ABSTRACT 1
Parent Developmental Concerns, Provider Response to Concerns, and Delays in Diagnosis for Children with Autism and other Developmental Disorders
Katharine E. Zuckerman, MD, MPH, Olivia Lindly, MPH, Brianna Sinche, MPH, Christina Bethell, PhD, MBA, MPH, Pediatrics, Oregon Health & Science University, Portland, OR
PURPOSE: To assess whether age of initial parent developmental concern differs between children with autism spectrum disorder (ASD) vs other developmental conditions, and to assess whether provider response to initial parent concern is associated with earlier diagnosis.
METHODS: Using data from the 2011 Survey of Pathways to Diagnosis and Services, we assessed parent concerns and diagnostic experiences in 1420 children with Autism Spectrum disorder (ASD) and 2579 children with intellectual disability or developmental delay (DD). We calculated child age at parent’s first concerns, time between concerns and first conversation with a provider about concerns, and time between concerns and definitive developmental diagnosis. We used logistic regression to test the association between provider response to concerns, categorized as proactive (e.g., referred parent to a specialist) vs. reassuring/passive (e.g., said the child may “grow out of it”) with experience of diagnostic delay more than 2 years.
RESULTS: Compared to children with DD, children with ASD had a significantly lower age of initial parent concern (2.12 vs 3.02 years; p<0.001) and initial discussion of concerns with a provider (2.33 vs 3.22 years; p<0.001). However, children with ASD were less likely than children with DD to have experienced 2 or more proactive provider responses to their concerns (AOR: 0.70[0.540-0.93]) and were more likely to have experienced 1 or more reassuring/passive responses [AOR: 1.48 (1.15-1.95)]. Among children with ASD, those with 2 or more proactive provider responses to parent developmental concerns had lower adjusted odds of a >2 year delay between discussion of concerns and ASD diagnosis [AOR 0.45(0.30-0.68)]. In contrast, CHSCHC with 1 or more passive/reassuring provider responses had higher odds of this delay [AOR 2.90 (1.82-4.30)].
CONCLUSION: Compared to children with DD, children with ASD are more likely to have early parental concerns, but are less likely to have proactive provider response to these concerns. Passive/reassuring provider responses were associated with diagnostic delays for children with ASD, highlighting the need for targeted quality improvement in pediatric primary care settings.

ABSTRACT 2
The Rapid Interactive Test for Autism in Toddlers (RITA-T): a New Level 2 Autism Spectrum Disorder (ASD) Screening Test in Toddlers
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PURPOSE: To evaluate the RITA-T for use as a level 2 ASD screening tool in toddlers.
METHODS: The RITA-T includes 9 items that evaluate social communication skills in toddlers, in 10 minutes. We have established its scoring algorithm, manual, and training protocol. We enrolled toddlers 12-36 months old who were (a) typically developing (TD) and (b) referred to developmental clinics for evaluation of a concern about developmental delays (DD) or ASD. The RITA-T was administered by a reliably trained research coordinator to toddlers in both subsamples. In the referred sample, clinicians administered theADOS module 1, assessed the DSM 4 and DSM 5 criteria for ASD, and provided diagnoses (ASD or DD). All parents completed the MCHAT. We compared RITA-T scores in the TD, ASD and DD subsamples using the Kruskal-Wallis test. We investigated correlations among the total scores of the RITA-T, the ADOS, and the MCHAT. We also determined a cut off score for the RITA-T based on clinical diagnoses and ROC curves with the DSM 4 and DSM 5 results.
RESULTS: A total of 138 toddlers were enrolled. 77 had a diagnosis of ASD, 27 had a diagnosis of a DD (Global Developmental Delay in 17 and Behavioral Disorder in 2); 34 were TD. RITA-T scores were significantly different in the three groups: ASD: mean 20.4 (SD 3.8); DD: mean 12.7 (2.8) and TD: mean 10.2 (2.4) (p < 0.0001). The RITA-T total score strongly correlated with the MCHAT total score (Pearson correlation 0.66, p < 0.0001) and with the ADOS (Pearson correlation 0.7, p < 0.0001). Based on DSM 5 criteria a cut-off score of 18 has a Sensitivity of 74.2%, Specificity of 76.2% and PPV of 82.1% for ASD vs. DD. Using DSM 4 criteria, a cut-off score of 18 has Sensitivity of 72.9%, Specificity of 85.5%, PPV of 91.1%.
CONCLUSION: The RITA-T is a good level 2 ASD screening test for toddlers: in 10 minutes it fits well into clinic flow, is easy to learn reliably, and has good discriminative properties. The RITA-T may also have value in monitoring response to treatment and this is being investigated.

ABSTRACT 3
Effectiveness of a Peer Model Education Curriculum in Training Peer Models to Teach Social Skills to Children with Autism Spectrum Disorders
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PURPOSE: Social skills deficits are a hallmark feature of Autism Spectrum Disorders (ASD). The inclusion of typical peers to model positive behaviors has shown effectiveness in acquisition, maintenance, and generalization of social skills in group settings; however most of this research is with preschool age children. There is very little research regarding peer model curriculum content or teaching strategies. This study examined the relationship between the use of the Peer Model Education Curriculum (PMEC) and corresponding changes in targeted skills for school-aged peer models.
METHODS: Four peer models were taught the didactic component of the PMEC along with 3 behavioral skills to be used while engaging with the children with ASD. The three skills taught were: a) initiating verbal interaction, b) prompting for social skills, and c) praising use of social skills. The peer models were delivered feedback of performance, and provided with verbal cues for prompting and praising. The cues were systematically introduced and faded. The design was a single-subject research design utilizing a multiple baseline across behaviors.
RESULTS: For each behavior, there was limited response to the teaching intervention (TI) alone. However, much higher levels of behavior were observed when performance feedback (PF) was introduced. Initiating verbal interaction was seen in 12.8% of intervals during baseline, 12.6% TI, and 65.8% PF. Prompting of skills was observed in 0% intervals in baseline, 2.6% with TI, and 55.2% with PF. Praise was 0% in baseline, 5.2% with TI, and 12.4% with PF. Prompting and praising behaviors did not generalize to a new setting, though there were continued high levels of verbal interaction. Both returned to higher levels (17% for praise and prompt) with additional cueing and both continued with the fading of cues. On a 5 point Likert scale, the mean peer model social validity scores for effectiveness of training, enjoyment of training, and satisfaction with the program were 4.7, 4.3, and 4.7, respectively.
CONCLUSION: This study showed that ‘train and hope’ is not effective, but rather PF and prompting is needed to train peer models targeted skills that assist with social skills development in peers with ASD.
ABSTRACT 4

Prevalence of Autism Spectrum Disorders and Obsessive Compulsive Disorder in Males with Duchenne and Becker Muscular Dystrophies

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PURPOSE: This is a pilot study to assess the prevalence of Autism Spectrum Disorders (ASD) and Obsessive Compulsive Disorder (OCD) in the childhood onset Duchenne and Becker Muscular Dystrophy (DBMD) population in a state-wide sample.

METHODS: Fifty-four males with DBMD (median age 12 years, range 3-22 years) were screened for ASD using the Social Communication Questionnaire (SCQ), and 44 of these participants (median age 14 years, range 6-22 years) were screened for OCD using the Yale-Brown Obsessive Compulsive Scale. A score of 11 or greater on the SCQ or a score of 16 or greater on the Y-BOCS qualified participants for complete diagnostic evaluation. ASD diagnostic evaluation included the Autism Diagnostic Interview, Revised and Autism Diagnostic Observation Schedule. OCD diagnostic evaluation involved a semi-structured interview with a child and adolescent psychiatrist.

RESULTS: Scores on the SCQ ranged from 0-24 with a median of 5 (25th-75th percentile: 2.9). SCQ scores were evenly distributed across age groups (Spearman correlation: r = 0.03, 95% CI: -0.24 to 0.35, p = 0.828). Scores on the Y-BOCS ranged from 0 to 59 with a median score of 0 (25th-75th percentile: 0). Y-BOCS scores rose with increasing age (Spearman correlation: r = 0.30, 95% CI: 0.03 to 0.55, p = 0.048). 7 participants qualified for diagnostic testing for ASD. An ASD was diagnosed in 2 participants (3.7%, 95% CI: 0.4% to 12.6%). 6 participants qualified for diagnostic evaluation for OCD. OCD was diagnosed in 4 participants (9.1%, 95% CI: 2.5% to 21.7%).

CONCLUSION: The reported frequency of symptoms indicating increased risk for an ASD did not change with age. The prevalence of ASD in DBMD in this study is similar to current general population rates in males. The number of OCD symptoms reported increased with age. The prevalence of OCD in DBMD in this study is elevated compared to general population rates, a finding that was suggested in one previous study. Prevalence of OCD should be further explored in a larger population of DBMD males. Confirmation of an elevated prevalence of OCD in DBMD could enhance early detection and symptom management.

ABSTRACT 5

Parent Health Beliefs, Child Health Services Utilization, and Child Health Care Quality among US Children with Autism and other Developmental Disorders

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PURPOSE: To examine variation in parent beliefs about disease prognosis and treatment and the association of parent health beliefs with child health services utilization and health care quality, among children with special health care needs having autism (CSHCN+ASD) vs CSHCN with other developmental disorders (intellectual disability and/or developmental delay: CSHCN+DD). We also used data from the 2011 Survey of Pathways to Diagnosis and Services and the 2009/10 National Survey of Children with Special Health Care Needs to assess parent health beliefs, child health service utilization, and health care quality among 1420 CSHCN+ASD and 2579 CSHCN+DD. Using logistic regression, we compared beliefs about disease prognosis (‘condition is permanent versus temporary’) and treatment efficacy (‘condition can be prevented or decreased with treatment’) in CSHCN+ASD versus CSHCN+DD, and among socio-demographic subgroups of CSHCN+ASD. We also assessed whether parent beliefs were associated with differential child health care utilization or quality among CSHCN+ASD.

RESULTS: CSHCN+ASD were more likely than CSHCN+DD to have parents who believed the child’s condition was lifelong rather than temporary [AOR: 1.83 (1.36-2.46)] or could be improved with treatment [AOR: 1.82 (1.35-2.48)]. Among CSHCN+ASD, those who were Hispanic or Black were less likely to have parents who believed that the condition was lifelong [AOR: 0.36 (0.20-0.67); AOR: 0.31 (0.15-0.61)]. Older age was associated with increased belief that the condition was life long and decreased belief that the condition improved with treatment. CSHCN+ASD whose parents believed treatment was effective were more likely to use psychotropic medications, but were also more likely to report difficulty accessing community-based services.

CONCLUSION: CSHCN+ASD and CSHCN+DD had parents who held different beliefs about disease prognosis and treatment. Among CSHCN+ASD, socio-demographic factors accounted for further variation in parent beliefs. Beliefs about ASD treatment efficacy were associated with different patterns of health services utilization. Providers should ask parents about their health beliefs since these beliefs may impact services use and satisfaction.

ABSTRACT 6

Deviant and Prosocial Peer Influence on Adolescent Suicidal Behavior

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PURPOSE: Current research indicates that adolescents are significantly more susceptible to peer influence than adults and that this susceptibility may act as a predictor of risky behavior, substance use, and depression. However, the association between adolescent suicidal behavior and peer influence is still unclear. Thus, the purpose of this study was to examine the effects of deviant and prosocial peer influence on adolescent suicide attempts.

METHODS: Using the Peer Behavior Inventory (PBI), the authors examined the peer relationships of 466 adolescents (13-19 years of age) over 13 school years; 15 suicidal male youth, and 40 never-suicidal, demographically matched psychiatric comparison subjects.

RESULTS: Of the four factors generated by the PBI, suicidal attempters and comparison subjects differed significantly on two factors (prosocial behavior and suicidality). An independent-samples t-test was conducted; suicide attempters reported a significantly higher proportion of peers with suicidality (mean = 0.19, SD = 0.23 vs. 0.04, t = 5.70, df = 76, p < 0.001), a difference that persisted after controlling for psychotropic medication use. Conversely, attempters reported a significantly lower proportion of peer engagement in prosocial behavior (i.e., getting good grades, involvement in school clubs/teams, etc.) (mean = 0.66, SD = 0.23 vs. 0.78 ± 0.21, t = -2.06, df = 75, p = 0.019), a difference that was attenuated after controlling for psychotropic medication use.

CONCLUSION: Adolescent suicidal behavior is associated with exposure to suicidal peers. Future research should examine the temporal association between exposure to suicidal peers and risk of suicidal behaviors, and determine longitudinally if prosocial peer interaction is protective for youths at risk of suicidal behavior.

ABSTRACT 7

Medical Evaluation of Children with Intellectual Disability: Clinician Non-Compliance with Published Guidelines

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PURPOSE: Children with intellectual disability (CID) are typically referred to developmental pediatricians (DP) and child neurologists (CN) for medical evaluation. Although the AAP and AAN have published evaluation guidelines, experience suggests DP and CN frequently order tests not recommended (i.e., EEG and MRI) and fail to order indicated tests (i.e., chromosomal microarray (CMA) and DNA for Fragile X (FraX)). Our goal was to assess the extent to which DP and CN follow published clinical guidelines for evaluating CID.

METHODS: A 2-page questionnaire was mailed to all DP and CN in the US asking for demographic information and which specific laboratory tests they would ‘ordinarily order’ for 3 hypothetical cases. This analysis focuses on the case of a 3-year old boy with Full Scale IQ ≤ 50, and no seizures, lethargy, regression, dysmorphic features, vomiting or macrocephaly (height ≥ 50%; head circumference ≥ 90%). Chi square tests were performed to compare the two disciplines (CN vs DP).

RESULTS: 131 DP and 125 CN responded. Overall, only 18% DP and 2.4% CN complied with AAP and AAN guidelines respectively (DP > CN, χ² = 16.11, p = 0.0001), and compliance did not differ with ≥ years in practice (≤15 vs ≥16 years, χ² = 0.29, p = 0.59). Although neither an EEG nor MRI are indicated in this case, 10% CN and 1.5% DP noted they would routinely order an EEG (CN > DP, χ² = 8.72, p = 0.003) and 58% CN and 10% DP would routinely order an MRI (CN > DP, χ² = 67.38, p < 0.0001). Although indicated, 30% CN and 24% DP would not routinely order CMA (DP > CN, χ² = 14.77, n.s.), and 37% CN and 20% DP would not order FraX (CN > DP, χ² = 9.09, p = 0.003). 2.3% DP and 6.4% CN

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would order an outdated karyotype without CMA ($\chi^2 = 2.63$, n.s.). Lead screening would be ordered by 4% DP and 33% CN (DP > CN; $\chi^2 = 3.11$, n.s.). CN practice setting did not influence EEG or MRI ordering.

**CONCLUSION:** The overwhelming majority of CN & DP in a national sample fail to follow published clinical guidelines for lab evaluation of CWID. Relative to DP, CN are more likely to order inappropriate EEGs and MRIs, yet less likely to order recommended genetic tests (FraX and CMA) and metabolic tests (lead level).

**ABSTRACT 8**

The Concerns Of Parents at High Psychosocial Risk: Can Families in Crisis Identify Developmental-Behavioral Problems in Their Children and Follow Through with Referral Recommendations?

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**PURPOSE:** BACKGROUND: 2-1-1 is a national call line serving annually 16 million families with non-emergent health and DB problems and are willing to follow through with referral considerations. 211LA referred (via live call transfers)'0.019). 14.9% of the data were collected retrospectively from parent and teacher forms of 2-1-1 is a national call line serving annually 16 million families with non-emergent health and DB problems and are willing to follow through with referral considerations. Relative to DP, CN referred 5.2% and 1.8% (CI 0.81-4.59) [211LA referred (via live call transfers)'.0.019). 14.9% of the data were collected retrospectively from parent and teacher forms of 2-1-1 is a national call line serving annually 16 million families with non-emergent health and DB problems and are willing to follow through with referral considerations. Data for 2-5 year old children (n = 52 DBP returned 5.3 (CI 3919) completed one or more screens on their 2-5 year old group. DBPs reviewed parent behavior-rating scales in 84.4% and teacher-assessment recommendations at the conclusion of the visit included counseling/behavior management.

**METHODS:** Peds Online was used to support interview administrations of Parents' Evaluation of Developmental Status (PEDS), the Modified Checklist of Autism in Toddlers (MCHAT) and Peds: Developmental Milestones (PEDS: DM).

**RESULTS:** 70% of 211LA families (N = 3919) completed one or more screens on their children (mean age = 3.1 years). Of parents: 45% spoke Spanish; 52% lived in poverty; 37% were high school graduates; and 88% were minorities. 69% raised concerns on PEDS. 60% performed below the 16th percentile in one or more domain on PEDS: DM. 16% failed the MCHAT. 211LA findings were compared to data on 8367 children seen in 12 general pediatric clinics in 6 US States. Family demographics were nationally representative: Spanish-speaking (12%); poverty levels (25%); high school graduation (78%); minorities (34%). Children of 211LA families were 4 times as likely to raise health or DB concerns [OR = 4.2 (CI 2.21-8.00)]. Children were twice as likely to have health problems and delays, and elevated risk autism spectrum disorder [OR = 1.8 (CI 1.00-5.48); 211LA referred (via live call transfers) all uninsured children and those with DB issues: 57% were successfully connected to SCHIP, Early Head Start, IDEA, etc. In contrast, referral uptake rates from general pediatric clinics (typically using nonfeasible referral methods such as fax, voicemail or email) is ~20% [OR = 5.1 (CI 2.82-9.96), p < 0.0001].

**CONCLUSION:** Parents, even in the midst of domestic crises, are willing to discuss worries about their children. Such families have children with high rates of non-emergent health and DB problems and are willing to follow through with referral recommendations.

**ABSTRACT 9**


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**PURPOSE:** To examine recent national trends in psychotropic prescriptions for very young children with behavioral disorders at U.S. outpatient medical visits.

**METHODS:** Data for 2-5 year old children (n = 43,598) from the 1994-2009 National Ambulatory and National Hospital Ambulatory Medical Care Surveys was used to estimate the weighted percentage of visits with identified behavioral disorders (attention-deficit/hyperactivity, disruptive behavior, pervasive developmental, sleep, anxiety, mood, or adjustment disorders), and weighted percentage of visits with psychotropic prescriptions (psychostimulant, antipsychotic, antidepressant, anxiolytic, or antidepressant) in this group of children. Multivariable logistic regression was used to identify factors associated with behavioral disorders and psychotropic use.

**RESULTS:** Behavioral disorder rates in 2-5 year old outpatient visits increased from 1.24% in 1994-97 to 1.94% in 2006-09. When adjusted for age, sex, race, and insurance type, the likelihood of having an identified behavioral disorder increased by 55% over time [AOR for 2006-09 vs. 1994-97, 1.55 (95% CI 1.15-2.12)]. Among visits with identified behavioral disorders, psychotrophic usage rates declined from 43.5% in 1994-97 to 29.2% in 2006-09, as the likelihood of psychotropic use in 2006-09 was half that of 1994-97 [AOR for 2006-09 vs. 1994-97, 0.47 (95% CI 0.26-0.85)].

**CONCLUSION:** Despite rising rates of behavioral disorder identification, the likelihood of psychotropic use in very young U.S. children with behavioral disorders decreased from the mid-1990’s to the late 2000’s.

**ABSTRACT 10**

Diagnostic Assessment of Attention-Deficit/Hyperactivity Disorder (ADHD) by Developmental-Behavioral Pediatricians (DBP) at Academic Medical Centers: A DBPNet Study

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**PURPOSE:** Understanding clinical practice patterns is a prerequisite in developing practice guidelines for diagnosis of ADHD for DBP. We studied practice patterns in the 12 academic medical centers of DBPNet between 12/2011 and 6/2012.

**METHODS:** All DBPs who evaluate children with ADHD were asked to complete a one-page synopsis of demographic and clinical information for <11 consecutive new cases that resulted in the diagnosis of ADHD. Forms were analyzed using descriptive statistics. For age analyses, children were divided into young (Y < 6yrs) vs old (O = >6yrs).

**RESULTS:** 52 DBP returned >1 or >1 forms for a total of 208 diagnostic encounters (range 5-56/site, 1-10/DBP). Children were 77% male; 62% white; 24% African American, and 21% Hispanic. Mean child age was 8.4 ± 3.1 years, 78% were in the old group. DBPs reviewed parent behavior-rating scales in 84.4% and teacher-rating scales in 69.2% of cases. DBPs reviewed or completed >1 developmental assessments in 79.8% of cases, including intelligence (61.1%) and academic tests (58.6%), or assessments of fine motor or visual/motor (39.4%), speech/language (35.1%), or adaptive skills (29.3%). Academic testing was more frequently reviewed or done in the old group (Y 41% vs O 64%; p = 0.007) and motor assessments in the young group (Y 64% vs O 5%; p = 0.019). 14.9% of the cases resulted in a provisional diagnosis; the proportion was higher in the young group (Y 30.4% vs O 10.5%; p < 0.001). 82.7% of cases were diagnosed with >1 co-existing conditions, including learning disabilities (52.2%), speech/language disorders (52.2%), anxiety (14.2%), externalizing disorders (11.3%), and sleep disorders (9.1%). Differences in prevalence of co-existing condition by age was significant only for learning disabilities (Y 4.3% vs O 40.1%; p < 0.001). Recommendations at the conclusion of the visit included counseling/behavior management (47.1%), further psychosocial assessment (25.5%), and additional speech/language services (22.6%).

**CONCLUSION:** Within DBPNet, DBP are highly likely to review parent- and teacher-rating scales, review or complete >1 developmental assessment, and identify >1 co-existing conditions in the initial diagnostic assessment of ADHD. They infrequently make the diagnosis of a co-existing externalizing disorder with the initial diagnosis.

**POSTER SYMPOSIUM ABSTRACTS**

**ABSTRACT 11**

Oppositional-Defiant Behavior is Associated with Anxiety in Preschoolers Referred for Developmental-Behavioral Evaluation

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**PURPOSE:** To examine associations between anxiety and oppositional-defiant (OD) behavior in preschoolers including those with ADHD, ODD or neither diagnosis (ND).

**METHODS:** Data were collected retrospectively from parent and teacher forms of the Early Childhood Inventory-4 (ECI-Gadow & Sprafkin, 2009) for 193 3-6 year olds referred for developmental-behavioral pediatrics evaluation. From parent and teacher
ratings, Total Anxiety (TA) and OD severity scores were calculated. Pearson correlations were computed between TA and OD. Backward elimination regressions were used to evaluate predictors of TA and OD. Candidate predictors were age, ADHD or ASD diagnosis, and parent and teacher TA and OD scores. Data were analyzed across all children and for ADHD (n = 69), ASD (n = 44) and ND (n = 80) groups.

RESULTS: For all subjects, mean TA (6.08 ± 4.97; p = 0.05) and OD (7.99 ± 6.08; p = 0.0012) were both higher by parent than teacher report. Both parents and teachers reported the ASD subgroup as the most anxious (8.10/8.43) and the ADHD subgroup as the most OD (10.95/8.73). There was a strong correlation between parent reported anxiety and OD (r = 0.45; p < 0.0001) and a weaker correlation between teacher reported anxiety and OD (r = 0.18; p = 0.018). For diagnostic groups, these relationships remained significant only for parent ratings (ADHD r = 0.31; p = 0.021; ASD r = 0.56; p < 0.0001; ND r = 0.59; p < 0.0001). Parent and teacher ratings of OD behavior agreed overall, but significantly only for the ADHD group (r = 0.50, p = 0.0002). Regression analysis revealed that parent reported anxiety was the strongest positive predictor of parent reported OD (β = 0.454, p < 0.0001) and the variance of the strongest predictor of teacher reported OD behavior was ADHD (β = 2.277, p = 0.0185) accounting for 10% of the variance.

CONCLUSION: Anxiety and OD behaviors are related in preschoolers, including those with ADHD or ASD, with the more OD children also manifesting greater anxiety. This relationship is stronger by parent than teacher report, suggesting parents may be more sensitive to the internalizing signs of anxiety. To some extent, bringing out (externalizing) behavior may be the only evidence of a child’s anxiety. For many OD preschoolers, therapy may be most effective if it targets anxiety.

ABSTRACT 12
Improvement in Quality of Life in Overweight Hispanic Children upon Completion of a Stage III Weight Loss Program
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PURPOSE: In one or three children are overweight or obese, resulting in increased risk for developing health problems later in life. The rate of overweight and obesity has more than doubled over the past three decades and is a nationwide epidemic (Ogden, C.L., Carroll, M.D., Curtin, L.R., 2006). Hispanic children are 1.5 times more likely to be overweight than non-Hispanic white children and are 40% less likely to engage in physical exercise (Department of Health and Human Services, 2001). Hispanic youth are also at greater risk for poorer mental health outcomes, including lower quality of life (National Hispanic Caucus of State Legislators, 2010). The purpose of this study was to investigate how quality of life is impacted during weight management treatment for overweight Hispanic children. We hypothesized that weight management treatment and losing weight would improve quality of life as reported by children and their parents.

METHODS: Paired t-test analyses were utilized with the purpose of comparing quality of life upon initial clinic visit and again at 1 month post completion of the 10 week biweekly weight management program.

RESULTS: Results suggested that participation in a stage III weight loss program resulted in Hispanic children and their parents (N = 12) reporting clinically significant improvements in quality of life regardless of weight loss. Specifically, parents indicated improved overall quality of life for their children (t(11) = −4.07, p < 0.005, improved social functioning (t(11) = −4.65, p < 0.005, and improved school functioning (t(11) = −3.57, p < 0.005). Similarly, children reported clinically significant improvement in their own quality of life, (t(11) = −2.26, p < 0.05, and rated near significant improvement in their own emotional and social functioning.

CONCLUSION: The results of this study suggest that by focusing on weight management techniques, both children and their parents experience improved quality of life in numerous domains regardless of weight loss. This study has important implications for how weight management programs measure outcomes within this specialized population.

ABSTRACT 13
"How should I tell my child?": Disclosing the Diagnosis of Sex Chromosome Aneuploidies
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PURPOSE: The disclosure of a sex chromosome aneuploidy (SCA) diagnosis to an affected individual has not been explored to date. This study aimed to assess the timing and content revealed to an affected child by his or her parent(s), resources accessed in preparation, parental feelings of preparedness, common parental concerns, and recommendations for disclosure approaches.

METHODS: Two online surveys were created in REDCAP and links were distributed to organizations supporting individuals and families with SCA conditions (1) for parents of a child with a diagnosis and (2) for individuals with a diagnosis.

RESULTS: 139 parent surveys (XXY n = 68, XXX n = 21, XXY n = 9, other SCAs n = 41) and 67 individual surveys (XXY n = 58, XXX n = 9) were analyzed. Parents most frequently discussed associated learning disabilities (47%) and genetics (45%) with their child during the initial disclosure. A significantly greater proportion of parent respondents reported feeling prepared vs. unprepared for disclosure, regardless of the diagnosis (z = −4.95, p < 0.00). Both prepared and unprepared parents most frequently accessed websites, support groups, and discussion with the child’s physician prior to disclosure, with unprepared parents accessing fewer resources than prepared parents (Mann Whitney U, p = 0.04). Common parental concerns included making the conversation age-appropriate, discussing infertility, and possible impact on the child’s self-esteem. Both parent and individual respondents endorsed honesty, disclosing the diagnosis early and before puberty, and discussing the diagnosis gradually over time.

CONCLUSION: These results provide recommendations for parents, and suggest benefits from additional resources and supports to alleviate concerns when approaching diagnosis disclosure.

ABSTRACT 14
Gender Differences in Sexual Behavior and Contraceptive Practices and Perceptions in Adolescents and Young Adults with Congenital Heart Disease
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PURPOSE: Congenital heart disease (CHD) is prevalent, and individuals with CHD now survive into adulthood more than ever. The purpose of this study was to investigate gender differences within sexual risk taking. We determined the prevalence of sexual activity and effective contraception use among youth with CHD and compared these by gender to national and state data. Additionally, gender differences in family communication, perceived benefits and barriers, and self-efficacy regarding contraceptive use were also examined.

METHODS: 196 individuals with structural CHD, ages 15 to 25 (M = 19.0, SD = 3.2; 53.6% male; 84.7% white) were recruited from an outpatient cardiology clinic to participate in a larger study assessing genetic knowledge (85% consent rate).

RESULTS: 44.4% of participants reported having had sexual intercourse, and there was no significant difference based on gender (50% females, 40% males, p = 0.25). Of sexually active participants, 81% reported using one or more effective methods of contraception at last intercourse (60% condoms, 43% hormonal methods) while 10% reported only using an ineffective method (i.e., withdrawal, rhythm) and 8.0% reported using no method. Rates of sexual activity were lower for both male and female adolescents than national and state data. More females (70%) than males (47%) indicated their parents had discussed how to avoid an unplanned pregnancy with them (p = 0.001). While males were more concerned than females that using contraception would take too much time (p = 0.002), there were no gender differences in participants’ confidence in their ability to use contraception, which was high (p = 0.44).

CONCLUSION: The rates of sexual activity in this population suggest that the sexual development adolescents and young adults with CHD experience may lag behind their peers. Contraception use and self-efficacy were high for males and females with CHD. Additional research is needed to determine what other factors influence psychosocial development among youth with CHD.

ABSTRACT 15
Transition of Health Care for Youth with Special Health Care Needs
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PURPOSE: To assess the perception of pediatric providers regarding health care transition services from pediatric to adult health care for youth with special health care needs (YHHCN) and to identify barriers to transition.

METHODS: All general pediatric faculty and pediatric residents from the main outpatient clinic of a major academic center were invited to complete an online survey (the Health Care Transition Index for youth up to age 18: HCTI < 18) developed by the National Health Care Transition Center (NHCTC). The HCTI < 18 is a tool that
measures observable indicators related to the organization and delivery of health care transition support for YSHCN. The HCTI < 18 assesses the practice level in six transition themes: office policy, staff and provider knowledge and skills, identification of transitioning youth, preparation, planning and transfer of care, from Level 1 (lowest) to 4 (highest). Responders were also asked to rate barriers to transition from 1 to 10.

RESULTS: Responses were obtained from 18 residents and 15 faculty (40% and 62% response rate respectively). The modal response was level 1 for all themes, except for transition preparation, for which the level was 2. Deficits were particularly found in identification of transitioning youth, transition preparation and transition planning. The top three barriers to transition identified were time constraints (37.5%), insurance issues (37.5%) and difficulty finding an adult provider (18.8%).

CONCLUSION: For most transition related themes, most respondents chose the lowest possible level (Level 1 or 2). Our findings demonstrate a clear need to improve health care transition services for YSHCN and identify barriers to transition. Our next steps include a quality improvement intervention that utilizes an interdisciplinary collaborative team comprised of a pediatrician, social worker, nurse coordinator and community transition specialist in order to enhance care and reduce identified barriers to transition. This model, if effective, can then be disseminated to community settings in which pediatricians and primary care internists/family practitioners work in geographic proximity.

ABSTRACT 16
Building Mental Wellness: a Learning Collaborative Approach to Improve Mental Health Promotion in Primary Care
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PURPOSE: Emotional, behavioral, and developmental (EBD) issues are common in primary care. Data suggests children with EBD issues and their families are less well served than children with other special health care needs, and many pediatricians report inadequate training in this area. In order to improve the care for children with EBD issues, a learning collaborative was developed for use in the primary care setting.

METHODS: Twenty pediatric practices in Ohio were recruited to participate in a pilot program consisting of a 1½ day learning session and monthly phone conferences using the Institute for Healthcare Improvement modified breakthrough series format. Learning modules focused on five components of mental wellness: mental health promotion, screening and early identification, practice-based interventions, collaboration and community linkages, and evidence-informed pharmacotherapy.

RESULTS: Practices reviewed a subset of charts for documentation of key aspects of mental health promotion in young children once a month over an 8 month period. One practice withdrew due to staffing issues. Documentation increased for all aspects studied: parental mental health (from 31% to 88%, n = 1491 charts), child tuned into to caregiver’s emotions (from 29% to 58%, n = 7777 charts), verbally labeling emotions (from 0% to 88%, n = 5572 charts), and the use of time in and time out (0% to 78%, 5797 charts). Challenges included staff time, staffing issues, and the difficulty of dissemination of information to all members of the practice.

CONCLUSION: Based on this pilot study, a learning collaborative appears to be a feasible method to improve mental health promotion in the primary care setting. Barriers to completion were identified, and further study is needed to determine whether the pilot project can be disseminated. Future directions include a focus on patient outcomes associated with learning collaborative participation rather than documentation alone.

ABSTRACT 17
Are we Missing the Real Problem?
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PURPOSE: It seems that pediatric populations from lower socioeconomic strata use fewer preventative services but more emergency services than their more economically and socially advantaged counterparts. However, the rate of use of preventative services among children from lower socioeconomic strata is not consistently lower and may follow an underdetected pattern. Some pediatric patients from lower socioeconomic strata seem to have either a higher or a lower number of consultations per year for diseases that are not chronic (which could justify a high number of visits). Are patients with higher rates of consultation in need of a more comprehensive service that will cover psychosocial problems in addition to physical problems? Are we missing the real problem?

METHODS: Two hundred and sixty-three randomly selected children and adolescents ages 6 to 16 years attending three clinics responded to the Child Behavior Checklist (CBCL 6/18). The sample population included children and adolescents from lower socioeconomic areas without chronic or other serious clinical conditions. Their consultation records over a period of 2 years previous to the invitation to participate were reviewed retrospectively in order to determine the number of consultations (non-routine physical consultations). Rates of consultation were divided into three groups: 0-4 visits, 5-10 visits, and 11-18 visits in 2 years.

MEASURE: The Child Behavior Checklist contains 120 behavioral and emotional problem items that are scored on a 5-level scale (0 = not true, 1 = somewhat or sometimes true, 2 = very true or often true).

STATISTICAL ANALYSIS: Logistic regression was used to calculate prevalence odds ratios (OR).

RESULTS: Children/adolescents with a large number of visits (11-18) have a significant increase in the odds of having psychosocial and behavioral problems (unadjusted OR = 3.0, (95% CI: 1.18-8.5, p = 0.03) when compared with their counterparts with fewer visits. After adjusting for age and gender, the OR remained highly significant at OR = 5.2 (95% CI: 1.29-20.0, p = 0.02). The results indicate an increase in the number of cases of children with psychosocial and behavioral problems as the number of visits increased from 0-4 (65/202, 32.2%) to 5-10 (42/64, 34.4%) to 11-18 (7/17, 58.9%).

CONCLUSION: A larger number of consultations might predict conditions other than physical, including psychosocial and behavioral problems.

ABSTRACT 18
Potential Impact of ICD-10-CM on Developmental and Behavioral Pediatrics
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PURPOSE: The US government has mandated the transition to the International Classification of Disease (ICD) Tenth Revision, Clinical Modification (ICD-10-CM) on October 1, 2014. ICD-10-CM has 5 times the number of diagnosis codes as ICD-9-CM. To assist with the transition the government has released the General Equivalent Mappings (GEMs), linking ICD-9-CM to ICD-10-CM and the reverse. The benefit of GEMs is the mapping is government sponsored, only has two coding systems, and is free. Prior work using the science of networks, analyzed the GEMs mapping and categorized ICD-9-CM diagnosis codes for ease of transition.

METHODS: The list of ICD-9-CM codes from previously compiled CODES PERTINENT TO DEVELOPMENTAL AND BEHAVIORAL PEDIATRICS were assigned to one of six categories. These categories have been developed by informaticians—identity (a single ICD-10-CM code replaces ICD-9-CM concept); class-to-subclass (multiple ICD-10-CM codes represent ICD-9-CM concept); subclass-to-class (multiple different ICD-9-CM codes map to single ICD-10-CM); redacted (ICD-9-CM codes that are not officially reimbursable codes); no mapping (no ICD-10-CM); and convoluted (a complex mapping between codes).

RESULTS: The 905 developmental behavioral diagnosis codes in ICD-9-CM were categorized by their transition to ICD-10-CM into identity 40%, class-to-subclass, 17%, subclass-to-class, 12%, redacted 14%, convoluted 17%, no mapping 0.2%.

CONCLUSION: Transition ICD-10-CM is problematic for many common developmental diagnoses including autism spectrum disorders and ADHD. The current government mapping creates connections from ICD-9-CM to ICD-10-CM that are not clinically valid. While only 17% of the codes are convoluted, physicians will need to confirm that the mapping from ICD-9-CM conveys the diagnosis intended especially if codes or other personnel are assisting.

ABSTRACT 19
Evolving Models of Co-located Care between Pediatricians and Mental Health Clinicians
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PURPOSE: To describe the models of co-located mental health care that have been developed by primary care pediatricians in Massachusetts, and summarize the financial, logistical, and interpersonal arrangements that support these successful collaborations.
METHODS: We conducted 30-minute semi-structured telephone interviews with 20 pediatricians in Massachusetts who have independently developed co-located practice models. We used NVivo software to analyze respondents' responses about the benefits/challenges of their models.

RESULTS: Practice types included single specialty and multi-specialty groups/community health centers, and academic clinics. The 18 practices represented employed a total of 27 mental health/developmental clinicians (MH/De): 12 social workers, 6 psychiatrists, 5 psychologists, 2 NPs and 2 developmental-behavioral pediatricians. Models of co-location varied widely. Approximately half of the practices employ providers who can prescribe medication. MH/De’s other responsibilities include developmental and/or mental health evaluation, counseling, accessing social services, and facilitating external mental health referrals. While 4 of practices bill for the MH/De’s services, few practices fully cover their costs through billing. The majority of practices utilize an EMR and in 3 of 5 of the practices, pediatricians have unrestricted access to the MH/De’s notes. Pediatricians were universally enthusiastic about their practice models, citing improvements in access to care, communication among providers, coordination of care, physician workload, patient adherence, and referral procedures. The only frequently named challenges were financial and space concerns.

CONCLUSION: Co-location of mental health providers in primary care settings facilitates access to pediatric mental health care and provides important benefits to both patients and physicians. In the context of health care reform innovations, pioneering pediatricians can provide a road map for pediatric practices attempting to implement similar models of care.

ABSTRACT 20
Addressing Social Determinants in Primary Care and Residency Training
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PURPOSE: Two pilot studies assessed the impact of the Urban Health Program (UHP), a comprehensive model of primary care for high-risk children in a residency training clinic.

METHODS: A Family Resource Survey assessing a wide range of family risks was implemented as a universal screener in the primary care clinic. We also developed a detailed protocol which guided providers to personnel or written resources for each identified risk. A Behavioral Health Coordinator (BHC) linked families to community mental health resources and an attorney with the Health and Law Partnership (HeLP) provided legal representation to address healthcare access, environmental safety or educational advocacy issues. Additional training on social determinants was added to the resident curriculum, including two core lectures and an elective.

RESULTS: For Study 1, a chart review was conducted with 350 charts, after a year of program implementation. We documented an 87% completion rate for the survey. The most commonly reported risk factors were inadequate income (19%), food insecurity (11%), maternal depression (7%), and housing problems (4%). For Study 2, a survey was administered to two resident classes at the beginning and end of their first year (n = 29). Residents increased significantly in self-reported confidence about competently addressing: a) behavioral health (t = 2.65, p < 0.05, Pre M = 3.27, Post M = 3.79), b) social determinants (t = 3.31, p < 0.01, Pre M = 3.29, Post M = 3.79), and c) cultural issues (t = 5.55, p < 0.01, Pre M = 3.40, Post M = 3.76). They also increased in the number of patients for whom they made behavioral health referrals, from 16.5% at pre-testing to 29.5% at post-testing (t = 2.45, p < 0.05).

CONCLUSION: Social determinants of health are strongly related to child development and behavioral problems, in addition to medical problems. There is increasing national emphasis on addressing social determinants, integrating behavioral health into primary care, and incorporating a public health perspective into resident training. The UHP represents an important step towards accomplishing these goals within an integrated clinical/trainin program.

POSTER SESSION 1 ABSTRACTS
ABSTRACT 21
Who Is REFERRED For Developmental Evaluation When Parents Are Concerned?
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PURPOSE: To determine what factors contribute to referral for developmental specialty care and speech therapy after controlling for parent concern about development.

METHODS: This was a cross-sectional study using data from 05 year olds in the 2009 California Health Interview Survey. Primary outcomes were referral to a developmental specialist (RDS) and referral for speech, language or hearing testing (RSLHT). The Parents Evaluation of Developmental Status assessed parent concern about development. Other explanatory variables included gender, age, birthweight, race, ethnicity, health insurance, and poverty level. We analyzed bivariate associations between each variable and the outcomes of RDS only, RSLHT only and a combined outcome of either RDS or RSLHT. We then constructed multivariable models with logistic regression. All analyses were performed using R to accommodate for the complex sampling design.

RESULTS: The sample contained 3776 children. Referrals were common (RDS only 11.5%, s.e. = 0.85%, RSLHT only 15.0%, 1.1%, RDS or RSLHT 19.4%, 1.1%). In bivariate analysis, parent concern was significantly associated with RDS (p < 0.001) and RSLHT (p < 0.001). Birthweight was associated with RSLHT (p < 0.01), lack of insurance (p = 0.04) and age (p = 0.004) were associated with the combined RDS/RSLHT outcome. In the multivariable models, parent concern (Odds ratios: RDS 4.9, RSLHT 4.2, both p < 0.001) and birthweight (OR: RDS 0.64, RSLHT 0.70, both p < 0.001) were independently associated with RDS only and RSLHT only. The combined outcome of RDS or RSLHT was associated with parent concern (OR 4.1, p < 0.001), age (1.15, p < 0.01), lack of insurance (0.39, p < 0.05) and birthweight (0.63, p < 0.001). Gender, race/ethnicity, and poverty were not associated with referral in any analysis.

CONCLUSION: After controlling for parent concern, increasing age, decreasing birthweight, and having health insurance were independently associated with RDS or RSLHT.

ABSTRACT 22
Teachers Perceptions of Obese Children in the Classroom
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PURPOSE: Obesity in childhood has been associated with serious psychosocial consequences. Obese children are less socially accepted and are seen as more aggressive and disruptive by their peers in the classroom (Zeller, Reiter-Purtill, & Ramey, 2012). Research emphasizes the importance of teachers in fostering better peer relationships between students which leads to better social outcomes. However, research examining teacher perception of children with chronic illness has produced mixed results (Obst et al., 2004). This study sought to examine how teachers’ views of obese children differ from their views of children with a less visible chronic illness (asthma).

METHODS: 140 teachers recruited via email completed a questionnaire assessing attitudes toward children with health conditions. Participants were mostly female (88%) and have been teaching for more than 10 years (90%).

RESULTS: Repeated measures ANOVAs with Greenhouse-Geisser corrections found that teachers rated children with asthma as significantly more likely to be accepted by peers than obese children (p < 0.001). Additionally, teachers reported obese children as more burdensome to have in their classroom than children with asthma (p < 0.01).

CONCLUSION: Teachers rated obese children as less socially accepted than their peers. Additionally, teachers see obese children as more of a burden than children with asthma. This finding suggests that the psychosocial consequences of pediatric obesity may be exacerbated by societal attitudes stemming from the unique nature of the condition (Obst et al., 2004). Teachers must continue to educate students on healthy living (e.g., exercise, healthy eating), as they are important facilitators of change.

ABSTRACT 23
The Relationship between Ethnic Identity Exploration and Psychosocial Functioning in African-American Adolescents with Chronic Illness
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PURPOSE: Ethnic identity exploration describes the process of discovering more about one’s ethnic group and appears to be a necessary precursor to the development of ethnic or racial identity. In African-Americans, a strong racial identity has been associated with positive health outcomes, including better stress management and better mental health outcomes (Bediako et al., 2004; Pillay, 2005). Adults with Sickle Cell Disease (SCD) who endorse a strong and
central African American identity utilize fewer health care services and report lower levels of sickle-cell related pain (Bediako, Lavender, & Yasin, 2007). Less is known about racial identity and health during the teen years, a critical time for development of racial identity (Baskin et al., 1998). This study examined the relationship between ethnic identity exploration and psychosocial functioning among adolescents with SCD.

METHODS: Participants were 15 African-American adolescents (M = 14.5 years, SD = 2.0, 67% female) with SCD, recruited from the Sickle Cell Clinic at Akron Children’s Hospital. Participants completed the Multigroup Ethnic Identity Measure (MEIM), Strengths and Difficulties Questionnaire (SDQ), and Center for Epidemiologic Studies Depression Scale (CES-D).

RESULTS: Greater ethnic identity exploration predicted higher levels of depression on the CES-D, B = .74, p < .01 and higher levels of internalizing symptoms on the SDQ, B = .59, p < .05. Ethnic identity exploration was not significantly related to the conduct problems, hyperactivity, peer problems, or prosocial scales of the SDQ.

CONCLUSION: Adolescents who reported greater ethnic identity exploration reported greater levels of internalizing problems. These adolescents are still questioning their ethnic identity and have not yet made a commitment to an ethnic group. Future research is needed to understand the relationship between ethnic identity, internalizing problems, disease management, and health care utilization in adolescents with chronic illnesses. The results of our study suggest that health care providers should assess and consider racial identity as a contributor to internalizing problems in their adolescent patients and potential impact on disease management.

ABSTRACT 24

Pre-Reading and Reading Skills in Pre-term and Full-term 6-year old Children

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PURPOSE: School-aged children and adolescents born preterm have been shown to have lower scores on intelligence, language, and reading measures than full term peers matched for age, gender and socioeconomic status (SES). The primary purpose of this study was to identify which cognitive, language, pre-reading and reading skills of children born between preterm (PT) and full term (FT) children at age 6 years, at the beginning stages of learning to read. We also wanted to establish whether prematurity contributed to the variance in pre-reading or reading outcomes.

METHODS: Children aged 6 years (PT n = 28; FT n = 15) were given a battery of intelligence (IQ), language, pre-reading, and reading skills. Full-term (FT) and preterm children (PT) at age 6 years, at the beginning stages of learning to read. We also wanted to establish whether prematurity contributed to the variance in pre-reading or reading outcomes.

RESULTS: PT had lower mean scores than FT on IQ (PT 99.3 (12.0), FT 117.9 (17.0), p = 0.000), core language (PT 103.0 (15.0), FT 113.6 (13.7), p = 0.025), and phonological memory (PT 99.0 (11.3), FT 108.5 (13.7), p = 0.008), but not on phonological awareness decoding or passage comprehension. The children performed differently on tiered vocabulary and phonological awareness between PT and FT groups, with more specific to the inattentive symptom counts. Finally, controlling for global cognitive ability, associations were more specific to the inattentive symptom counts.

CONCLUSION: PT children performed more poorly than FT on multiple intelligence, language, and pre-reading assessments. At this age, the children did not differ significantly on reading measures. This pattern of results may reflect the emphasis on teaching letter identification and sight word reading in kindergarten and first grade. The findings confirm the importance of language skills on early reading.

ABSTRACT 25

Parent versus Teacher Ratings of Core and Associated Behaviors of Autism Spectrum Disorder in Preschoolers

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PURPOSE: To compare parent and teacher (P-T) ratings of core autism symptom and various associated behavior clusters in preschoolers with or without Autism Spectrum Disorder (ASD) classification.

METHODS: Data were collected from parent and teacher forms of the Early Childhood Inventory (ECI-Gadow & Sprafkin) for 201 3-4 year olds referred for DB pediatrics evaluation. From P-T ratings, severity scores were calculated for Total ASD symptoms, the three Diagnostic and Statistical Manual-IV (DSM) core ASD symptom clusters, and for 12 other DSM diagnosis-based symptom clusters. Data were analyzed across all children and for the 49 diagnosed as ASD.

RESULTS: For all subjects teacher mean severity ratings of ASD symptoms were higher than parents’ for Total ASD (11.69 vs 9.75, p < .0001), Impaired Social (4.14 vs 2.87, p < .0001), and Impaired Communication (4.54 vs 4.07, p < .001) but not for Restricted Interests (2.81 vs 2.78). For the ASD group teacher ratings were higher only for Total ASD (19.90 vs 15.89, p = 0.02) and Impaired Social (0.98 vs 4.71, p < 0.01). For the full cohort, there were strong (p < .0001) correlations between PT reports for Total ASD (r = 0.51), Impaired Social (r = 0.47), Impaired Communication (r = 0.50), and Restricted Interests (r = 0.41). However, for the ASD group, PT reports correlated for Total ASD (r = 0.34, p < 0.013) and Impaired Social (r = 0.52, p < 0.001), but not Impaired Communication or Restricted Interests. For associated behaviors, for all subjects, there was strong (p < .0001) agreement between PT reports for Combined ADHD (r = 0.36), Inattention (r = 0.55), Hyperactivity-Impulsivity (r = 0.42), Oppositional-Defiant (r = 0.58), and Generalized Anxiety (r = 0.39), but not for Conduct Disorder, Peer Conflict, Specific Phobia, Obsessive-Compulsive, Tic, Depression, or Social Phobia. For the ASD group, PT reports agreed only for Peer Conflict (r = 0.54, p = 0.013), and Generalized Anxiety (r = 0.47, p < 0.001).

CONCLUSION: In a diverse preschooler sample, there was strong agreement between PT report for many behaviors, including all ASD symptom clusters. For ASD children there was considerably less PT agreement. Particularly, they did not agree on severity of Communication Impairment, Restricted interests, or ADHD symptoms. Possible explanations include different contexts and observer experience. Care is needed when using parent and teacher rating scales to assess children with ASD.

ABSTRACT 26

Symptoms of Attention Deficit Hyperactivity Disorder (ADHD) in Kindergarten as Predictors of Academic Progress in Extremely Low Birth Weight Children

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PURPOSE: The purpose of the current study was to examine symptoms of attention deficit hyperactivity disorder (ADHD) in kindergarten children as predictors of academic progress across the first three school years in a cohort of 148 extremely low birth weight (BW ≤ 1000 g) children and 107 term-born normal birth weight (NBW) classmates.

METHODS: Symptoms of ADHD (including combined, inattentive, and hyperactive-impulsive subtypes) were based on clinical interview with parents using the Childrens Interview for Psychiatric Syndromes-Parent version.

RESULTS: Achievement in reading, spelling, and mathematics was evaluated annually across the first three years in school on subtests of the Woodcock Johnson Tests of Achievement, 3rd Edition, using mixed model growth analyses.

RESULTS: Although the NBW group had higher scores on achievement tests, achievement was adversely affected in both groups. Across both birth weight groups, the presence of combined ADHD symptoms was associated with significantly slower progress in math word problems (Applied Problems. [F (1, 250) = 29.43, p < 0.0001]). There was a significant interaction of group x time for spelling [F (1, 226) = 7.10, p = 0.008], with ELBW children performing worse than NBW children across all three years of tracking. Energy levels across ELBW and NBW children did not differ based on ADHD symptom levels. There were also significant interactions of symptoms x assessment for reading [F (1, 229) = 14.8, p = 0.0002] and math calculation [F (1, 452) = 63.1, p = 0.01], with more ADHD symptoms resulting in worse performance across time in both groups. Finally, controlling for global cognitive ability, associations were more specific to the inattentive symptom counts.

CONCLUSION: ELBW children with ADHD, like their NBW counterparts, have poorer academic skills in kindergarten and make slower progress across the early grades in school than those without ADHD. Children with symptoms of inattention are at risk regardless of their global cognitive ability. Identification of ADHD and related symptoms is important at school entry in targeting ELBW and NBW children in need of early educational interventions.

ABSTRACT 27

Differential Response Profiles in Children and Adolescents with ADHD: Treatment with Atomoxetine

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PURPOSE: Atomoxetine (ATX) has been shown to be safe and effective in the treatment of attention-deficit/hyperactivity disorder (ADHD). The purpose of this post-hoc analysis was to examine response trajectories of pediatric patients treated with ATX.
METHODS: Data were pooled from 7 ATX double-blind, placebo-controlled clinical trials conducted in pediatric patients between November 1998 and June 2004. Hyperactive/impulsive patients were excluded (due to small sample size). Growth mixed modeling was applied to investigator-rated ADHD rating scale (ADHD-RS) and the Clinical Global Impressions-ADHD-S (CGI-ADHD-S) scores in the randomized acute phase (69 weeks) to explore whether there were groups of patients who differed in their response to ATX. Baseline and the first 4 post-baseline visits were modeled quadratically, then linearly thereafter. To test for differences between identified trajectories, analysis of variance was used for continuous variables and Chi-square tests were used for categorical variables. Resultant classes were characterized by ADHD-RS-Inv baseline scores (total score: $\geq 40 = \text{high}$, $< 40 = \text{low}$; subscores: $\geq 20 = \text{high}$, $< 20 = \text{low}$) and by improvement ($\geq 40 = \text{robust}, < 40 = \text{modest})$.

RESULTS: A total of 925 patients were identified who had at least 1 post-baseline measurement. Patients were mostly male (73%) and of the mixed subtype (74%). Based on ADHD-RS-Inv total scores, 27% of patients had a low baseline score and experienced modest improvement, 18% had a high baseline and experienced robust improvement, and 55% had a high baseline score and experienced modest improvement. Similar results were found based on ADHD-RS-Inv inattentive scores, but 34% experienced robust improvement. ADHD-RS-Inv impulsive/ hyperactive scores and CGI-ADHD-S scores yielded 2 classes, 1 that experienced robust improvement and 1 that experienced modest improvement.

CONCLUSION: This study identified 2 to 3 distinct treatment response patterns in pediatric ADHD patients treated with ATX. Most patients were distributed in classes characterized by gradual, modest improvement, with a smaller class (more predominant when ADHD-RS-Inv inattentive scores were used) characterized by early, robust improvement.

**ABSTRACT 28**

**Project BEST Developed Benchmark Indicators and Recommended Practices to Support Timely Identification, Referral, and Provision of Early Intervention Part C**

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**PURPOSE:** Project BEST developed comprehensive benchmarks to evaluate timeliness and efficiency of early intervention programs in terms of conducting screening, evaluation, and entry into services. These benchmarks provide targets as to what types of data indicators or practices can maximize a state’s ability to identify, refer and ultimately improve access to EI/ECSE and were part of CDC’s Act Early campaign.

**METHODS:** An environmental scan was conducted on selected state data systems, available literature, and expert report on effective practices early identification, screening and evaluation of infants and toddlers eligible for Part C early intervention services. Second, based on the environmental scan, a pilot version of benchmark indicators was developed. Third, a formatted, mixed methods approach was used to modify and test the initial benchmarks. Fourth, a final version of BEST Benchmarks was developed.

**RESULTS:** Benchmark #1. Universal Referral of Newborns and Children Automatically Eligible for Part C Services. All newborns and children with a diagnosed physical or mental condition that has a high probability of resulting in developmental delay, as defined by their states eligibility categories under Part C of IDEA, will be referred to their local Part C provider. Benchmark #2. Universal Screening and Referral. Children between the ages of birth and five are screened at least once every 12 months, with valid and reliable screening tool(s) that screen for developmental and social/emotional delays. If a concern is identified, procedures are in place to ensure appropriate and timely referral to Part C, Part B or other agencies as indicated by screening results. Benchmark #3. Effective Identification of Underserved Populations. All children, regardless of race or risk factors (e.g., low-income, homelessness), will have equal opportunities to participate in Part C Early Intervention services.

**CONCLUSION:** Early intervention services for infants and toddlers improve developmental, mental health, and health outcomes for young children and their families. State and local systems need to continue to improve efforts to identify eligible children to ensure that access to early intervention and early childhood special education services are equitable and timely.

**ABSTRACT 29**

**Young Children’s Patterns of Aggression By Gender**

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**PURPOSE:** To determine aggression patterns of children by gender at age 4-5 years and 1.5-3 years later from a retrospective review of medical records, including psychosocial/behavioral problems determined by the Child Behavior Checklist (CBCL).

**METHODS:** Participants for this study were selected at random from the electronic records of patients from seven university-based clinics in a large metropolitan area. Children and their parents/caretakers were surveyed during non-emergency visits while receiving regular pediatric care. A sample of 280 participants assessed twice at age 4-5 years (T1) and 1.5-3 years later (T2) were extracted. T-scores for factors from the CBCL above the 90th percentile were considered borderline/clinical on internalizing and externalizing scales. Logistic regression analysis was used to predict externalizing problems at T2 from internalizing and externalizing problems detected at T1.

**RESULTS:** The mean age of participants at T1 and T2 was 4.8 ± 0.6 and 7.0 ± 0.7 years, respectively. Boys comprised 40.7% (114) of the sample. Internalizing problems in girls (33.3%) and boys (20%) and externalizing problems in girls (41.7%) and boys (50%) prevailed from T1 to T2. Logistic regression analysis indicated that internalizing problems at T1 significantly predicted internalizing problems at T2 for both boys and girls, but was non-significant after adjusting for externalizing problems and gender. Externalizing problems at T1 also predicted externalizing problems at T2, which remained significant after adjusting for internalizing problems and gender.

**CONCLUSION:** This study indicates that approximately half of children with borderline/clinical externalizing problems at an early age will continue with these behaviors at an older age. Parents should be aware that these behavior patterns might continue and may not be a temporary age-specific behavior.

**ABSTRACT 30**

**Screening for ASD in School Aged Children: A SUCCESS Story**

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**PURPOSE:** The South Carolina Childrens Educational Surveillance Study (SUCCESS) is an ongoing research study that will determine the prevalence of Autism Spectrum Disorder (ASD) among a population of 8,500 children born in 2004. Although prior research has established the prevalence of ASD using administrative data and record review, SUCCESS is the first large-scale study in the United States to utilize direct screening and assessment of ASD in a population-based study.

**METHODS:** Through agreements with public schools, private schools, and home school associations, the Social Communication Questionnaire (SCQ) is distributed to parents of eligible children. Children who are found to be at risk for ASD, as well as a sample of those at moderate or low risk, are invited to participate in an in-person diagnostic assessment to determine ASD prevalence.

**RESULTS:** Rate of participation in the screening phase for the first three waves (out of six planned waves) of the study varied by school and ranged from 22%-100%. Strategies that were successful in increasing participation in the screening phase of the study will be described. In the first three waves of the SUCCESS study (n = 1,292), results indicate that 7.7% of youth fell in the at-risk range for ASD (SCQ $\geq 15$) and 4.7% of youth fell just below the cut-off scores for SCQ, and in this sample almost 20% of youth fell just below the cut-off criteria ($7 < \text{SCQ} < 15$).

**CONCLUSION:** Future data collection will focus on completing the remaining screening and diagnostic evaluations in order to establish the prevalence of ASD in the study area, compare DSM-IV and DSM-5 diagnoses, and determine the sensitivity and specificity of the SCQ as a screening instrument for ASD in population-based samples.

**ABSTRACT 31**

**Comparing the Diagnostic Outcome of Autism Spectrum Disorder using Concomitantly Collected DSM-IV-TR and Proposed DSM-5 Criteria**

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**PURPOSE:** To determine the level of agreement between autism spectrum disorder (ASD) diagnoses made by concurrent administration of both DSM-IV-TR and proposed DSM-5 criteria.

**METHODS:** Subjects were children (ages 1-18 years old) referred for a multidisciplinary team (Psychologist, Developmental-Behavioral Pediatrician) consultation for developmental/behavioral concerns from October 2012 to April 2013.
ABSTRACT 34

Care Coordination for Children with Autism Spectrum Disorder

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PURPOSE: Children with autism spectrum disorder (ASD) benefit from multiple interdisciplinary services, akin to other medically complex conditions. Primary care physicians report a lack of self-perceived competency, a desire for education, and a need for improvement in primary care for children with autism. The 2009-2010 National Survey of Children with Special Health Care Needs (NS-CSHCN) examines factors related to access to quality healthcare, care coordination, and medical homes. Care coordination is necessary to ensure quality health outcomes, and research from national databases of children with autism is limited. The purpose is to describe current trends in medical home access and perceptions of care coordination for a subset of families with children with autism in the NS-CSHCN. Data will be analyzed within the context of the Care Model for Child Health.

METHODS: Using a subset of the NS-CSHCN of children with ASD (N = 3,055), predictors of the following main outcome variables were analyzed via descriptive statistics and logistic regression: having a medical home, primary care provider (PCP), and satisfaction with care coordination and communication with other providers and interdisciplinary care providers.

RESULTS: Children were of mean age 10.1 years, 80.7% male, 72% Caucasian, 7% Non-Hispanic Black, 11% Hispanic, and 20% supported by social security insurance. Respondents were 74% mothers, 16% had education level of high school or less, 94% reported having a medical home, and 94% had a PCP. 26% reported problems with referrals to other doctors. 16% of parents were dissatisfied with PCP communication with other doctors. 42% of parents reported that PCPs did not communicate with schools, early intervention (EI), childcare providers, or rehabilitation programs. 45% of parents reported never receiving as much help coordinating care as they needed.

CONCLUSION: Parents of children with autism utilize a multi-disciplinary care team involving clinical and community partners. Although parents report a high level of access to primary providers and a medical home, care coordination activities, particularly communication with schools and EI, are lacking and for this vulnerable population. Medical home models may lack central care coordination components for families of children with ASDs.

ABSTRACT 38

School Support for US Children with Autism Spectrum Disorder or Other Developmental Conditions: Associations with Socio-Demographic Factors, Health Services Utilization and Quality

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PURPOSE: To examine the association of receipt of basic school support services with socio-demographic factors, health services utilization and health care quality, among US children having autism spectrum disorder (ASD) or developmental delay/intellectual disability (DD/ID).

METHODS: Data were drawn from the 2011 Survey of Pathways to Diagnosis and Services, which was linked to the 2009/10 National Survey of Children with Special Health Care Needs (CSHCN). Data were weighted to represent the non-institutionalized population of US CSHCN ages 6 to 17 years ever diagnosed with ASD versus DD/ID. The sample included 1420 CSHCN with ASD (CSHCN+ASD) and 2579 CSHCN with DD and/or ID (CSHCN+DD/ID). Basic school support was defined as receipt of early intervention services, an individualized education plan (IEP) which addressed parental concerns, and routine receipt of 1 or more school-based health services. Univariate, bivariate and multivariate analyses were conducted with the SPSS Complex Samples module.

RESULTS: 27.5% of CSHCN with developmental conditions received basic school support. Though bivariate analyses showed CSHCN+ASD were more likely to have basic school support than CSHCN+DD/ID, these associations were no longer significant after adjusting for socio-demographic factors. CSHCN with functional limits, who were younger, or had dual public/private insurance were most likely to receive basic school support. Among all CSHCN with developmental conditions, the receipt of all needed developmental services was associated with school support [AOR: 3.00 (2.01-4.60)] as was adequate health insurance coverage [AOR: 1.54 (1.14-2.07)].

CONCLUSION: Less than 1 in 3 CSHCN with developmental conditions receives a basic level of school support. Older CSHCN and those without functional limitations may be particularly likely lack basic school support. Associations between school support and health care quality reinforce the need for integrated, multi-disciplinary improvements.

ABSTRACT 41

Quality of Life Measures in Families with Children with Autism Spectrum Disorder

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PURPOSE: Quality of life (QoL) measures are now being recognized as outcome parameters for interventions and evaluations for service delivery in persons with disabilities. There are various instruments that are being utilized to assess quality of life. However, there are no standardized instruments to broadly assess child and family quality of life in children with autism and other neurodevelopmental disorders. This study assessed the reliability of the Child and Family Quality of Life (CFQ) tool and looked into existing baseline differences in the QoL of Autism Spectrum Disorder (ASD)-affected children and their families compared to other developmental conditions.

METHODS: The CFQ was developed to measure QoL in the child, family, caregiver, financial, external support, partner/relationship and coping domains using a 5-point Likert scale. This tool was completed by parents of children <4 years of age prior to a comprehensive evaluation for ASD at the Center for Autism. There were 245 patients included in the study period from September 2010 to December 2011. Of the 245 patients, there were 212 respondents to the CFQ.

RESULTS: Patients who received an ASD diagnosis were comparable to those who did not receive an ASD diagnosis in all areas of the CFQ at the time of diagnosis except for the family quality of life. Specifically, those patients with an ASD diagnosis had a significantly lower Family Quality of Life response compared to those with an ASD diagnosis (but often with other developmental conditions), with a mean difference of 0.52 (95% CI 0.31 - 0.72). P = 0.014.

CONCLUSION: This study shows that at the time of diagnosis of ASD, there is already a notable effect on the family quality of life. It is therefore critical to import adequate support for the family even at the time when the diagnosis of ASD is suspected.

ABSTRACT 42

The Role of Dyadic Interactions in Parent and Sibling Distress after a Child’s Death from Cancer

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PURPOSE: Research suggests that parent distress increases risk for child distress via negative parent-child interactions. It is unknown whether this is more
pronounced among children who have lost a sibling to cancer. We expected that the association between parent and child internalizing problems would be mediated by the quality of parenting and communication, and that negative parent-child interactions would have a stronger impact on internalizing problems among bereaved siblings than controls.

METHODS: After their child’s death from cancer (M = 12.45 months), families with a surviving child (n = 88) and matched comparison families (n = 73) were recruited from three institutions in the U.S. and Canada. The Internalizing Problems score on the Adult and Youth Self-Report was used to measure parent and child distress. Parent and child reports of Openness and Problems in communication on the Parent-Adolescent Communication Scale were averaged, and the Child Report of Parent Behavior Inventory measured parental warmth and Psychological Control. Pearson correlations were computed to examine associations, and multiple regression analyses tested moderated mediation models.

RESULTS: Mothers’ self-reports of Internalizing Problems were associated with child-reported Internalizing Problems (r = 0.25); no significant association was found between father and child distress (r = 0.03). Child distress was related to maternal and paternal Openness (r = 0.28, r = 0.30) and Problems (r = 0.42, r = 0.54) in communication, Warmth (r = 0.39, r = 0.28), and Psychological Control (r = 0.33, r = 0.28). The association between mother and child distress was mediated by Openness and Problems in communication, Warmth, and Psychological Control. The association between father and child distress was mediated only by Openness. No evidence for moderated mediation was found between the two groups.

CONCLUSION: Although negative parent-child interactions were mediators between parent and child distress, the effect was not stronger for bereaved families relative to controls. This suggests that the quality of dyadic interactions is important for all children’s adjustment when a parent is distressed.

ABSTRACT 43

Factors Associated with the Later Age of Diagnosis of Autism in Children with Down Syndrome

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PURPOSE: Down syndrome (DS) is associated with an increased risk of autism spectrum disorder (ASD). The mean age of ASD diagnosis is 4 years in the general population and 8-11 years in children with DS. Aim of this study is to examine factors contributing to this later age of diagnosis.

METHODS: We identified patients with principal or secondary diagnoses of DS and ASD seen from January 1, 2002 to October 31, 2012 using our hospital data warehouse. We identified 37 children ages 2-21 years with this dual diagnosis and completed a chart review. Factors evaluated: demographics, age of ASD diagnosis, ASD and cognitive evaluation results, regression, behaviors leading to diagnosis and who suspected it, other behavioral issues, and co-morbid medical conditions.

RESULTS: Sample included 68% male and 32% female. Age of diagnosis within the sample ranged from 2.5 to 16.4 years with a mean of 8 years and median of 6 years, 11 months. Cognitive testing was available for 29 of 37. Of these, 34% had moderate intellectual disability and 66% severe. Overall rates of regression were 41%, most frequently in speech (35%) and adaptive skills (11%). Age of regression ranged from 2-12 years with 35% (13/37) having regression after age 4. ASD was suspected initially by parents or teachers in 62% of children, by DS clinic in 35%, and by general pediatricians in 11%. Common behavioral and medical co-morbid conditions included aggression (70%), sleep disorder (62%), self-injurious behaviors (27%), seizures (15%), and infantile spasms (5%).

CONCLUSION: Regression in DS and ASD is reported later than in ASD alone. The later age of diagnosis may be related to co-morbid severe intellectual disability and later age of regression. Increased awareness by pediatric professionals about the increased risk of ASD in DS is required for earlier identification. ASD screening should be continued longer due to later age of presentation of ASD symptoms and regression at a later age. Earlier diagnosis of ASD in children with DS will enable the implementation of earlier interventions which have been shown to improve outcomes in other populations.

ABSTRACT 44

PLAY Project Intervention for Autism: A Randomized Controlled Trial

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PURPOSE: To evaluate the PLAY Project Home Consultation (PLAY) parent training model to reduce autism severity in young children with autism spectrum disorders (ASD).

METHODS: 128 children with ASD, 2 years 8 months to 5 years 11 months, paired by age, gender, severity, were randomly assigned to either PLAY, a parent-mediated, developmentally based intervention, or community standard intervention (CS) at 4 Easter Seals sites. Two year-one cohorts (112 families) completed intervention and post-intervention outcome data collection. PLAY Home Consultants (HC) coached caregivers monthly for 12 months using modeling, video and written feedback. CS consisted primarily of 10-12 hours per week of special education pre-school. Measures included A.) Change in autism-related diagnostic category (Autism Diagnostic Observation Schedule;ADOS) B.) Blinded observations of parent (Maternal Behavior Rating System; MBRS) and child (Child Behavior Rating System;CBRS) interactions; C.) developmental outcomes, (Mullen Scales of Early Learning, MSEL) and parent-reported vocabulary (MacArthur Communicative Development Inventory; MCIDI).

RESULTS: PLAY children were twice as likely as CS children to improve inADOS diagnostic category (odds ratio of 2.29; C2 (3, N = 112) = 51.56, p = 0.000. Wald estimate = 4.70, p = 0.030.) Improvements in parent interaction quality, responsiveness and affect showed large treatment effects [F (4, 102) = 15.68, p = 0.000] partial 2 = 0.380. Child attention and initiation also evidenced a significant time x group effect [F (2, 104) = 12.20, p = 0.000, partial 2 = 0.19]. Developmental outcomes improved in both groups but did not show treatment effects. PLAY parents reported high satisfaction (quality of HCs: M = 4.83; SD = 0.31, materials and feedback reports: M = 4.66, SD = 0.45).

CONCLUSION: The PLAY Project intervention for children with ASD is the first large-scale effectiveness study in the U.S. of a manualized, intensive developmental intervention model to show reductions in autism severity and shows promise as an option for autism intervention for an underserved population.

ABSTRACT 45

Parenting Stress Worsens Developmental Outcomes in Children Treated with Laser Surgery for Twin-Twin Transfusion Syndrome

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PURPOSE: Twin-Twin Transfusion Syndrome (TTTS) develops in monochorionic twins from unbalanced sharing of blood through vascular communications in the common placenta. The shunting of blood from one twin (donor) to the other twin (recipient) leads to high rates of perinatal mortality and neurodevelopmental morbidity. In other populations, parenting stress has been shown to be associated with worse behavioral and cognitive outcomes, and parenting stress has been shown to be elevated in parents of children with developmental problems. However, studies of longstanding neurodevelopmental outcomes of infants with TTTS post-surgery are few and underpowered, and none have examined the effects of parenting stress on child outcomes.

METHODS: Data were prospectively collected from surviving children treated between 2008-2010. Neurodevelopment at age 24 months (±6 weeks) was assessed via the Battelle Developmental Inventory (BDI) comprising five sub-scales: adaptive, personal/social, communication, motor, and cognitive scores. Parenting stress was measured with the Parenting Stress Index-Short Form. Vital statistics and socio-demographic covariates were obtained. Multilevel linear regression models were used to evaluate risk factors for BDI subscales at both child- and pregnancy/family-levels.

RESULTS: 100 children (57 families) were evaluated. Intraclass correlations for subscales were high (adaptive, 0.4; personal/social, 0.2; communication, 0.7; motor, 0.9; cognitive, 0.7), indicating a large proportion of shared variance among siblings due to common genetic and social environment. Parenting stress was associated with significantly lower communication (Beta = 0.29, p = 0.05) and cognitive scores (Beta = -0.28, p < 0.05) and accounted for 8% of the variance in these BDI subscale scores.

CONCLUSION: Increased parenting stress was significantly associated with worse developmental outcomes in this cohort of TTTS children. Identification and intervention for parental stress may help optimize the caregiving environments for this high-risk group.

ABSTRACT 46

Are We Successfully Training Pediatricians to Assess Childrens School Experience?

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Early recognition of school difficulty can improve outcomes, and both Bright Futures and APA Educational Guidelines say that pediatric residents should obtain a domain specific school history from both parent and child. Our objective was to assess pediatric residents’ attitudes and approaches to identifying children with school difficulty and to explore the association of year of training with self-reported competence and responsibility for this activity.

METHODS: We invited the 86 pediatric residents in our urban academic medical center to participate in a cross-sectional electronic survey. The primary analyses were descriptive. Associations of year of training with self-reported competence and responsibility were explored using Kruskal-Wallis tests.

RESULTS: We received 47 responses (42%). 84% of respondents routinely ask a broad question about school when seeing a 6-10 year old child for healthcare maintenance. However, only 59% routinely ask about grades and only 13% about bullying. Self-reported competence for identifying depression, anxiety, behavior management problems, and learning disabilities (LD) were each rated as fair or poor by 51-60%. Most agreed that pediatricians should be responsible for identifying ADHD, depression, anxiety, behavior management problems, and stressful family environment (75-100%), but only 60% agreed that pediatricians should be responsible for identifying LD. Those who had more years of training did not report higher levels of competence or responsibility. 97% indicated lack of time as a barrier to obtaining a comprehensive school history.

CONCLUSION: Pediatric residents ask a general question about school, but do not routinely explore other domains of a child’s school experience as suggested by the Bright Futures Guidelines. Most report poor or fair competence in identification of behavior and learning problems. These data suggest that residents need additional educational experiences in the assessment of children with school difficulty.

ABSTRACT 48
Identification of Early Developmental Deficits in Infants Diagnosed with Neonatal Abstinence Syndrome
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PURPOSE: To date few studies have addressed developmental outcomes for infants prenatally exposed to heroin, methadone, or other opioids, including prescription analgesics, although use of these substances continues to rise. The purpose of this study was to assess for the presence of early developmental deficits in infants treated for Neonatal Abstinence Syndrome (NAS), a pattern of neurologic symptoms that may include seizures, high muscle tone, inconsolability, irritability, sneezing, stuffiness, excessive or poor sucking, and a high-pitched cry, which develop when the infant is abruptly deprived of opioid at the time of birth.

METHODS: Prior to discharge from a post-acute care hospitalization for NAS management, 21 infants (mean age: 55 days, 52% male) with prenatal exposure to heroin, methadone, or other opioids, including prescription analgesics, were evaluated using subscales of the Bayley Scales of Infant and Toddler Development, 3rd Edition (Bayley-III). Premature (less than 37 weeks gestation) and medically fragile (congenital heart or lung disease, known chromosomal anomaly) infants were excluded from analysis.

RESULTS: On the Bayley-III, 15% (n = 3) of infants scored in the borderline to significantly delayed range for cognition. For the Total Language Composite, 30% (n = 6) of infants scored in the borderline to significantly delayed range. Finally, 20% (n = 4) of infants scored in the Low Average range for the Total Motor Composite.

CONCLUSION: This study reveals a variety of developmental deficits present during the first months of life for infants with a history of NAS. Small study size and the presence of possible co-existent prenatal poly drug exposure were limitations to this analysis. Further study is needed to compare these findings to those of infants without NAS history, and to determine the trajectory of these delays through early childhood. This information is beneficial as it highlights a group of otherwise healthy infants that may benefit from early developmental intervention.

POSTER SESSION 2 ABSTRACTS
ABSTRACT 50
The Impact of Cognitive Functioning on Quality of Life in Children with Sickle Cell Disease
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PURPOSE: Children with sickle cell disease (SCD) are at a high risk for neurocognitive impairment even in the absence of stroke. The current study examined the impact of cognitive ability on health related quality of life (HRQL) in pediatric patients with SCD without a history of stroke. It was hypothesized that neurocognitive impairment is associated with decreased HRQL.

METHODS: Children, ages 8-16 years, with SCD and no history of stroke were enrolled during regular clinic visits at the Duke University Pediatric Sickle Cell Clinic. Participants were administered the Working Memory Index of the WISC-IV, the Pediatric Quality of Life Inventory (PediQL), and the Wong Baker Pain Scale. Caregivers completed the Behavior Rating Inventory of Executive Functioning (BRIEF) and the PediQL. Data pertaining to disease severity were abstracted from the child’s medical record.

RESULTS: Thirty children (46.9% female; 81.8% HBSS) and their caregivers completed the study. After controlling for pain, disease severity, and sex, working memory ability significantly predicted children’s HRQL. Self-rated Adj. R2 = 0.29, F (5, 25) = 5.4, p < 0.05; Parent-rated Adj. R2 = 0.22, F (5, 25) = 2.7, p < 0.05. Specifically, stronger working memory was associated with significantly higher levels of self (b = 0.23, p < 0.05) as well as caregiver-rated HRQL (b = 0.19, p < 0.05). Of note, gender was the only covariate that reached statistical significance in the final model. Specifically, being female was associated with significantly lower self-reported HRQL (b = -0.37, p < 0.05).

CONCLUSION: These data indicate that cognitive functioning significantly predicts overall HRQL in children with SCD without prior stroke. In light of these findings, research should work to identify interventions, such as computerized cognitive training, that can remediate cognitive decrements in children with SCD. These interventions may have a salutary affect on HRQL making this a particularly important area of future research. In addition, further research is needed to explore the association between female gender and HRQL.

ABSTRACT 53
Adverse Childhood Experiences: How do Pediatric Providers Learn About and Use Them in Their Clinical Care?
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PURPOSE: To understand pediatricians’ knowledge, attitudes and behavior regarding adverse childhood experiences (ACEs) and to provide insight into barriers and facilitators to learning about and using ACEs during clinical care.

METHODS: A 26-item email survey was sent to all members of the Pennsylvania chapter of the American Academy of Pediatrics. Bivariate analyses were conducted using chi square tests.

RESULTS: 308/1600 (19%) responded to the survey but not all surveys were completed. 279/282 (99%) of respondents strongly agree or agree that providers should know about their patients’ ACEs. 73% reported asking about ACEs in some way during routine practice. 80% (162/203) of those who routinely ask about ACEs reported they felt very or moderately comfortable doing so, compared to 34% (12/35) of those who do not routinely ask (p < 0.0001). Similarly, 54% (103/191) of the pediatricians who routinely ask about ACEs thought they had adequately prepared to address them, compared to 36% (6/17) of those who do not routinely ask (p < 0.02). Two thirds stated that they would prefer a self-report model rather than direct questioning. Attitude and beliefs about ACEs were better indicators as to whether pediatricians ask about ACEs. 76% (203/266) believed they should know and ask about them. Physician gender, provider role (i.e., attending physician vs. resident/fellow), setting (i.e., academic, non-academic), location (i.e., urban, non-urban) or familiarity with the ACE studies were not associated with pediatricians asking about ACEs.

CONCLUSION: In this small sample of pediatric providers almost all thought that it is important to know about their patients’ ACEs. Attitudes and beliefs about the importance of ACEs, self-reported comfort level and perceived access to community and institutional resources are associated with higher reported ACEs screening during pediatric visits, whereas specific practice type and location were not. Educational efforts, standardized questions that could support self-report models, and knowledge about and access to community-based resources may enhance pediatricians’ ACEs screening.

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**ABSTRACT 54**

**Visual Motor Deficits in Children with Fetal Alcohol Spectrum Disorder**

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**PURPOSE:** Children with Fetal Alcohol Spectrum Disorders (FASD) are known to have visual motor deficits, but the extent to which these deficits are related to visual perception or fine motor deficits is unclear. It was hypothesized that children with FASD would have significantly worse visual motor scores than the normative sample. Aged 5-year-olds with greater symptoms of Fetal Alcohol Syndrome (FAS) would have greater visual motor deficits. Third, motor coordination scores would be significantly worse than visual perception scores across groups. Fourth, children with poor motor coordination would also have greater deficits in daily living skills.

**METHODS:** Participants were 30 children assessed for FASD with the 4 Digit Diagnostic Code (Asstey, 2004) through a multi-disciplinary clinic. Children were 41% female (mean age = 9.7 years) and 82% were adopted/foster care. Group 1 consisted of children with FAS, partial FAS, or static encephalopathy (N = 18). Group 2 consisted of children with Neurobehavioral Disorder (N = 12). A neuropsychological battery was given including Beery Visual Motor Integration Test-6th Edition and Vineland Adaptive Behavior Scales-Second Edition.

**RESULTS:** Visual motor skills were one standard deviation below the normative average. Results using a two-way ANOVA with repeated measures did not reveal a significant interaction effect [F (2, 27) = 0.5; p > 0.05]. The main effect of group was not significant [F (2, 27) = 0.03; p > 0.05]. There was a significant effect for visual motor subtests [F (2, 27) = 7.97; p < 0.0002]. Post hoc contrasts revealed that visual perceptual skills were significantly better developed than visual motor or motor coordination skills (p < 0.001). Regarding the secondary hypothesis, children with motor coordination deficits did not show significantly worse daily living skills [F (1, 27) = 0.61; p > 0.05].

**CONCLUSION:** Children with FASD have deficits in visual motor skills, which appear to be related to fine motor coordination rather than visual perception. Deficits in motor coordination did not predict daily living skills, which may indicate a greater influence of other factors such as executive function skills.

**ABSTRACT 55**

**Inconsistent Recognition of Anxiety Symptoms in Preschoolers with Co-Occurring Anxiety and Oppositional Defiant Behavior**

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**PURPOSE:** To test the hypothesis that, when preschoolers have oppositional-defiant (OD) behavior associated with anxiety, some caregivers/reporters might not easily recognize their anxiety symptoms.

**METHODS:** Data were collected retrospectively from parent and teacher forms of the Early Childhood Inventory-4 (ECI-Gadaw & Sprafkin, 2009) for 193 3-6 year olds referred for developmental/behavioral pediatrics evaluation. After excluding subjects for whom either a parent or teacher ECI was missing, 151 were analyzed.

From parent and teacher ratings, Oppositional-Defiant (OD), Total Anxiety (TA), and Generalized Anxiety (GA) severity scores were calculated. A High OD subset was created of subjects with OD symptom severity scores, according to parent and/or teacher report, of more than one standard deviation above the mean of a normative sample of preschoolers (Gadaw & Sprafkin, 1997). Two-way tables were produced according to whether parents and/or teachers rated these High OD children as having High or Low Anxiety using a +1 s.d. cutoff in the normative sample (from our study population for TA).

**RESULTS:** Of the 151 children, 61 (40.4%) had high OD scores. Of these 61, 45 (70%) were also rated as having high GA by at least a parent or teacher. However, 27 of these (62.8%) were identified as having high anxiety by only one observer. Of the 61 with high OD scores, 15 (24.6%) were rated as having high TA by at least a parent or teacher. However, 9 of these 15 (66%) were identified as having high anxiety by only one observer. Thus, in 60-65% of the cases in which high anxiety was associated with high OD behavior, one or the other observer did not recognize the child as anxious. With either anxiety construct, the “naive observer” was not more likely to be a parent or teacher.

**CONCLUSION:** Among preschool children who have high levels of OD behavior associated with high anxiety, their anxiety may often be not apparent to a parent or teacher. Although these results do not prove causality they suggest that, in some situations, acting out behavior may be the only manifestation of anxiety. The findings support considering targeting anxiety in treating OD behavior in preschoolers.

**ABSTRACT 56**

**Evaluating Decision-Making in a Pediatric Rheumatology Clinic**

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**PURPOSE:** With the increasing prevalence of pediatric chronic illness, there is a growing need for comprehensive, lifelong medical care. Transitioning patients from pediatric to adult institutions, along the shift in legal responsibility, calls for the development and activation of medical decision-making skills. This study aimed to explore children’s decision-making characteristics in a pediatric urban hospital’s outpatient Rheumatology clinic. It is hypothesized that (1) pediatric patients who are more involved in their care will report lower decisional conflict, (2) children want to be involved in their care, and (3) higher health consciousness will be positively correlated with involving involvement in medical decision making, actual involvement in decision making, and lower decisional conflict.

**METHODS:** This was an anonymous survey study for patients with chronic rheumatologic illness presenting to the outpatient Rheumatology clinic at the Children’s Hospital Boston. Study participants included 14 pediatric patients and their caregivers presenting to the clinic.

**RESULTS:** Analyses revealed significant positive correlations between adolescent and caregiver health consciousness (r = 0.72, p = 0.008), adolescent and caregiver decisional conflict (r = 0.62, p = 0.04), and adolescent actual involvement and valuing involvement (r = 0.58, p = 0.04) and a significant negative correlation between adolescent actual involvement and decisional conflict (r = −0.82, p = 0.001).

**CONCLUSION:** Although the sample size was limited for statistical analyses, results suggest pediatric patients’ considerable motivation for involvement in care. Given the link between treatment adherence, medical advocacy skills and decision making, pediatric medical decision-making is a valuable area for future research.

**ABSTRACT 57**

**Predictors of Fatigue in Children with Sickle Cell Disease**

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**PURPOSE:** Fatigue is a commonly reported experience for children with sickle cell disease (SCD) that can negatively impact their quality of life. However, little is known about how specific biological and socioemotional factors impact this symptom. Therefore, the current study examined the impact of disease severity, anemia, hemoglobin levels, and internalizing symptoms on fatigue in children with SCD.

**METHODS:** Children with SCD aged 8-16 (n = 50) and a caregiver were recruited during regularly scheduled clinic visits. Measures included the PedsQL Multidimensional Fatigue Scale, a self-and parent-report inventory of a child’s general, sleep/rest, and cognitive fatigue. Caregivers also completed the Child Behavior Checklist, yielding a measure of internalizing (anxiety, depression, somatic) symptoms. Number of hospitalizations over the last year was used as a proxy of disease severity, per medical record. Steady state hemoglobin levels were also abstracted via medical records.

**RESULTS:** Simultaneous multiple regression models utilizing hemoglobin level, disease severity, and internalizing symptoms significantly predicted fatigue (child-rated: Adj. R² = 0.22, F (3,24) = 3.6, p < 0.05; parent-rated: Adj. R² = 0.19, F (3,24) = 3.1, p < 0.05). In the parent model, internalizing symptoms was the only significant predictor of fatigue (b = −0.59, p = 0.006). Specifically, increased levels of internalizing symptoms were associated with higher levels of parent-reported fatigue. In contrast, in the child model, disease severity was the only significant predictor of fatigue (b = −7.96, p = 0.01), indicating more severe disease predicted increased fatigue.

**CONCLUSION:** These data suggest that internalizing symptoms and hospitalizations are significant predictors of fatigue in children with SCD. Surprisingly, hemoglobin levels were not associated with fatigue. In light of these results, it may be helpful for clinicians to be mindful of subjective mood symptoms and recurrent hospitalizations during the assessment and intervention of fatigue. Ultimately, additional research investigating the relationships among these variables will lead to a better understanding of how to best identify and alleviate fatigue for children with SCD.

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ABSTRACT 58

Behavioral Pediatric Referral Practices in Primary Care: Impact of Amount and Type of Training on Referrals
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PURPOSE: Currently 25% of presenting problems reported for children in primary care are for behavioral and mental health concerns. Parents most often report behavioral concerns to their primary care provider instead of seeking mental health services. Behavioral health concerns are currently taking more physician time and resources; however, physicians are not trained nor have the time to manage these concerns.

METHODS: The current study explores the relationship between physician training and referral practices. We conducted a survey of approximately 1500 pediatricians and family physicians from the Midwestern United States. We asked to transform a diary of frequency of how often they make outside referrals are made to other professionals.

RESULTS: Bivariate analyses demonstrated significant positive correlations between an appropriate referral to a psychologist and number of hours didactic training in childhood discipline strategies ($r = 0.152, p < 0.006$) and time-out ($r = 0.028, p < 0.003$). Significant positive correlations were found between referral to a psychologist and number of hours of supervised training in discipline strategies ($r = 0.192, p < 0.001$) and time-out ($r = 0.212, p < 0.001$). The bivariate analysis method with all four predictors (didactic training in discipline strategies, didactic training in time out, supervised training in discipline strategies and supervised training in time out) with a dependent variable of referral to a psychologist produced $R^2 = 0.049, F (4, 321) = 4.149, p < 0.003$.

CONCLUSION: This study assesses the potential for outside referrals sources by physicians to help manage behavioral concerns for children. Results from the present study suggest the impact of physician training on appropriate behavioral referrals.

ABSTRACT 62

Designing A Statewide Quality Improvement Project to Transform Delivery of Children's Mental Health Services in Pediatric Primary Care
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PURPOSE: Describe a process for designing a statewide quality improvement project to transform delivery of children’s mental health services in pediatric primary care.

METHODS: A Modified Breakthrough Series of the Model for Improvement guided all activities. An Expert Panel and Advisory Board convened. A literature review was completed for relevant clinical guidelines and practice parameters. Providers (N = 28) from 20 sites completed the AAP Mental Health Practice Readiness Inventory. A convenience sample of parents (N = 505) in each site completed a baseline survey to assess satisfaction with family-centeredness, care coordination and visit outcomes.

RESULTS: The expert panel and advisory board identified priorities leading to development of a global aim and key drivers. The global aim: To achieve optimal mental wellness for all Ohio children and families as soon as possible. The key drivers: 1) Building Protective Skills; 2) Surveillance and Screening; 3) Practice-Based Interventions; 4) Collaboration and Care Coordination; 5) Evidence Informed Pharmacotherapy. Providers identified areas for change: collaborative relationships with mental health professionals (59.3%), mental health promotion (57.5%), support for adolescents (52.1%), medication management (52.1%), screening and surveillance (28.6%). Families reported being very satisfied with family-centeredness (84.29%), care coordination (87.5%) and visit outcomes (92.8%). The team developed curricula, clinical tools, hosted a Learning Session and monthly calls for practices, supported monthly data collection, and provided constructive feedback.

CONCLUSION: The Model for Improvement provided a framework for design of a statewide quality improvement project for children’s mental health services in pediatric primary care. The Mental Health Practice Readiness Inventory provided useful guidance. The family surveys indicated high levels of satisfaction with the initial practices, and may be more informative in the future if completed by only families affected by emotional, developmental, or behavioral concerns.

ABSTRACT 64

Ostracism and Need Threats in Children and Adolescents
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PURPOSE: This study investigates age and gender differences on the impact of ostracism in children and adolescents on four fundamental psychological needs (belonging, self-esteem, autonomy and sense of control) as described by Williams (2009) temporal need-threat model of ostracism.

METHODS: Participants (n = 2159), aged 8-18 (M = 13.50, SD = 2.57), completed the Bullying and Ostracism Screening Scale (BOSS; Saylor et al., 2012) as a part of a school climate assessment. The BOSS contains 15 questions that assess for ostracism experiences and thoughts or feelings that reflect threats to basic psychological needs. Participants were assigning 3rd 12th graders whose parents received written notification of the assessment and had not elected the opt-out option. The sample of participants was 48% male and 52% female.

RESULTS: One-way Analysis of Variance with Dunnet Post Hoc tests reveal that elementary students report significantly higher frequency of experiences of ostracism [F (2, 2132) = 20.29, p < 0.001], threat to belonging [F (2, 2139) = 10.27, p < 0.001], threat to self-esteem [F (2, 2115) = 14.48, p < 0.001], and threat to meaningful existence [F (2, 2110) = 3.38, p < 0.05] than middle and high school students. Both elementary and middle school students show significantly higher threat to sense of control [F (2, 2088) = 79.28, p < 0.001] than high school students, with elementary students reporting the highest threat. Independent samples t-tests reveal that female students show significantly higher threat to belonging [t (1116) = 2.49, p < 0.005], threat to meaningful existence [t (1110) = 5.58, p < 0.001] and threat to sense of control [t (1107) = 5.37, p = 0.001] than males. No gender differences are observed on frequency of experiences of ostracism or threat to self-esteem.

CONCLUSION: These findings suggest that ostracism has a significant impact on the fundamental psychological needs of children and adolescents. The authors recommend that children and adolescents are assessed for experiences of ostracism during a pediatric visit.

ABSTRACT 66

Predictors of Externalizing Behavior in the Preschool Years: Implications for Behavioral Surveillance in Pediatric Practice
Prachi E. Shah, MD, Pediatrics, Pamela Davis-Kean, PhD, Developmental Psychology, Sharon Simonton, PhD, Institute for Social Research, Daniel Choe, BA, Psychology, University of Michigan, Ann Arbor, MI

PURPOSE: The purpose of this study was to determine in a nationally representative sample, how maternal and infant characteristics, including maternal depression, history of poverty, and reports of infant temperament influence the development of externalizing behavior at preschool. We hypothesized that maternal depression, history of poverty, and difficult temperament at age 2 would predict externalizing behavior at preschool, and that maternal depressive symptoms would moderate the relationship between early infant temperament and preschool externalizing behavior problems.

METHODS: Sample included 6150 children, ascertained from the Early Childhood Longitudinal Study, Birth Cohort (ECLS-B), a nationally representative longitudinal study. Data were utilized from 9-month, 2-year, and preschool timepoints. Child temperament was assessed at 9-months and 2-years with the Infant Toddler System Checklist (ITSC), and maternal depression, SES risk factors and poverty status were assessed at all timepoints using the CES-D and standardized questionnaires. Externalizing behaviors were assessed from responses on the Preschool and Kindergarten Behavior Rating Scales Second Ed. (PKBS-2). Multivariate stepwise regression explored the association between infant temperament, maternal depression and poverty on the development of externalizing behavior problems at preschool, after controlling for maternal race, education, marital status, and child gender.

RESULTS: After controlling for covariates, multivariate regression models indicated that the most robust predictors of preschool externalizing behavior included history of difficult child temperament at 9 months (B = 0.10, p < 0.001) and 2-years (B = 0.19, p < 0.001), history of poverty at age 2 (B = 0.08, p < 0.001), and history of maternal depression at preschool (B = 0.16, p < 0.001). Maternal depression did not moderate the association between infant temperament and externalizing behavior problems at preschool.
CONCLUSION: Early predictors of preschool externalizing behavior problems include maternal, socio-economic, and infant characteristics, with infant temperament at 9-months, predicting later behavior problems. Potential opportunities for behavioral surveillance in pediatric practice may include monitoring for early infant temperament difficulties, maternal depressive symptoms, and SIS risk factors.

ABSTRACT 68
Child and Family Characteristics Associated with Age of Diagnosis of an Autism Spectrum Disorder in a Tertiary Care Setting
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PURPOSE: Identify child and family characteristics associated with age of diagnosis of an Autism Spectrum Disorder (ASD) in a tertiary care setting.
METHODS: We conducted a chart review of children who received their first ASD diagnosis in our clinic from 2007-2011. Child variables included gender, birth order, and nonverbal IQ, for all subjects, and language and adaptive assessments, available only for children <36 months. Family variables included insurance, maternal age, maternal education, sibling or extended family member with ASD, maternal history of psychiatric disorders, and presence of maternal psychiatric comorbidities. Results: The mean age of diagnosis was 2.9 years (mean 3.9yrs; range 15mo-13.8yrs). In the total sample, multiple regression of child variables only was only significant (R2 = 0.005; p = 0.75); models of family variables only (R2 = 0.12; p < 0.001) and child/family combined (R2 = 0.18; p < 0.001) were significant. In the combined model, significant predictors of later age of diagnosis were earlier birth order, lower maternal education, more children in the house, and no sibling with ASD. In a separate analysis of children <36 months (n = 315), a model of child variables only (including language and adaptive assessments) was significant (R2 = 0.44; p < 0.001). Models of family variables or child/family combined were too unstable due to missing data. Significant child predictors of later age of diagnosis were lower nonverbal IQ, lower adaptive functioning, and higher receptive and expressive language.
CONCLUSION: This study highlights the role of family characteristics in age of diagnosis, emphasizing the importance of carefully monitoring children from less advantaged families. A more age-varied sample is needed to further evaluate the role of child characteristics.

ABSTRACT 70
What Makes Teachers Willing to Accommodate Children with Health Conditions in the Classroom?
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PURPOSE: Children with developmental and behavioral disorders often require accommodations in the classroom. However, teachers willingness to enact those accommodations can vary. We conducted a chart review of teacher reported burden of an accommodation and their reported willingness to enact that accommodation. Additionally, we predicted the teachers perceived benefit of the accommodation for the child would moderate that relationship. Eight accommodations were examined. Allowing missed class time for support services, Educating classmates about the condition, Encourage socialization with child, Assigning a partner to assist, Attending educational classes about special needs, Consider complications from condition before punishing behavior, Provide extra instructions for substitutes, and Dealing with negative reactions of parents of other children.
METHODS: 123 teachers were contacted via email completed a questionnaire assessing accommodations and can problem solve ways to decrease the burden of implementing these accommodations.
RESULTS: Sixty two infants (52% female) presented to clinic ranging from four days to two months. Mothers average stress rating was 5.06 (SD = 1.05), on 1-5 scale, and EPDS scores ranged from 0.24 with a mean of 6.93 (SD = 5.10). Respondents generally reported feeling loving (94%), joyful (74%) and protective (84%) towards their babies. On average, mothers reported intent to breastfeed for 10.29 months (SD = 7.98). EPDS-SF scores ranged from 25/60 (064 confidence scale). Sixty nine percent (N = 43) of mothers completed follow-up surveys. Average infant age at follow-up was 8.7 months. 63% (N = 27) of mothers were still breastfeeding, and 88% (N = 38) reported that the visit helped meet their goals. Ninety eight percent (N = 42) plan to breastfeed again with another child. 100% of families were highly satisfied with their experience with the Trifecta model, and 100% responded that they were highly likely to recommend the clinic to others.
CONCLUSION: Initial program descriptive results highlight the challenges that arise for families of breastfed infants. An integrated health approach to breastfeeding management may help to decrease maternal stress and pregnancy-related mood disorders, and increase maternal competence, confidence and breastfeeding duration to promote longterm infant health.

ABSTRACT 73
Gross Motor Function Improves in Young Children with Spastic Cerebral Palsy After Myofascial Structural Integration Therapy
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PURPOSE: To assess whether Myofascial Structural Integration (MSI), a complementary therapy that is also known as Rolffing Structural Integration and is similar to osteopathy, improves gross motor function in children with spastic cerebral palsy (CP).
METHODS: The study is a randomized controlled trial (RCT) with a subsequent open label (OL) crossover design. Children ages 4 and under with a diagnosis of spastic cerebral palsy were enrolled. Participants continued pre-existing treatments without change. Recent injection of botulinum toxin was an exclusion criterion. For any child, a total of 10 treatment sessions were administered. The primary outcome measure was the Gross Motor Function Measure-66 (GMFM), a standardized measure of gross motor function for children with a diagnosis of CP. For this age and degree of...
disease-involvement, the anticipated GMFM score range is 20-90, with higher scores indicating higher function.

**RESULTS:** In RCT phase, repeated measures ANOVA indicated that, though group difference in GMFM scores suggests possible treatment benefit (i.e., treatment group post-treatment \( M = 48.40 \) vs. control group pre-treatment \( M = 46.41 \)), the difference was not statistically significant (\( p = 0.13 \)). In the OL phase, using the pooled sample, paired t-test analysis showed no significant change in GMFM score comparing baseline to pre-treatment assessments (\( M = 45.41 \) and \( M = 46.35 \), \( p = 0.40 \)). The change in GMFM score from pre-treatment to post-treatment assessments was statistically significant (\( M = 46.35 \) and \( M = 48.29 \), \( p = 0.04 \)).

**CONCLUSION:** Ten weekly sessions of myofascial structural integration therapy was associated with better Gross Motor Function Measure scores in young children with spastic cerebral palsy. Though the magnitude of change was modest, it was associated with parental qualitative impressions of clinical improvement.

**ABSTRACT 74**

*Lower-Socioeconomic-Status Mexican-American Adolescent’s Exposure to Violence, Alcohol, and Drugs and Their Psychosocial and Behavioral Profile*

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**PURPOSE:** To determine lower socioeconomic status adolescents self-report exposure to violence, drugs and alcohol and their psychosocial and behavioral profile.

**METHODS:** Extracted information data corresponded to a sample of Mexican-American adolescents, who responded to the Guidelines for Adolescent Preventive Services questionnaire (GAPS), and their parents, who responded to the Child Behavior Checklist (CBCL). A total of 881 records were extracted, including 463 (52.6%) females (median age 13.2; standard deviation = 1.7). Categories of exposure were formulated by extracting questions on the GAPS and linked to psychosocial and behavioral problems resulting reported by the parents report about the youths behavior.

**RESULTS:** Based on the adolescents self-report extracted questions on the GAPS groups were categorized into uninvolved adolescents 463(52.6%). The remaining 418 adolescents were categorized into exposed only to violence 25.1%, alcohol 24.9% and drugs 8.6%, combined exposures to violence and alcohol (13.4%), alcohol and drugs (14.6%) and violence, alcohol and drugs (13.4%). Combinations of exposures showed an additive effect in the psychosocial and behavioral profile of adolescents.

**CONCLUSION:** The results of this study indicate the additive, detrimental effect on the psychosocial and behavioral profile of the adolescents with combined exposure to violence, alcohol, and drugs. Our results strongly suggest that using these screening questions in a clinical, non-emergency setting can increase early detection of current or potential problems and allow for an early intervention.

*Abstracts 32, 33, 35, 36, 37, 39, 40, 47, 49, 51, 52, 59, 60, 61, 63, 65, 67, 69 and 71 were previously published research and are not included in this online publication.*