior intervention as well. Future studies should also focus on finding strategies to improve the outcome trajectories of those children who do not respond to an intervention quickly.
Helen Tager-Flusberg	**Nominated article:** Shenouda J, Barrett E, Davidow AL, Sidwell K, Halperin W, Silenzio VMB, Zahorodny W. Disparities in Early Intervention Program Participation by Children With Autism Spectrum Disorder in a US Metropolitan Area, 2006 to 2016. *JAMA Pediatr*. 2022 Sep 1;176(9):906-914. [PMID: 35849409]
	Justification from IACC member who nominated article: To what extent do children with autism spectrum disorder (ASD) participate in early intervention programs (EIPs) as mandated by the Individuals With Disabilities Education Act EIP, and are there differences among participants? In this cross-sectional study of 4050 children with ASD, identified by active surveillance by age 8 years, 1887 children used EIP services. Children from underserved (low socioeconomic status and racial and ethnic minority) communities were less likely to receive EIP services. The findings suggest that the EIP system is underused by children with ASD from underserved communities and that cultural and socioeconomic barriers to early identification and EIP use can be identified and addressed through outreach and distribution of information.
NIMH	**Nominated article:** Shurtz L, Schwartz C, DiStefano C, McPartland JC, Levin AR, Dawson G, Kleinhans NM, Faja S, Webb SJ, Shic F, Naples AJ, Seow H, Bernier RA, Chawarska K, Sugar CA, Dziura J, Senturk D, Santhosh M, Jeste SS. Concomitant medication use in children with autism spectrum disorder: Data from the Autism Biomarkers Consortium for Clinical Trials. *Autism*. 2022 Sep 9:13623613221121425. [PMID: 36086805]
	Justification from IACC member who nominated article: Children with autism are prescribed a variety of medications that affect the central nervous system (psychotropic medications) to address behavior and mood. In clinical trials, people taking concomitant psychotropic medications often are excluded to maintain homogeneity of the sample and prevent contamination of biomarkers or clinical endpoints. However, this choice may significantly diminish the clinical representativeness of the sample. In a recent multisite study designed to identify

	biomarkers and behavioral endpoints for clinical trials (the Autism Biomarkers Consortium for Clinical Trials), school-age children with autism were enrolled without excluding for medications, thus providing a unique opportunity to examine characteristics of psychotropic medication use in a research cohort and to guide future decisions on medication-related inclusion criteria. Of the 280 children with autism spectrum disorder in the cohort, 42.5% were taking psychotropic medications, with polypharmacy in half of these children. The most commonly reported psychotropic medications included melatonin, stimulants, selective serotonin reuptake inhibitors, alpha agonists, and antipsychotics. These findings suggest that exclusion of children taking concomitant psychotropic medications in trials could limit the clinical representativeness of the study population.
Yetta Myrick	**Nominated article:** Steinbrenner JR, McIntyre N, Rentschler LF, Pearson JN, Luelmo P, Jaramillo ME, Boyd BA, Wong C, Nowell SW, Odom SL, Hume KA. Patterns in reporting and participant inclusion related to race and ethnicity in autism intervention literature: Data from a large-scale systematic review of evidence-based practices. *Autism*. 2022 Nov;26(8):2026-2040. [PMID: 35068190]
	Justification from IACC member who nominated article: The authors found that only 25% of studies (out of 1,013 included in the review) included data related to the race and ethnicity of their participants. This is problematic as little is known about how interventions are meeting the needs of more diverse populations.
NICHD	**Nominated article:** Talbott MR, Lang E, Avila F, Dufek S, Young G. Short report: Experiences of Caregivers Participating in a Telehealth Evaluation of Development for Infants (TEDI). *J Autism Dev Disord*. 2022 Dec;52(12):5266-5273. [PMID: 35945386]
	Justification from IACC member who nominated article: This study provided qualitative data supporting the use of telehealth-based assessments for ASD. Caregivers (N = 32) completed an online survey following an evaluation with the Telehealth Evaluation of Development for Infants (TEDI) protocol. The survey showed positive experiences by most caregivers. **Editorial note from OARC: Article includes a small sample size.**

Services and Supports

DOL	**Nominated article:** Davies J, Heasman B, Livesey A, Walker A, Pellicano E, Remington A. Autistic adults' views and experiences of requesting and receiving workplace adjustments in the UK. *PLoS One*. 2022 Aug 5;17(8):e0272420. [PMID: 35930548]
	Justification from IACC member who nominated article: This study surveyed 181 autistic adults in the United Kingdom about their views toward and experiences with receiving workplace adjustments. The study found that most participants perceived workplace adjustments to be important, but many participants did not receive needed workplace adjustments that they requested. Participants expressed concerns that the onus fell on them to identify the need for workplace adjustments, establish how adjustments would be helpful for their work, and request adjustments. They also shared concerns with the process to request workplace adjustments and highlighted key barriers and the impact on their wellbeing.

Lindsey Nebeker	**Nominated article:** Eapen V, Islam R, Azim SI, Masi A, Klein L, Karlov L. Factors Impacting Parental Quality of Life in Preschool Children on the Autism Spectrum. *J Autism Dev Disord*. 2022 Dec 20. [PMID: 36538128]
	Justification from IACC member who nominated article: This study examined connections between parental quality of life (QoL) and features of children (autism severity, cognitive ability, behavioral profile, and sociodemographic factors). Parents of children attending an autism-specific preschool completed the Quality of Life in Autism, Vineland Adaptive Behavior Scales and Child Behavior Checklist. Reduced restrictive/repetitive behavior and higher socialization and play/leisure scores were associated with better parental QoL. Better behavioral regulation and attention also predicted better QoL, as did stronger communication and reduced internalizing behaviors. Findings indicate that a child's level of autism specific traits, adaptive functioning and behavioral profile has greater impact on parental QoL than cognitive level.
Alycia Halladay	**Nominated article:** Kaiser K, Villalobos ME, Locke J, Iruka IU, Proctor C, Boyd B. A culturally grounded autism parent training program with Black parents. *Autism*. 2022 Apr;26(3):716-726. [PMID: 35232271]
	Justification from IACC member who nominated article: Member justification pending.
NIMH	**Nominated article:** Sridhar A, Kuhn J, Faja S, Sabatos-DeVito M, Nikolaeva JI, Dawson G, Nelson CA, Webb SJ, Bernier R, Jeste S, Chawarska K, Sugar CA, Shic F, Naples A, Dziura J, McPartland JC; ABC-CT Consortium. Patterns of Intervention Utilization Among School-Aged Children with Autism Spectrum Disorder: Findings from a Multi-Site Research Consortium. *Res Autism Spectr Disord*. 2022 Jun;94:101950. [PMID: 35444715]
	Justification from IACC member who nominated article: It is important to better understand the types and hours of interventions that participants typically receive as part of standard of care, as well as to understand the child, family, and geographic factors that are associated with different patterns of service utilization. In this multi-site study, they interviewed 280 caregivers of 6-to-11-year-old school-aged children on the autism spectrum about the types and amounts of interventions their children received in the prior 6 weeks. Reported interventions were coded as "evidence-based practice" or "other interventions," reflecting the level of empirical support. Results indicated that children received a variety of interventions with varying levels of empirical evidence and a wide range of hours. Based on their findings, it would seem prudent when designing clinical trials to take into consideration a variety of factors including level of support needs, age, cognitive ability, ethnicity, parent education and geographic location.
NIMH	**Nominated article:** Stadnick NA, Martinez K, Coleman KJ, Gizzo DP, Lane E, Lee N, Kuelbs CL, Aarons GA, Brookman-Frazee L. Mental health screening in pediatric primary care for children with autism. *Autism*. 2022 Jul;26(5):1305-1311. [PMID: 35105226]
	Justification from IACC member who nominated article: Children with autism experience high rates of co-occurring mental health conditions like challenging behaviors and anxiety. However, these co-occurring mental health needs are often not identified when they first become problematic. Pediatricians and

	their care staff are in a good position to identify mental health needs early and support families to connect to needed services. This study describes a project focused on mental health screening for children with autism in pediatric primary care clinics. Over half of eligible patients were screened using the Pediatric Symptom Checklist-17. Many children with autism had clinically elevated scores, suggesting the need for mental health assessment or services. In particular, children with positive screens had clinical elevations on the challenging behavior and attention subscales of the Pediatric Symptom Checklist-17. This finding is consistent with typical trends in co-occurring challenging behavior presentations in children with autism. Mental health screening in primary care is feasible and offers a promising opportunity to identify co-occurring mental health needs for children with autism early. Screening rates varied between clinics, suggesting tailored to improve routine screening in pediatric primary care for children with autism.
NIMH	**Nominated article:** Stockham NT, Paskov KM, Tabatabaei K, Sutaria S, Liu B, Kent J, Wall DP. An Informatics Analysis to Identify Sex Disparities and Healthcare Needs for Autism across the United States. *AMIA Annu Symp Proc*. 2022 May 23;2022:456-465. [PMID: 35854759]
	Justification from IACC member who nominated article: Timely diagnosis and access to therapeutic resources are essential for positive prognoses in autism, yet long queues and unevenly dispersed resources leave many untreated. Mining a dataset of 53M children using meaningful geographic regions, researchers computed autism prevalence across the country. They then performed comparative analysis against 50,000 resources to identify the type and extent of gaps in access to autism services. They found a steady increase in autism diagnoses from K-5, supporting delayed diagnosis of autism, and consistent under-diagnosis of females. They also found a significant inverse relationship between prevalence and availability of resources. This identification of resource gaps can potentially direct and prioritize new innovations.
Lindsey Nebeker	**Nominated article:** Yousefvand S, Dadgar H, Mohammadi MR, Maroufizadeh S, Yousefvand S. Broader Autism Phenotype and Communication Skills in Parents of Children with Autism. *jmr*. 2022;16(4):338-346. https://doi.org/10.18502/jmr.v16i4.10761
	Justification from IACC member who nominated article: This study aimed to determine the communication profile of parents of children with autism and parents of typically developing children (TDC). Broad autism phenotype and communication skills were measured using the broad autism phenotype questionnaire (BAPQ) and the Queendom communication skill test (QCST) in parents of children with autism and parents of TDC. The results of this study showed a difference between parents' communication skills in the two groups. Parents of children with ASD have more communication characteristics of autism than the control group, Fathers in the ASD group scored higher in the total scores of autism communication traits and some subtests which require further research in this area.
	## Lifespan
Lindsey Nebeker	**Nominated article:** Al-Beltagi M, Saeed NK, Bediwy AS, Alhawamdeh R, Qaraghuli S. Effects of COVID-19 on children with autism. *World J Virol*. 2022 Nov 25;11(6):411-425. [PMID: 36483100]

	Justification from IACC member who nominated article: The COVID-19 pandemic affects all countries and populations worldwide, significantly impacting people with autism with a high risk of morbidity and mortality due to COVID-19. Approximately 25% of children with autism have an asymptomatic or symptomatic immune deficiency or dysfunction. In addition, they frequently have various comorbid conditions that increase the severity of COVID-19. In addition, severe COVID-19 during pregnancy may increase the risk of autism in the offspring. In this review, they discuss the various effects of COVID-19 on children with autism, the difficulties they face, the increased risk of infection during pregnancy, how to alleviate the impact of COVID-19, and how to correct the inequalities in children with autism.
SSA	**Nominated article:** Bury SM, Jellett R, Haschek A, Wenzel M, Hedley D, Spoor JR. Understanding language preference: Autism knowledge, experience of stigma and autism identity. *Autism*. 2022 Dec 13:13623613221142383. [PMID: 36510834]
	Justification from IACC member who nominated article: There is ongoing discussion around what language is acceptable when talking about someone with an autism diagnosis, especially regarding person-first (e.g. person with autism) or identity-first (e.g. autistic person) language. Findings from this study of 198 Australian adults with an autism diagnosis help provide some context as to why people prefer or find offensive specific terms, at least for identity-first language. For identity-first terms, those who endorse a stronger autism identity tended to find identity-first terms more preferable and less offensive, whereas those who reported greater experiences and internalization of stigma tended to find identity-first terms less preferable and more offensive.
DOL	**Nominated article:** Cope R, Remington A. The Strengths and Abilities of Autistic People in the Workplace. *Autism Adulthood*. 2022 Mar 1;4(1):22-31. [PMID: 36605563]
	Justification from IACC member who nominated article: This study surveyed 66 autistic adults from the United Kingdom about their employment-related strengths. It used thematic analysis to identify commonalities among participants' experiences and areas where they felt they could perform better than non-autistic peers. Participants identified superior creativity, focus, memory, and efficiency as key strengths. They also stressed personal qualities, such as dedication to work and unique autism-specific perspectives.
Lindsey Nebeker	**Nominated article:** Doherty M, Neilson S, O'Sullivan J, Carravallah L, Johnson M, Cullen W, Shaw SCK. Barriers to healthcare and self-reported adverse outcomes for autistic adults: a cross-sectional study. *BMJ Open*. 2022 Feb 22;12(2):e056904. [PMID: 35193921]
	Justification from IACC member who nominated article: Autistic people experience poor physical and mental health along with reduced life expectancy compared with non-autistic people. The researchers' aim was to identify self-reported barriers to primary care access by autistic adults compared with non-autistic adults and to link these barriers to self-reported adverse health consequences. Following consultation with the autistic community at an autistic conference, *Autscape*, researchers developed a self-report survey, which was administered online through social media platforms. Self-reported adverse health outcomes experienced by autistic adults were associated with barriers to accessing healthcare. Reduction of healthcare

	inequalities for autistic people requires that healthcare providers understand autistic perspectives, communication needs and sensory sensitivities.
Julie Lounds Taylor	**Nominated article:** Forbes G, Kent R, Charman T, Baird G, Pickles A, Simonoff E. How do autistic people fare in adult life and can we predict it from childhood? *Autism Res*. 2022 Dec 15. [PMID: 36519265]
	Justification from IACC member who nominated article: This study that followed up a population-based sample of children/adolescents on the autism spectrum into early adulthood. They combined information on working/education, living arrangements, and social relationships into an overall index of adult outcome – findings were generally more positive than other studies of adult outcome which might reflect that this is a population-based sample and not a sample that was ascertained from clinics. Earlier characteristics like adaptive behavior and IQ predicted likelihood of working and living independently, but did not predict likelihood of having friendships or mental health. These results suggest that mental health, in particular, might be more impacted by the things going in on in a person's life and less impacted by the characteristics of the autistic person. By primarily relying on parental report, this study was able to include a wide range of the autism spectrum including those young adults who were not able to report for themselves.
DOL	**Nominated article:** Goldfarb Y, Gal E, Golan O. Implications of Employment Changes Caused by COVID-19 on Mental Health and Work-Related Psychological Need Satisfaction of Autistic Employees: A Mixed-Methods Longitudinal Study. *J Autism Dev Disord*. 2022 Jan;52(1):89-102. [PMID: 33635422]
	Justification from IACC member who nominated article: This mixed methods study in Israel examined the impact of changes in employment for autistic people during the COVID-19 pandemic. It surveyed and interviewed autistic workers about their work status, mental health, and work-related psychological need satisfaction. It found a significant decrease in mental health for participants who lost their jobs during the COVID-19 pandemic. Participants who shifted to remote-based work had only a marginally significant decrease in mental health. However, they did also experience a significant decrease in satisfaction of work-related psychological needs for competence and autonomy.
Lindsey Nebeker	**Nominated article:** Groenman AP, Torenvliet C, Radhoe TA, Agelink van Rentergem JA, Geurts HM. Menstruation and menopause in autistic adults: Periods of importance? *Autism*. 2022 Aug;26(6):1563-1572. [PMID: 34825585]
	Justification from IACC member who nominated article: Little is known about menstruation and menopause in autism. Some smaller studies indicate that autistic individuals might suffer from increased difficulties surrounding these events. This study aimed to investigate whether autistic women experience more frequent premenstrual dysphoric disorder, causing extreme physical, emotional, and functional impairment. In a partly overlapping sample, they also examined whether women with autism experience increased complaints surrounding menopause. They did not find an increased prevalence of premenstrual dysphoric disorder in autism (14.3%) compared with non-autistic women (9.5%). Those with autism did experience increased menopausal complaints. These menopausal complaints were associated with higher levels of depression and autistic traits. In non-autistic women, menopausal

	complaints were associated with increased inattention, hyperactivity/impulsivity (i.e. attention deficit hyperactivity disorder traits), and depression. With this work, they show the important role that major reproductive milestones can have in an autistic woman's life.
Lindsey Nebeker	**Nominated article:** Harmens M, Sedgewick F, Hobson H. Autistic women's diagnostic experiences: Interactions with identity and impacts on well-being. *Womens Health (Lond).* 2022 Jan-Dec;18:17455057221137477. [PMID: 36377396]
	Justification from IACC member who nominated article: There has been suggestion that current diagnostic instruments are not sufficient for detecting and diagnosing autism in women, and research suggests that a lack of diagnosis could negatively impact autistic women's well-being and identity. This study aimed to explore the well-being and identity of autistic women at three points of their diagnostic journey: self-identifying or awaiting assessment, currently undergoing assessment or recently diagnosed, and more than a year post-diagnosis. Mixed-methods were used to explore this with 96 women who identified as autistic and within one of these three groups. Participants completed an online questionnaire, and a sub-sample of 24 of these women participated in a semi-structured interview. The results suggest that autistic women's well-being and identity differ in relation to their position on the diagnostic journey in a non-linear manner.
Lindsey Nebeker	**Nominated article:** Hendriks O, Wei Y, Warrier V, Richards G. Autistic Traits, Empathizing-Systemizing, and Gender Diversity. *Arch Sex Behav*. 2022 May;51(4):2077-2089. [PMID: 35467170]
	Justification from IACC member who nominated article: Previous research indicates a link between autism and transgender and gender-diverse identities, though the association is not yet fully understood. The current study examined autistic traits (Autism Spectrum Quotient [AQ]), empathizing (Empathizing Quotient-Short [EQ-S]), and systemizing (Systemizing Quotient-Short [SQ-S]) in a sample of 89 adults and aimed to test whether gender-diverse individuals exhibit cognitive profiles consistent with predictions derived from the Extreme Male Brain (EMB) theory.
SSA	**Nominated article:** Huang Y, Hwang YIJ, Arnold SRC, Lawson LP, Richdale AL, Trollor JN. Autistic Adults' Experiences of Diagnosis Disclosure. *J Autism Dev Disord*. 2022 Dec;52(12):5301-5307. [PMID: 34978025]
	Justification from IACC member who nominated article: As autism is an invisible and often stigmatized condition, disclosing the diagnosis may lead to both support and/or discrimination. This mixed-methods questionnaire study examined autistic adults' experiences of disclosure in various contexts. The sample consisted of 393 participants aged 17-83 years from two longitudinal surveys. Almost all participants disclosed their diagnosis to someone, most commonly to friends. A significant minority of participants studying and/or working at the time had not disclosed to their education provider/employer. Content analysis of open-ended responses showed participants desired to gain understanding and support from disclosure but feared prejudice. While some received support, others encountered dismissiveness and misunderstanding. Findings highlight the need to improve autism understanding and reduce stigma within and beyond educational and employment contexts.

NIMH	**Nominated article:** Jadav N, Bal VH. Associations between co-occurring conditions and age of autism diagnosis: Implications for mental health training and adult autism research. *Autism Res*. 2022 Nov;15(11):2112-2125. [PMID: 36054777]
	Justification from IACC member who nominated article: Adult autism studies are increasingly comprised of later-diagnosed adults, yet little is known about how these adults compare to those diagnosed earlier in life. This study examines medical and psychiatric conditions endorsed by autistic adults and documents differences between those diagnosed with ASD in childhood versus adulthood, as well as across age groups and sex at birth. These findings underscore the need for research to better understand and treat co-occurring psychiatric conditions in autistic adults and report and consider the age of diagnosis in adult autism samples. Moreover, results suggest it is imperative that mental health professionals receive autism training to promote accurate differential diagnosis and equitable access to mental health care for autistic adults with co-occurring psychiatric conditions.
HRSA	**Nominated article:** Kim SA, Baczewski L, Pizzano M, Kasari C, Sturm A. Discrimination and Harassment Experiences of Autistic College Students and Their Neurotypical Peers: Risk and Protective Factors. *J Autism Dev Disord*. 2022 Sep 14. [PMID: 36103077]
	Justification from IACC member who nominated article: This study examines autistic and non-autistic college students' experiences of discrimination and harassment and identifies protective and risk factors. A nationwide survey was used to match autistic students and non-autistic students on co-occurring diagnoses and demographic characteristics. Findings highlight the importance of faculty support in fostering positive interpersonal experiences on campus and demonstrate the need to address deeper college campus issues with respect to neurodiversity.
SSA	**Nominated article:** Lee NR, McQuaid GA, Grosman HE, Jayaram S, Wallace GL. Vocational Outcomes in ASD: An Examination of Work Readiness Skills as well as Barriers and Facilitators to Employment Identified by Autistic Adults. *J Autism Dev Disord*. 2022 Nov 17:1–14. [PMID: 36394783]
	Justification from IACC member who nominated article: Little is known about work readiness skills among autistic adults. This study sought to address this by examining work readiness skills and their relation to vocational outcomes among 281 autistic young adults. It also examined perceived barriers and facilitators to employment as articulated by a subset of autistic adults. Results revealed a variegated work readiness profile. Stronger work readiness skills (particularly work style/adaptability) were associated with more favorable vocational outcomes. Autistic participants articulated both barriers and facilitators to employment related to the autism phenotype, job search/work readiness, and workplace education. These findings indicate the need for research on phenotype-driven vocational rehabilitation strategies as well as workplace psychoeducation/accommodations to support vocational outcomes for autistic adults.
DOL	**Nominated article:** Martin V, Flanagan TD, Vogus TJ, Chênevert D. Sustainable employment depends on quality relationships between supervisors and their employees on the autism spectrum. *Disabil Rehabil*. 2022 May 16:1-12. [PMID: 35576174]
	Justification from IACC member who nominated article:

	This study conducted nine case histories that interviewed autistic workers, employers, and job coaches. It examined the key factors that can help support sustained employment of autistic workers. The study found that a key facilitator for employment was the quality of the relationship between managers and autistic workers. Success in fostering these relationships relied on job coaches and their skilled facilitation for work by autistic workers at all stages of the work cycle. These stages included hiring of workers, onboarding, training, and performance management.
NIMH	**Nominated article:** Martini MI, Kuja-Halkola R, Butwicka A, Du Rietz E, D'Onofrio BM, Happé F, Kanina A, Larsson H, Lundström S, Martin J, Rosenqvist MA, Lichtenstein P, Taylor MJ. Sex Differences in Mental Health Problems and Psychiatric Hospitalization in Autistic Young Adults. *JAMA Psychiatry*. 2022 Dec 1;79(12):1188-1198. [PMID: 36287538]
	Justification from IACC member who nominated article: Little is known about sex differences in psychiatric conditions and hospitalization in early adulthood. This study aimed to examine sex differences in psychiatric diagnoses and hospitalizations in autistic compared with non-autistic young adults. This population-based cohort study assessed all individuals born in Sweden between 1985 and 1997. For most conditions, autistic female individuals were at higher risk for psychiatric diagnoses and hospitalizations. Both autistic female and male individuals had a higher relative risk for psychiatric hospitalization compared with non-autistic female and male individuals for all conditions. These findings highlight the need for profound mental health services among autistic young adults. Autistic female individuals, who experience more psychiatric difficulties at different levels of care, require increased clinical surveillance and support.
HRSA	**Nominated article:** Must A, Eliasziw M, Bowling A, Magaña S, Stanish H, Bandini L, Curtin C, Kral TVE. Relationship between Childhood Obesity and Autism Spectrum Disorder Varies by Child's Age and Parents' Weight Status in a Sample of Sibling Dyads. *Child Obes*. 2022 Aug 22. [PMID: 35994016]
	Justification from IACC member who nominated article: Children with autism spectrum disorder (ASD) are more likely to have obesity compared to children without ASD, but studies may report biased estimates because of limitations accounting for potentially important factors that may differ between these two groups of children. The study used data from a unique data repository of siblings in "simplex" families (i.e., families that include only one offspring with ASD) to avoid these potential pitfalls. The authors found that the prevalence of obesity diverged substantially at older ages, with greater prevalence among children with autism than their full neurotypical siblings. The sibling difference likely reflects unshared environmental factors. Parental obesity increased the risk of child obesity in both groups. These findings can inform the timing and design of preventive interventions.
SSA	**Nominated article:** Petty S, Tunstall L, Richardson H, Eccles N. Workplace Adjustments for Autistic Employees: What is 'Reasonable'? *J Autism Dev Disord*. 2022 Jan 12:1–9. [PMID: 35020116]
	Justification from IACC member who nominated article: Autistic adults are inadequately supported in the workplace. This study sought a definition of 'reasonable' and explored facilitators and barriers to employers making reasonable adjustments. 98 employers and employees across a UK city completed a

	survey; 15% identified as being autistic. Qualitative data were analyzed using framework analysis. Reasonable adjustments were defined as having a positive impact on autistic employees' wellbeing and work outputs without being detrimental to non-autistic employees or the organization; they were low cost and easily implemented. Recommendations were for autism awareness training, low-stimulus work spaces, clear instructions and flexible working hours. A definition of reasonable is added to the literature, with suggestions of where to invest support efforts. Recommendations mostly apply to the education sector.
NIMH	**Nominated article:** Shea L, Tao S, Marcus SC, Mandell D, Epstein AJ. Medicaid Disruption Among Transition-Age Youth on the Autism Spectrum. *Med Care Res Rev*. 2022 Aug;79(4):525-534. [PMID: 34632834]
	Justification from IACC member who nominated article: Enrollment in Medicaid facilitates access to needed services among transition-age youth on the autism spectrum and youth with intellectual disability (ID). There are long-standing programs to ensure that individuals with ID remain enrolled as they age; similar programs for autistic youth are newer, not as widespread, and may not be as effective. Researchers compared Medicaid disenrollment and re-enrollment between transition-age youth on the autism spectrum, youth with ID, and youth with both diagnoses using a national claims-based prospective cohort study from 2008 through 2012. Autistic youth were most likely to disenroll and least likely to re-enroll. Disenrollment peaked for all three groups at ages 19 and 21. Transition-age youth on the autism spectrum experience more disruptions in access to Medicaid-reimbursed services than youth with ID. More equitable Medicaid enrollment options for autistic individuals are needed to ensure their access to critical health care as they age.
NIMH, HRSA	**Nominated article:** Schott W, Tao S, Shea L. Co-occurring conditions and racial-ethnic disparities: Medicaid enrolled adults on the autism spectrum. *Autism Res*. 2022 Jan;15(1):70-85. [PMID: 34854249]
	Justification from IACC member who nominated article: **NIMH**: Autistic adults may have several co-occurring physical and mental health conditions, which could differ by racial/ethnic group. Researchers found that, compared to the general Medicaid population, autistic adult Medicaid beneficiaries have elevated odds of some health conditions, like epilepsy and nutrition conditions, as well as some psychiatric conditions, such as anxiety and attention disorders. They also found that many of the same health disparities by racial/ethnic group in the general population persist among the autistic adult Medicaid population. For example, Black, Hispanic, and Asian Medicaid autistic beneficiaries have higher odds of diabetes, and Black and Hispanic autistic beneficiaries have higher odds of obesity and nutrition conditions than white autistic beneficiaries. **HRSA**: Using national Medicaid data, findings from this study present new and specific information about health inequities faced as autistic individuals age into adulthood. The heightened risk for accruing diabetes, cardiovascular diseases and hypertension within marginalized groups issues an urgent call to action for improved prevention and screening for these conditions and the provision of supports to improve health outcomes. Limited research has a large or diverse enough sample to examine these

	specific issues and the emphasis within the Medicaid system presents a timely opportunity for needed reform within the largest behavioral health insurer in the US.
DOL	**Nominated article:** Stratton E, Glozier N, Woolard A, Gibbs V, Demetriou EA, Boulton KA, Hickie I, Pellicano E, Guastella AJ. Understanding the vocational functioning of autistic employees: the role of disability and mental health. *Disabil Rehabil*. 2022 May 4:1-9. [PMID: 35508414]
	Justification from IACC member who nominated article: This study examined the vocational experiences of 88 autistic workers via the use of questionnaires. It sought to learn more about the impact of mental health and self-reported disability. It focused on two key measures: disability days off work and vocational disability. Nearly half (47%) of participants reported at least one disability day absence from work in the prior month. It also found that greater disability and increased symptoms for mental health conditions were associated with both disability days off work and vocational disability.
Lindsey Nebeker	**Nominated article:** Taylor SC, Gehringer BN, Dow HC, Langer A, Rawot E, Smernoff Z, Steeman S, Almasy L, Rader DJ, Bučan M, Brodkin ES. Contrasting Views of Autism Spectrum Traits in Adults, Especially in Self-Reports vs. Informant-Reports for Women High in Autism Spectrum Traits. *J Autism Dev Disord*. 2022 Dec 9:1–13. [PMID: 36484966]
	Justification from IACC member who nominated article: There is uncertainty among researchers and clinicians about how to best measure autism spectrum dimensional traits in adults. In a sample of adults with high levels of autism spectrum traits and without intellectual disability and their family members, researchers sought to compare self vs. informant reports of autism spectrum-related traits and possible effects of sex on discrepancies. Their findings suggest that autism spectrum traits are often underrecognized by informants, making self-report data important to collect in clinical and research settings.
DOL	**Nominated article:** Whelpley CE, May CP. Seeing is Disliking: Evidence of Bias Against Individuals with Autism Spectrum Disorder in Traditional Job Interviews. *J Autism Dev Disord*. 2022 Mar 16. [PMID: 35294714]
	Justification from IACC member who nominated article: This study examined bias against autistic job candidates in their performance on job interviews when compared to neurotypical peers. Respondents rated how job candidates performed on mock interviews by either watching interview videos or reading interview transcripts (text). They scored neurotypical job candidates at a higher rating when using interview videos to rate them. In contrast, they scored autistic job candidates at a higher rate when using interview transcripts (text) to rate them.

Infrastructure and Prevalence

Joseph Piven	**Nominated article:** Catalá-López F, Hutton B, Page MJ, Driver JA, Ridao M, Alonso-Arroyo A, Valencia A, Macías Saint-Gerons D, Tabarés-Seisdedos R. Mortality in Persons With Autism Spectrum Disorder or Attention-Deficit/Hyperactivity Disorder: A Systematic Review and Meta-analysis. *JAMA Pediatr*. 2022 Apr 1;176(4):e216401. [PMID: 35157020]
	Justification from IACC member who nominated article:

	This is perhaps the largest (meta) analysis of mortality risk in autism and attention-deficit/hyperactivity disorder, examining records on 154, 238 autistic and 396 488 ADHD subjects. Both conditions were associated with increased risk for mortality. This study provides a road map for examining mechanisms underlying these findings and outlining directions for targeted interventions to ameliorate the elevated risk of mortality in autism.
SSA	**Nominated article:** D'Mello AM, Frosch IR, Li CE, Cardinaux AL, Gabrieli JDE. Exclusion of females in autism research: Empirical evidence for a "leaky" recruitment-to-research pipeline. *Autism Res*. 2022 Oct;15(10):1929-1940. [PMID: 36054081]
	Justification from IACC member who nominated article: According to the research findings, a screening test commonly used to determine eligibility for studies of autism consistently winnows out a much higher percentage of women than men. This creates a "leaky pipeline" that results in severe underrepresentation of women in studies of autism. Because of this lack of representation, it makes it more difficult to develop useful interventions or provide accurate diagnoses for girls and women.
NIMH	**Nominated article:** Etyemez S, Esler A, Kini A, Tsai PC, DiRienzo M, Maenner M, Lee LC. The role of intellectual disability with autism spectrum disorder and the documented cooccurring conditions: A population-based study. *Autism Res*. 2022 Dec;15(12):2399-2408. [PMID: 36245337]
	Justification from IACC member who nominated article: Previous research has identified that patterns of cooccurring conditions (CoCs) associated with autism differ based on the presence of intellectual disability (ID). This study explored the association of documented CoCs among 8-year-old children with ASD and ID (ASD+ID, n = 2416) and ASD without ID (ASD-ID, n = 5372) identified by the Autism and Developmental Disabilities Monitoring Network, surveillance years (SYs) 2012 and 2014. After adjusting for demographic variables, record source, surveillance site, and SY, children with ASD+ID, as compared with children with ASD-ID, were more likely to have histories of nonspecific developmental delays and neurological disorders documented in their records but were less likely to have behavioral and psychiatric disorders. ID plays a key role on how children with ASD would experience other CoCs.
Lindsey Nebeker	**Nominated article:** Heyl J, Hardy F, Tucker K, Hopper A, Marchã MJ, Liew A, Reep J, Harwood KA, Roberts L, Yates J, Day J, Wheeler A, Eve-Jones S, Briggs TWR, Gray WK. Data quality and autism: Issues and potential impacts. *Int J Med Inform*. 2022 Nov 28;170:104938. [PMID: 36455477]
	Justification from IACC member who nominated article: Large healthcare datasets can provide insight that has the potential to improve outcomes for patients. However, it is important to understand the strengths and limitations of such datasets so that the insights they provide are accurate and useful. The aim of this study was to identify data inconsistencies within the Hospital Episodes Statistics (HES) dataset for autistic patients and assess potential biases introduced through these inconsistencies and their impact on patient outcomes. The study can only identify inconsistencies in recording of autism diagnosis and not whether the inclusion or exclusion of the autism diagnosis is the error. Data inconsistencies in the HES database were relatively common in autistic patients and were associated a

	number of patient and hospital admission characteristics. Such inconsistencies have the potential to distort our understanding of service use in key demographic groups.
HRSA	**Nominated article:** Kuo AA, Hotez E, Rosenau KA, Gragnani C, Fernandes P, Haley M; AIR-P NATIONAL COORDINATING CENTER; Rudolph D, Croen LA, Massolo ML, Holmes LG, Shattuck P, Shea L, Wilson R, Martinez-Agosto JA, Brown HM, Dwyer PSR, Gassner DL, Kapp SK, Ne'eman A, Ryan JG, Waisman TC, Williams ZJ; AUTISTIC RESEARCHER REVIEW BOARD; DiBari JN, Foney DM, Ramos LR, Kogan MD. The Autism Intervention Research Network on Physical Health (AIR-P) Research Agenda. *Pediatrics*. 2022 Apr 1;149(Suppl 4):e2020049437D. [PMID: 35363290]
	Justification from IACC member who nominated article: The AIR-P Research Agenda was developed through collaborations with researchers, practitioners, stakeholders, and autistic individuals. This research agenda represents an important step forward for enacting large-scale health-promotion efforts for autistic individuals across the lifespan. This agenda will catalyze autism research in historically underrepresented topic areas (eg, gender, sexuality, and reproductive health) while adopting a neurodiversity-oriented approach to health-promotion. **Editorial note from OARC: Research agenda; article does not present original research.**
CDC, NIMH	**Nominated article:** Shaw KA, McArthur D, Hughes MM, Bakian AV, Lee LC, Pettygrove S, Maenner MJ. Progress and Disparities in Early Identification of Autism Spectrum Disorder: Autism and Developmental Disabilities Monitoring Network, 2002-2016. *J Am Acad Child Adolesc Psychiatry*. 2022 Jul;61(7):905-914. [PMID: 34838692]
	CDC: Historically, the Autism and Developmental Disabilities (ADDM) Network reported the median age of autism spectrum disorder (ASD) identification, which changed little over time, leading some to conclude that no progress has been made in early ASD detection. This interpretation is problematic, in part, because it does not account for the considerable changes in prevalence over time. In contrast, Shaw et al. showed the cumulative incidence ASD identification by age 48 months was 4 times (95% CI: 3.6-4.3) as likely in 2016 as in 2002, with the largest increases among children without ID. The cumulative incidence approach also revealed striking racial disparities: in 2016, Black and Hispanic children without ID were less likely to be identified with ASD than were White children (both groups risk ratio: 0.7; 95% CI: 0.5-0.8), but Black children were 1.5 times (95% CI: 1.3-1.9) as likely as White children to be identified with ASD and ID. Substantial progress has been made to identify more children with ASD early, despite minimal decrease in median age at diagnosis. Considerable disparities remain in early ASD identification by race/ethnicity and co-occurring intellectual disability. An accompanying editorial by Sheldrick described this as a "watershed analysis" that has "tremendous implications for both research and policy". **NIMH**: Using data for 2002-2016 from a biennial population-based ASD surveillance program among 8-year-old children in the United States, researchers defined identification as a child's earliest recorded ASD diagnosis or special education eligibility. Researchers found that ASD identification by age 48 months was 4 times (95% CI: 3.6-4.3) as likely in 2016 as in 2002, with the largest increases among children without ID. Children of every race/ethnicity were more likely to be identified over time. There were racial disparities stratified by ID: in 2016, Black and Hispanic children without ID were

	less likely to be identified with ASD than were White children, but Black children were 1.5 times (95% CI: 1.3-1.9) as likely as White children to be identified with ASD and ID. Substantial progress has been made to identify more children with ASD early, despite minimal decrease in median age at diagnosis. Considerable disparities remain in early ASD identification by race/ethnicity and co-occurring intellectual disability.
Alycia Halladay	**Nominated article:** Singer A, Lutz A, Escher J, Halladay A. A full semantic toolbox is essential for autism research and practice to thrive. *Autism Res*. 2022 Dec 12. [PMID: 36508163]
	Justification from IACC member who nominated article: Member justification pending. **Editorial note from OARC: Article is a commentary and does not present original research.**
Lindsey Nebeker	**Nominated article:** Varcin KJ, Herniman SE, Lin A, Chen Y, Perry Y, Pugh C, Chisholm K, Whitehouse AJO, Wood SJ. Occurrence of psychosis and bipolar disorder in adults with autism: A systematic review and meta-analysis. *Neurosci Biobehav Rev*. 2022 Mar;134:104543. [PMID: 35063494]
	Justification from IACC member who nominated article: Evidence suggests that individuals with autism have increased rates of co-occurring psychosis and/or bipolar disorder. Considering the peak age of onset for psychosis and bipolar disorder occurs in adulthood, researchers investigated the co-occurrence of these disorders in adults with autism. Fifty-three studies were included. The pooled prevalence for the co-occurrence of psychosis in adults with autism was 9.4 % (N = 63,657, 95 %CI = 7.52, 11.72). The pooled prevalence for the co-occurrence of bipolar disorders in adults with autism was 7.5 % (N = 31,739, 95 %CI = 5.79, 9.53). Psychosis and bipolar disorder occur at a substantially higher prevalence in adults with autism compared to general population estimates. While there is an overall dearth of research examining risk factors for these disorders in autism, males had increased likelihood of co-occurring psychosis, and females of co-occurring bipolar disorder. These results highlight the need for ongoing assessment and monitoring of these disorders in adults with autism.
Alycia Halladay	**Nominated article:** Zubler JM, Wiggins LD, Macias MM, Whitaker TM, Shaw JS, Squires JK, Pajek JA, Wolf RB, Slaughter KS, Broughton AS, Gerndt KL, Mlodoch BJ, Lipkin PH. Evidence-Informed Milestones for Developmental Surveillance Tools. *Pediatrics*. 2022 Mar 1;149(3):e2021052138. [PMID: 35132439]
	Justification from IACC member who nominated article: Member justification pending.