Welcome to the Pediatric Academic Societies (PAS) 2018 Meeting. The PAS 2018 Meeting brings together more than 8,000 pediatricians, research scientists, health care providers, and policy makers from around the world united by a common mission: to improve the health and well-being of children worldwide.

During your time in Toronto, you’ll have the opportunity to:
- hear presentations from internationally renowned scientists on a wide array of topics
- learn about the latest original research in many specialty and sub-specialty areas
- share experiences in workshops and special interest groups
- honor the achievements of young investigators and more senior esteemed pediatricians
- build connections and network with colleagues and friends.

This document contains four main sections:
- Press Room
- About
- Meeting Press Release
- Embargoed Press Releases

If you have any questions, please contact the PAS Press Office at (832) 371-6239.
Press Room

Press Room Location
Room 809

PAS Press Office & Onsite Contacts
Del Mixon  
(713) 240-6354  
PAS2018@piercom.com

Lisa Thompson  
(832) 371-6239  
lthompson@aps-spr.org

Wi-Fi
WiFi: pasm18 Password: pasm2018

Press Office Hours
Saturday, May 5  7:30 AM - 5:00 PM  
Sunday, May 6  8:00 AM - 5:00 PM  
Monday, May 7  8:00 AM - 5:00 PM  
Tuesday, May 8  8:00 AM - 2:45 PM

Press Badges
You will receive a QR code to scan and print your press badge on site. A photo ID is required.

While at the meeting, journalists must:
- Wear or display their official PAS 2018 Meeting press badge at all times while on site
- Not exchange, loan, or borrow PAS 2018 Meeting press badges – Individuals who do so will be required to leave the meeting
- Follow the same camera/recording policy as regular PAS 2018 Meeting attendees – Attendees may not use cameras, including mobile phone and tablet cameras, or any other audio and/or video recording devices in meeting session rooms, on the Exhibit Hall floor, or in poster/oral presentations
About The Pediatric Academic Societies (PAS) Meeting

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Website
www.pas-meeting.org

Social Media
- Hashtag: #PAS2018
- Twitter @PASMeeting
- Facebook: PASMeeting

Logo
Pediatric Academic Societies Meeting
May 5 – 8, 2018 | Toronto Canada

Online Program Guide
You can track sessions, speakers, abstracts, topic areas and more through the PAS 2018 Meeting online program guide.

2018-2019 Program Chair
Thomas P. Shanley, PAS Program Chair (2018-2019)
Critical Care
Ann & Robert H. Lurie Children’s Hospital of Chicago
Stanley Manne Children’s Research Institute

Partners
The PAS 2018 Meeting is produced through a partnership of four pediatric organizations that are leaders in the advancement of pediatric research and child advocacy:

- American Pediatric Society (APS) is an organization dedicated to the advancement of child health through the promotion of pediatric research, recognition of achievement, and cultivation of excellence in pediatrics through advocacy, scholarship, education and leadership development and to honor those who, by their contributions to pediatrics, have aided in its advancement.
• **Society for Pediatric Research (SPR)** is an international society whose purpose is to create a network of multidisciplinary researchers to improve child health. SPR promotes the interchange of ideas and provides opportunities for investigators to present and be honored for their work.

• **Academic Pediatric Association (APA)** is a national organization dedicated to improving the health of all children and adolescents through leadership in the education of child health professionals, research, dissemination of knowledge, patient care, and advocacy, in partnership with children, families, and communities. This is accomplished through membership activities, funded research and teaching programs and advocacy to affect public and governmental opinion positively for children.

• **American Academy of Pediatrics (AAP)** is an organization of primary care pediatricians, pediatric medical subspecialists, and pediatric surgical specialists committed to the attainment of optimal physical, mental and social health for all infants, children, adolescents and young adults.

**Alliances**

• [American Society of Pediatric Nephrology (ASPN)]
• [Pediatric Endocrine Society (PES)]
• [Pediatric Infectious Diseases Society (PIDS)]

**Affiliates**

• [Association of Pediatric Program Directors (APPD)]
• Bioethics Interest Group
• [The Coalition of Centres in Global Child Health (The Coalition)]
• [Child Neurology Society (CNS)]
• Child Health Translational Research Committee
• Directors of Research in Pediatrics
• [Federation of Pediatric Organizations (FOPO)]
• [International Pediatric Hypertension Association (IPHA)]
• [International Society for Children’s Health and the Environment (ISCHE)]
• [Japan Pediatric Society (JPS)]
• Kernicterus Symposium
• Lung Club
• [March of Dimes Foundation]
• Milk Club
• Neonatal Feeding Club
• Neonatal Hemodynamics Club
• Neonatal Sepsis Club
• NICU Follow-Up Club
• [North American Society for Pediatric Gastroenterology, Hepatology and Nutrition (NASPGHAN)]
• [Pediatric Hospitalist Medicine (PHM)]
• Perinatal Brain Club
• Perinatal Nutrition and Metabolism Club
• Research Training Consortium in Pediatric Critical Care Medicine
• [Society for Adolescent Health and Medicine (SAHM)]
• [Society for Developmental and Behavioral Pediatrics (SDBP)]
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<th><strong>Past Meetings</strong></th>
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<td>2018 - Toronto, Canada - May 5 – 8</td>
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<td>2016 - Baltimore, MD - April 30 – May 3</td>
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<td>2014 - Vancouver, Canada - May 3 – 7</td>
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<td>2010 - Vancouver, Canada - May 1 – 4</td>
<td>2025 - Honolulu, HI - April 26 – 29</td>
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Pediatric Academic Societies 2018 Meeting Features Cutting-Edge Research in Pediatrics

Thousands of pediatric researchers from around the globe will meet in Toronto, May 5-8, to share the latest discoveries in pediatric research.

TORONTO, May 2, 2018 – Pediatricians, research scientists, health care providers and policy makers from around the world will convene in Toronto on May 5-8, 2018 for the Pediatric Academic Societies (PAS) 2018 Meeting, the leading event for academic pediatrics and child health research. The annual meeting features advanced research in pediatrics with thousands of abstract presentations by experts and internationally renowned scientists.

“We are excited to bring together some of the greatest minds in pediatrics and child health research,” said Thomas P. Shanley, the 2018-2019 PAS Program Chair. “We have assembled a wide-ranging program of invited and submitted science designed to expand attendees’ personal and professional horizons spanning academic pediatrics.”

Dr. Roberto Canessa, an internationally renowned pediatric cardiologist, author, motivational speaker and 1972 Andes Mountains plane crash survivor, will deliver the Debbie Anagnostelis Keynote Address: The Triumph of Human Spirit on Saturday, May 5. Also at the opening session, Dr. Mark Schuster will receive the Joseph W. St. Gme, Jr. Leadership Award, which recognizes a pediatrician who is a role model for others to emulate as a clinician, an educator and/or an investigator.

The PAS 2018 Meeting is grateful for the support of its sponsors. Gold Sponsors for this year’s event are AstraZeneca and Mallinckrodt Pharmaceuticals.

The meeting will be held at the Metro Toronto Convention Center (222 Bremmer Blvd, Toronto, ON MSV 3L9, Canada). Attendees can track sessions, speakers, abstracts, topic areas and more through the PAS 2018 Meeting online program guide and mobile app.

For more information about the PAS 2018 Meeting or to register, please visit www.pas-meeting.org.

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About The Pediatric Academic Societies (PAS) Meeting
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“It’s Not Cause and Effect:” New Research Investigates Long-Term Effects of Pre-Birth Exposure to Anti-Depressants 12 Years Later

TORONTO, May 5, 2018 – Selective serotonin reuptake (SSRI) antidepressant treatment during pregnancy is associated with better performance on a computerized task to measure cognitive skills in 12 year olds, according to a new study being presented during the Pediatric Academic Societies (PAS) 2018 Meeting.

This study, led by Dr. Sarah Hutchison and senior author, Dr. Tim Oberlander, investigates the complex relationships between pre-birth exposure to selective serotonin reuptake inhibitor (SSRI) antidepressants, and thinking and attention skills in 12-year-olds. Dr. Oberlander is a developmental pediatrician and investigator at BC Children's Hospital and BC Women's Hospital + Health Centre, and a professor in the UBC Department of Pediatrics. Dr. Hutchison is a UBC postdoctoral fellow at BC Children's.

Dr. Oberlander, in collaboration with Dr. Adele Diamond, UBC professor and a Canada Research Chair, followed 51 children from 26 weeks of pregnancy to 12 years of age. In this part of the longitudinal cohort study the investigators assessed mom’s mood during and after pregnancy and the child’s executive functions (EFs) at 12 years of age. EFs consist of a series of skills that help kids thrive in the classroom and workplace, including flexible, creative problem solving, the ability to focus and pay attention, and self-control.

SSRIs are a popular class of antidepressants commonly used to treat a mothers’ mood disorder during pregnancy. They affect the brain’s level of serotonin, a chemical that plays a critical role in the regulation of mood and attention.

Researchers found that children’s performance varied depending on whether they were exposed to SSRIs before birth: Children with SSRI exposure had better EF skills, even when controlling for mother's mood during pregnancy and when the child was 12 years old. Interestingly, better EFs were also observed in the same children at 6 years (Weikum et al 2013). At 12 years, though (unlike at 6 years),
differences in SSRI exposure while in utero and differences in the child’s EFs did not vary with measures of the child's mood (anxiety or depression) or verbal ability.

“These are important early findings and further research is needed to examine whether ‘better’ cognitive skills in children with antidepressant exposure reflect a developmental advantage in some ways but also perhaps a risk in other ways, such as perhaps increased anxiety (Hanley et al, 2015),” said Dr. Oberlander. “Our findings when the children were 3 and 6 years of age indicated increased anxiety, though the absence of this at 12 years might indicate that as EFs improve further children are able to use them to help calm themselves.”

At this time, researchers are continuing to study these outcomes in a larger cohort (n~≈120 children) where they will be able to further examine links between EFs, mood and early development.

“The impact of prenatal antidepressant exposure is not a simple cause and effect,” says Dr. Oberlander. “When it comes to assessing the long-term impact of SSRI exposure before birth, genes and family-life play a powerful role in influencing how a child will be affected.”

“Depression during pregnancy and beyond is a major public health problem for mothers and their children,” Dr. Oberlander added. “Non-treatment is never an option. It is really important that pregnant women discuss all treatment options with their physicians or midwives.”

These findings build on Dr. Oberlander’s broader research program, in collaboration with other researchers with the Brain Behavior and Development Research Theme at BC Children’s, examining the developmental effects of maternal depression on babies and children. They also build on Dr. Diamond’s research program, conducted in collaboration with other Neuroscience researchers at UBC and elsewhere, examining how EFs are affected by biological factors (such as genes and neurochemistry) and environmental ones (for example, impaired by stress or improved by interventions).

Dr. Hutchison will present the abstract, “Prenatal Serotonin Reuptake Inhibitor (SRI) Antidepressant Exposure Influences Executive Functions at 12 Years of Age,” during the PAS 2018 Meeting on Sunday, May 6 at 5:45 p.m. EDT. Additional co-authors include Dr. Louise Mâsse, Dr. Ruth Grunau, Dr. Whitney Weikum, Ms. Ursula Brain and Mr. Cecil Chau.

The study was funded by the Canadian Institutes of Health Research, Brain Canada, and Kids Brain Health.

Reporters interested in an interview with Drs. Oberlander and Hutchison may contact Ms. Stephanie Dunn, Acting Manager of Research Communications at BC Children’s Hospital at 604-875-2401 or sdunn@bcchr.ca.

Please note: Only the abstract is being presented at the meeting. In some cases, the researcher may have additional data to share with media.

The PAS 2018 Meeting, taking place in Toronto on May 5-8, 2018, brings together thousands of pediatric scientists and other health care providers to improve the health and well-being of children worldwide. For more information about the PAS 2018 Meeting, please visit www.pas-meeting.org.
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Abstract: Prenatal Serotonin Reuptake Inhibitor (SRI) antidepressant exposure influences executive functions at 12 years of age

Background: We previously reported that prenatal exposure to serotonin reuptake inhibitor antidepressants (pSRI) was associated with better performance in prefrontal cognitive skills termed executive function (EF), central to attention, working memory, and self-control in some 6 year olds. At that time, mothers of pSRI exposed reported fewer child externalizing behaviors compared with children without pSRI exposure.

Objective: To investigate relationships between pSRI, maternal depressive symptoms (MDS), EF, and behavior in 12-year-olds while controlling for key covariates associated with EF performance.

Design/Methods: Children and their mothers were followed from 2nd trimester to 12 yrs (n= 51; mean age 12.64 yrs, 45% male). Relations between EF (Percent Correct, Flanker/Reverse Flanker task, Block 3), pSRI, MDS (Hamilton Depression Scale scores at 3rd trimester, 12 years), maternal education, child’s age (at 12 years), and child’s verbal ability (Kaufman Brief Intelligence Test Verbal Standard Score at 6 years) were examined. Parent reports of child behavior were also obtained (Child Behavior Checklist).

Results: A hierarchical regression model showed that children with pSRI performed better on the most demanding part of the Flanker/Reverse Flanker task (Block 3; F (1, 44) = 4.29, p = .04, ΔR² = .08), even after controlling for MDS (prenatal and when the child was 12 yrs), maternal education, child’s age, and verbal ability. Internalizing and externalizing behaviors did not differ with pSRI exposure status using models of multivariate analysis of covariance (MANCOVA), controlling for with pre- and postnatal (12 year) MDS as covariates.

Conclusion(s): Prenatal SRI exposure was associated with better EF skills in 12-year-olds, even when controlling for key covariates. These results are consistent with findings with this same cohort at 6 years of age, suggesting a long-term impact of fetal serotonergic programming. Further analysis in a larger cohort is needed to confirm these findings.

Authors: Sarah Hutchison, Whitney Weikum, Ursula Brain, Cecil Chau, Louise Mâsse, Ruth Grunau, Adele Diamond, Tim Oberlander
Study Shows Early Family and Community Support are Essential to Children’s Academic Success

TORONTO, May 5, 2018 – A new study found that as childhood stress increases, school performance and attitudes decrease in a strong and graded fashion. Similarly, children with increased family and community protective factors have improved outcomes in school. Findings from the study will be presented during the Pediatric Academic Societies (PAS) 2018 Meeting in Toronto.

Adverse childhood experiences (ACEs) are associated with poor outcomes in adults. However, the impact of ACEs on school performance and factors that may be protective are not well studied.

To conduct the study, a cross-sectional analysis of demographically weighted data from over 65,000 children, between the ages of six and 17 in the 2011/2012 National Survey of Children Health (NSCH) was performed. In the survey were nine ACE questions based on negative experiences, and graded questions on protective factors (PROs), including safe neighborhood, non-smoking environments and meals. School outcome measurements were attendance, homework completion and attitude towards school itself.

“Our study showed a strong correlation between childhood stresses and poor school performance,” said Dr. Angelica Robles, one of the authors of the study. “Similarly, strong PRO scores revealed improved school outcomes. Primary care providers, clinicians and educators should consider screening for both ACEs and PROs in order to identify risks and strengths to guide treatment and referral.”

Dr. Angelica Robles will present the abstract, “Associations of Adverse Childhood Experiences & Protective Factors with School Performance & Attitudes in School Age Children,” during the PAS 2018 Meeting on Tuesday, May 8 at 9:45 a.m. EDT. Reporters interested in an interview with Dr. Robles should contact PAS2018@piercom.com.

Please note: Only the abstract is being presented at the meeting. In some cases, the researcher may have additional data to share with media.
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Abstract: Associations of Adverse Childhood Experiences & Protective Factors with School Performance & Attitudes in School Age Children

Background: Adverse Childhood Experiences (ACEs) are associated with poor outcomes in adults. The impact of ACEs on school performance & factors that may be protective are not well studied.

Objective: Determine if there is an association of ACEs and Protective familial & community factors with school performance & attitudes in children 6-17 yo.

Design/Methods: A cross-sectional analysis of demographically weighted data from 65,680 children 6-17 yo in the 2011/2012 National Survey of Children’s Health (NSCH) was performed. The survey identified 9 ACE questions based on the original CDC study. ACEs were categorized into 0, 1, 2, 3, & ≥4 ACEs. Protective factors (PROs) included safe neighborhood, supportive neighbors, Neighborhood has pathways, parks, library & rec center, No smoking in the household, ≥5 family meals/week, Parent & child can talk about things that matter/share ideas, & Well-kept neighborhood. PROs were categorized into ≤3, 4, 5, 6, & 7 PROs. School outcomes included child repeated ≥1 school grade, never/rarely/sometimes (N/R/S) completes homework, & N/R/S cares about school. Chi square and multiple logistic regressions were used to assess the relationship between ACEs & school outcomes, and PROs & school outcomes controlling for gender, age, race, ethnicity, & maternal education.

Results: Refer to Tables & Figures. According to the NSCH, 53% of 6-17 yos in the US had 0 ACEs, 23% 1 ACE, 11% 2 ACEs, 6% 3 ACEs, & 7.5% ≥4 ACEs. 22% had all 7 PROs, 38% 6 PROs, 26% 5 PROs, 10% 4 PROs, & 4% ≤3 PROs. 9% repeated ≥1 grades, 13% N/R/S completed homework, & 14% N/R/S cared about school. Each negative school outcome was associated with higher ACE scores & lower PRO scores. In adjusted models children with ≥4 ACEs were most likely to repeat ≥1 grade (aOR=3.06, CI 2.44, 3.83), N/R/S complete homework (aOR=4.96, CI 4.08,6.03), & N/R/S care about school (aOR=3.71, CI 3.08, 4.46). Children with ≤3 PROs were most likely to repeat ≥1 grade (aOR=2.42, CI 1.80, 3.27), N/R/S complete homework (aOR=5.33, CI 4.06, 6.99), & N/R/S care about school (aOR=3.76, CI 2.97, 4.77).

Conclusion(s): As the ACE score (childhood stress) increases, school performance and attitudes decrease in a strong & graded fashion. Similarly, as the PRO score (family & community protective factors)
increases, school outcomes improve in a strong & graded fashion. Primary care providers, clinicians & educators should consider screening for both ACEs & PROs in order to identify risks and strengths to guide treatment & referral.

Authors: Angelica Robles, Annie Gjelsvik, Priya Hirway, Patrick Vivier, Pamela High

Tables/Figures:

*Adjusted for Gender, Age, Race, Ethnicity, and Maternal Education
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| Never/Rarely/Sometimes Completes Homework | 7.45% | 12.7% | 19.1% | 21.9% | 29.2% | 13%       |

| Never/Rarely/Sometimes Cares About School | 8.9% | 14% | 20.1% | 22.3% | 26.4% | 14%       |

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<td>23.7%</td>
<td>24.8%</td>
<td>25.7%</td>
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</tr>
<tr>
<td></td>
<td>14-17 yrs</td>
<td>38.9%</td>
<td>36.3%</td>
<td>37.3%</td>
<td>33.3%</td>
<td>29%</td>
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<tr>
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<td>66.2%</td>
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<tr>
<td></td>
<td>Black</td>
<td>29%</td>
<td>19.6%</td>
<td>16.4%</td>
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<td>11.6%</td>
<td>15.2%</td>
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<tr>
<td></td>
<td>Other</td>
<td>22.9%</td>
<td>20.9%</td>
<td>17.4%</td>
<td>17.2%</td>
<td>18.9%</td>
<td>18.3%</td>
</tr>
</tbody>
</table>

<p>| Ethnicity      | Hispanic                                  | 26.5% | 26.5% | 21.2% | 20.2% | 21%  | 21.8% |
| Maternal Education | High school/High school grad               | 56.4% | 51.6% | 41%   | 30.9% | 21.8%| 35.4% |</p>
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<th>Child Never/Rarely Sometimes Cares About School</th>
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<td>1.00</td>
<td>1.00</td>
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<tr>
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<td>1.80 (1.55-2.08)</td>
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<td>2.85 (2.40-3.39)</td>
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<td>3 ACEs</td>
<td>2.59 (1.94-3.44)</td>
<td>3.51 (2.81-4.37)</td>
<td>2.97 (2.39-3.69)</td>
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<td>≥4 ACEs</td>
<td>3.06 (2.44-3.83)</td>
<td>4.96 (4.08-6.03)</td>
<td>3.71 (3.08-4.46)</td>
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<tr>
<td>≤3 PROs</td>
<td>2.42 (1.80-3.27)</td>
<td>5.33 (4.06-6.99)</td>
<td>3.76 (2.97-4.77)</td>
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<tr>
<td>4 PROs</td>
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<td>1.80 (1.52-2.14)</td>
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<tr>
<td>6 PROs</td>
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<td>7 PROs</td>
<td>1.00</td>
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*Adjusted for Gender, Age, Race, Ethnicity, and Maternal Education
New Study Reveals At-Risk Adolescents are Less Likely to Express Depression on Social Media as They Age

TORONTO, May 5, 2018 – Findings from a new study reveal at-risk adolescents are less likely to post about depressive symptoms on social media as they age. The research suggests that adolescents with a diagnosis of depression may feel less stigmatized describing depressed mood on social media than previously hypothesized. The research will be presented during the Pediatric Academic Societies (PAS) 2018 Meeting in Toronto.

Social media use can provide important information on the mental health of adolescents, including their own descriptions of their experiences. The purpose of this study was to analyze the patterns of social media posting describing depressive symptoms among an at-risk cohort of adolescents at two time points.

The study measured Facebook posts by participants at two time periods, labeled Time 1 as adolescents and Time 2 as young adults. Content analysis applied the Diagnoses and Statistical Manual (DSM) criteria for depression to identify displayed depression symptoms on Facebook.

The study found that the average number of references to depression among displayers was 9.30 at Time 1 and 4.94 at Time 2, showing a dramatic decrease in posts between adolescents and young adults.

“Considering differences between posts in Time 1 and Time 2, it is suggested that as teens develop, the likelihood to express depressive symptoms is lowered,” said Dr. Kathleen Miller, one of the authors of the study. “This may be related to the development of the prefrontal cortex which plays a role in inhibiting impulsive decisions.”

Examples of posts referencing depression included “Basically at the point of giving up” and “Feeling the worst right now, just wanting to cry.” The average number of references to suicide or self-harm was .34 at Time 1 and .08 at Time 2.

Dr. Miller will present the abstract, “Social Media Posting in At-Risk Adolescents: Content Analysis of Facebook Posts Describing Symptoms of Depression,” during the PAS 2018 Meeting on Sunday, May 6 at
5:45 p.m. EDT. Reporters interested in an interview with Dr. Miller should contact PAS2018@piercom.com.

Please note: Only the abstract is being presented at the meeting. In some cases, the researcher may have additional data to share with media.

The PAS 2018 Meeting, taking place in Toronto on May 5-8, 2018, brings together thousands of pediatric scientists and other health care providers to improve the health and well-being of children worldwide. For more information about the PAS 2018 Meeting, please visit www.pas-meeting.org.

###

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**Abstract:** Social Media Posting in At-Risk Adolescents: Content Analysis of Facebook Posts Describing Symptoms of Depression

**Background:** Social media use can provide important information on the mental health of adolescents, including their own descriptions of their experiences.

**Objective:** The purpose of this study was to describe the patterns of social media posting describing depressive symptoms among an at-risk cohort of adolescents at two time points.

**Design/Methods:** Participants were recruited who were enrolled in a longitudinal cohort study that had oversampled for depression. Eligible participants were friended on Facebook, and content analysis was performed at two time points: Time 1 as adolescents and Time 2 as young adults. Content analysis applied the Diagnostic and Statistical Manual (DSM) criteria for depression to identify a displayed depression symptom on Facebook. Variables included the number and type of Facebook posts referencing DSM-5 symptoms of depression.

**Results:** A total of 85 participants were included in this study. 28/85 participants at Time 1 were classified as displayers (those displaying any symptoms) and 35/85 participants at Time 2 were classified as displayers. The average number of references to depression among all participants was 5.37 at Time 1 (range 0 – 33) and 2.25 at Time 2 (range 0-15). The average number of references to depression among displayers was 9.39 at Time 1 and 4.94 at Time 2. Examples of posts referencing depression include “Basically at the point of giving up” and “Feeling the worst right now, just wanting to cry.” The average number of references to suicide or self-harm was 0.34 at Time 1 and 0.08 at Time 2.
**Conclusion(s):** Displayers had decreased references to depression at Time 2 than at Time 1 on social media, suggesting that adolescents are less likely to post about depressive symptoms they age. This may be related to development of the prefrontal cortex which plays a role in inhibiting impulsive decisions. Sleep was the only symptom that increased in frequency from Time 1 to Time 2, suggesting that the distribution of symptoms may vary by age. Surprisingly, one of the most commonly described symptoms in Facebook posts at both Time 1 and Time 2 was depressed mood, suggesting that adolescents with a diagnosis of depression may feel less stigmatized describing depressed mood on social media than previously hypothesized.

**Authors:** Kathleen K. Miller, Ann VanderStoep, Elizabeth McCauley, Molly Adrian, Megan A. Moreno

**Figure:**
Categorization of depression symptom posts on Facebook among a longitudinal cohort sample of youth as early adolescents (series 1) and young adults (series 2).
Training Pediatricians Critical to Improving Quality of Care for Increasing Number of Transgender Youth in the U.S. Receiving Medical Services

New studies show increased trends in medical claims by transgender youth and need for more training among pediatricians.

TORONTO, May 5, 2018 – Two new studies reveal the importance of better understanding the health care utilization of transgender children and adolescents and the need to train pediatricians to care for this population’s unique needs.

Nadia Dowshen, MD, MSHP, and Siobhan Gruschow, MPH, MEd, researchers at PolicyLab at Children’s Hospital of Philadelphia, will present their findings on trends in transgender youth’s health care utilization and primary care providers’ knowledge, comfort and experience caring for transgender youth during the Pediatric Academic Societies (PAS) 2018 Meeting in Toronto.

The first study focused on measuring the knowledge, attitudes and skills of primary care providers in treating transgender children and adolescents. Researchers designed a cross-sectional survey aimed to learn more about the readiness of pediatricians to care for transgender or gender non-conforming youth.

“The pediatricians may be the first or only contact for many transgender youth in the health care system, and therefore it is essential that pediatric providers be knowledgeable and comfortable in caring for this population of youth with unique health care needs,” said Ms. Gruschow, lead author of the study. “The results of our research show that we critically need educational interventions to prepare pediatricians in supporting transgender youth’s health, well-being and early development.”

The research team recruited survey participants either via email or in-person based on where their health care practice was located. Participating primary care pediatricians responded to 18 questions related to their knowledge, experience and comfort in providing care for transgender youth.

They found that among the 161 participants, prior professional or personal experience with transgender youth was associated with an increased comfort in providing care for this population of children and
adolescents. Researchers also discovered that primary care pediatricians have poor knowledge of existing guidelines for care including that only half were aware of when it is indicated to prescribe puberty blockers; however, respondents expressed high levels of interest in additional training.

In the second study, researchers identified prevalence and patterns of youth accessing care for gender dysphoria (GD) through a retrospective analysis of medical administration claims from Clinformatics Data Mart, a large database of privately insured enrollees. Analyzing inpatient and outpatient claims of 18.4 million transgender youth ages 5-21 between 2010-2014, the researchers discovered a significant increase in GD-related claims from 113 to 464 in children or adolescents. While the rate of claims in age groups did not vary, they saw a variation year by year in the geographic regions where claims were made.

“Our study revealed significant increases in the prevalence of insurance claims among children and adolescents related to GD across the U.S.,” said Dr. Nadia Dowshen, lead author of the study. “More studies like ours are needed to describe health care utilization by transgender youth and to inform the development of policies to ensure that providers are adequately trained and equipped with the resources they need to meet these youth’s physical and mental health needs.”

Ms. Gruschow will present “Pediatric Primary Care Provider Knowledge, Attitudes, and Skills in Caring for Transgender Youth” and Dr. Dowshen will present “Trends in Prevalence of Medical Claims Related to Gender Dysphoria Among Children and Adolescents in the US from 2010 to 2014” on Monday, May 7 at 10:30 a.m. EDT. Reporters interested in an interview with the authors should contact Lauren Walens at WalensL@email.chop.edu.

Please note: Only the abstracts are being presented at the meeting. In some cases, the researchers may have additional data to share with media.

The PAS 2018 Meeting, taking place in Toronto on May 5-8, 2018, brings together thousands of pediatric scientists and other health care providers to improve the health and well-being of children worldwide. For more information about the PAS 2018 Meeting, please visit www.pas-meeting.org.

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Abstract: Pediatric primary care provider knowledge, attitudes, and skills in caring for transgender youth
**Background:** Transgender youth have specific healthcare needs. Pediatric primary care providers may be the first or only point of contact for these children in the healthcare system, and thus can play an essential role in their health and well-being.

**Objective:** The objective of this study is to better understand pediatric primary care providers’ knowledge, attitudes, and skills in caring for transgender youth.

**Design/Methods:** Between January and May 2017, we conducted a cross-sectional survey of 460 pediatric primary care providers employed in two pediatric hospital care networks and in city health department clinics in a large metropolitan area. Participants from hospital network practices were recruited via email and those at city health centers were recruited in-person. Surveys were administered electronically or on paper and included 18 items about knowledge, experience, and comfort providing care for transgender youth. Data were analyzed using descriptive statistics and Pearson chi square for bivariate analyses.

**Results:** Of the 161 respondents (35 percent response rate), 134 (83 percent) were physicians and 11 percent were nurse practitioners and in practice for a mean of 18.6 years (sd: 10.9, range: 1-44). The majority of respondents were female (83 percent), and 80 percent were white, 7 percent Asian, and 5 percent African American. More than half (54 percent) of participants did not know there were professional guidelines to support puberty blocking medications for a child who identifies as transgender. Providers who reported having prior experience caring for LGBT youth reported feeling more comfortable knowing where to refer patients than providers with no experience (68.3 percent and 23.08 percent, respectively, p=0.002). Providers with personal experience with someone who identifies as transgender reported feeling more comfortable talking to patients about gender identity than those without personal experience (88.5 percent vs 48.8 percent, p=0.002). The majority of participants (86.3 percent) agreed they would be better clinicians if they had more training on supporting transgender youth.

**Conclusion(s):** Prior experience with transgender youth, whether personal or professional, was associated with increased comfort in providing care. There was also poor knowledge of existing guidelines and high levels of interest in additional training. Our findings suggest an urgent need for targeted educational interventions addressing the care of transgender youth for practicing pediatricians.

**Authors:** Siobhan Gruschow, Sara Kinsman, Natasha Graves, Nadia Dowshen
Abstract: Trends in prevalence of medical claims related to gender dysphoria among children and adolescents in the US from 2010 to 2014

Background: Transgender youth face numerous challenges to their physical and mental health and well-being, but little is known about the prevalence and patterns of youth accessing care for gender dysphoria (GD).

Objective: To identify trends in prevalence of children and adolescents with GD-related claims by age and geographic region.

Design/Methods: We conducted a retrospective analysis of medical administrative claims from Clinformatics Data Mart, a large database of privately insured enrollees in the US. Transgender youth aged 5-21 were identified using claims from inpatient and outpatient services with International Classification of Diseases ninth edition (ICD-9) diagnosis codes related to GD between 2010 and 2014. Age was categorized as <13, 13-18, and 19-21 and geographic location was categorized into nine census regions. In each year, we determined the proportion of the population with at least one related diagnosis code. Using claims from 18.4 million youth with any coverage during 2010 to 2014, we estimated annual age- and census region- standardized rates of youth with a GD-related claim.

Results: From 2010-2014, the number of children and adolescents with a GD-related claim increased from 113 to 464 and the total number of claims increased from 576 to 3,495. Age- and region-adjusted prevalence of GD increased steadily from a rate per 1000 persons of 0.024 (95 percent CI: (0.018, 0.032) in 2010 to 0.13 (95 percent CI: (0.11, 0.14) in 2014. The rate of diagnosed children and adolescents within each age group (<13, 13-18, and 19-21) was not found to vary across years, but there was a significant region-by-year trend in the rate of diagnoses. The East and West South Central regions had the lowest prevalence of children and adolescents with a GD-related claim pooled across the years (mean rates=0.00064 and 0.025, respectively) compared with regions with higher mean rates (New England, Pacific, and West North Central, with rates 0.10, 0.087, and 0.091, respectively).

Conclusion[s]: From 2010-2014 there was a significant increase in the prevalence of youth with GD-related claims and there was variation by geographic region. Identifying transgender children and adolescents in large administrative datasets and describing their care utilization will be critical to future health services research for this vulnerable and often invisible population of youth.

Authors: Nadia Dowshen, Siobhan Gruschow, Jennifer Faerber, Amy Hillier
Study Uses Eye Tracking to Assess Receptive Language in Children

TORONTO, May 5, 2018 – A new study found that eye tracking (ET) can be explored as a modality for assessing receptive language (RL) in typically developing (TD) children and those with neurodevelopmental delay (NDD). The research findings will be presented during the Pediatric Academic Societies (PAS) 2018 Meeting in Toronto.

NDD assessment in children with significant motor delays (e.g., cerebral palsy), which is often associated with apraxia, is difficult. ET is a noninvasive tool that records where someone is looking and how they move their gaze, from which researchers can make inferences about cognition. However, there is limited data on its potential use in children with NDD.

In conducting the study, a Tobii Pro X3-120 eye tracker was used with Tobii studio software to present stimuli and collect data on recruited patients, aged 18 months to six years. Participants first completed calibration to measure participant-specific gaze data. Participants were then presented with a stimulus of a target image alongside a distracter, accompanied by audio instructions to direct their gaze at the target. Stimuli were derived from standardized developmental assessments. Word comprehension was measured as accuracy and fixation proportion.

The study found that ET is feasible in young TD pediatric patients and those with marked ELDs. Word comprehension as measured by accuracy significantly increases as a function for normal development. Accuracy in children with expressive language delay (ELD) is significantly lower compared to TD children of the same age, suggesting a more diffuse cognitive impairment.

“The goal of the study was to evaluate eye tracking as a tool for measuring receptive language ability in pediatric patients,” said Dr. Mary Vernov, one of the authors of the study. “Findings show that eye tracking can be explored as a modality for assessing receptive language in children. This has important implications for evaluating children with developmental delays and may be used as an alternative form of communication in those with expressive language delays.”

Dr. Vernov will present the abstract, “Using Eye Tracking (ET) as a Tool to Assess Receptive Language (RL) in Typically Developing (TD) Children and Children at High Risk for Neurodevelopmental Delay..."
(NDD),” on Monday, May 7 at 5:45 p.m. EDT. Reporters interested in an interview with Dr. Vernov should contact PAS2018@piercom.com.

Please note: Only the abstract is being presented at the meeting. In some cases, the researcher may have additional data to share with media.

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Abstract: Using Eye Tracking (ET) as a Tool to Assess Receptive Language (RL) in Typically Developing (TD) Children and Children at High Risk for Neurodevelopmental Delay (NDD).

Background: Neurodevelopmental assessment in children with significant motor delays (e.g. cerebral palsy), which is often associated with apraxia, is difficult. ET is a non-invasive tool that records where someone is looking and how they move their gaze, from which we can make inferences about cognition. There is limited data on its potential use in children with NDD.

Objective: To assess feasibility of using ET as a tool for evaluating RL in children with profound expressive language delays (ELDs), in term infants post perinatal hypoxic ischemic encephalopathy and ex premature infants, as compared to TD children.

Design/Methods: Prospective study recruiting patients 18m–6yo in a general pediatrics clinic and ex neonates at high risk for NDD. A Tobii Pro X3-120 eye tracker is used with Tobii Studio software to present stimuli and collect data. Participants first complete calibration to measure participant-specific gaze data. They are then presented with a stimulus of the target image alongside a distracter, which is accompanied by audio instructions to direct their gaze at the target. Stimuli are derived from standardized developmental assessments. Word comprehension is measured as accuracy and fixation proportion. Accuracy is the proportion of time looking at target, divided by the total time looking at both target and distracter. Fixation proportion is the difference between time spent fixating on an image when it is the target, minus fixation when it is the distracter. Positive scores are consistent with word understanding.

Results: 13 children have undergone testing. In TD children 18–24m (n=5), accuracy was 59±10% vs 71±9.0% in TD children 3–4y (n=4)(p=0.05). In children with ELD, age 3–6y (n=4), accuracy was 58±7%,
less than in TD children of the same age, 71±9.0% (p=0.03). Word comprehension, as measured by fixation proportion was 54±29% in TD 18-24mo (n=2) and 85±20% in TD 3–4yo (n=4) (p=0.09). In children with ELD, word comprehension was 58±12% (n= 2), similar to age matched TD children (p=0.08).

**Conclusion(s):** ET is feasible in young TD pediatric patients and those with marked ELD. Word comprehension as measured by accuracy significantly increases as a function of normal development. Accuracy in children with ELD is significantly decreased compared to TD children of the same age, suggesting a more diffuse cognitive impairment. Based on these preliminary findings, ET can be explored as a modality for assessing RL in TD children and those with NDD.

**Authors:** Mary Vernov, Gail Ross, Jeffrey Perlman
Majority of Late Preterm Infants Suffer from Morbidities Resulting in Hospital Stay

Physiological immaturity plays an important role in producing poorer outcomes.

TORONTO, May 5, 2018 – A new study found the majority of late preterm infants (LPTs) suffer from morbidities resulting in hospital stay. Although factors that result in LPT births do contribute to morbidity, physiological immaturity plays an important role in producing poorer outcomes. The research will be presented during the Pediatric Academic Societies (PAS) 2018 Meeting in Toronto.

LPTs constitute 70 percent of the preterm population. Common neonatal morbidities are higher in this group compared to term infants. Although this increased risk is attributed to physiological immaturity, recent studies indicate that immaturity itself may not be the sole cause of morbidity as all premature infants experience this risk, but suffer different outcomes. Some studies demonstrate that the risk of morbidities is determined by the causes of preterm delivery with immaturity acting as modulator. The relative contribution of these factors is unclear. The objective of this study was to assess the role of indications of delivery in LPT in determination of common neonatal morbidities that result in hospital stay.

The study was conducted as a retrospective cohort study of LPTs born in a single tertiary care centre between April 2014 and February 2016. Researchers categorized indications of birth as threatened preterm labor (TPTL), preterm premature rupture of membrane (PPROM) and medically indicated deliveries, which included maternal and fetal pathologies. Risk of hypoglycemia, hyperbilirubinemia, use of CPAP, and apnea of prematurity in LPT were estimated by calculating unadjusted and adjusted for gestational age risk ratios using multiple regression analysis with PPROM as a reference category.

PPROM was responsible for 38.4 percent of deliveries, TPTL in 22.8 percent, and 39.1 percent were delivered due to various obstetric and fetal indications with pre-eclampsia and intrauterine growth restriction being the most common reason for medically indicated preterm deliveries. All morbidities were significant across gestational age, with increased risk with decreased gestational age, except hypoglycemia where the incident was highest at 36 weeks (66.7 percent), versus 28.5 percent at 35 weeks, and 22.7 percent at 34 weeks (p value=0.039).
Dr. Melissa Lorenzo will present the abstract, “Morbidity Risk Among Late Term Preterm Infants: Immaturity vs Indication of Delivery,” during the PAS 2018 Meeting on Tuesday, May 8 at 7:30 a.m. EDT. Reporters interested in an interview with Dr. Lorenzo should contact PAS2018@piercom.com.

Please note: Only the abstract is being presented at the meeting. In some cases, the researcher may have additional data to share with media.

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Abstract: Morbidity Risk Among Late Preterm Infants: Immaturity vs Indication of Delivery

Background: Late preterm infants (LPT) constitute 70% of the preterm population. Common neonatal morbidities are higher in this group compared to term infants. Although this increased risk is attributed to physiological immaturity, recent studies indicate that immaturity itself may not be the sole cause of morbidity as all premature infants experience this risk, but suffer different outcomes. Some studies demonstrate that the risk of morbidities is determined by the causes of preterm delivery with immaturity acting as modulator. The relative contribution of these factors is unclear.

Objective: To assess the role of indications of delivery in LPT in determination of common neonatal morbidities that result in hospital stay.

Design/Methods: This was a retrospective cohort study of LPTs (34 0/7weeks to 36 6/7weeks gestation) born in a single tertiary care centre between April 2014 to February 2016. We categorized indications of birth as threatened preterm labor (TPTL), preterm premature rupture of membrane (PPROM), and medically indicated deliveries which included maternal and fetal pathologies. Risk of hypoglycemia, hyperbilirubinemia, use of CPAP, and apnea of prematurity in LPT were estimated by calculating unadjusted and adjusted for gestational age risk ratios using multiple regression analysis with PPROM as a reference category.

Results: A total of 279 participants were included in the study. PPROM was responsible for 38.4% deliveries, TPTL in 22.8%, and 39.1% were delivered due to various obstetric and fetal indications with pre-eclampsia and intrauterine growth restriction being the most common reason for medically indicated preterm deliveries. A significant number of infants born for medically indicated deliveries were
small for gestational age (67.6%, p=0.001), born by c-section (62.9%, p=0.001), and were given antenatal steroids (53.3%, p=0.02). Other characteristics are presented in Table 1.

All the morbidities were significant across gestational age with increased risk with decreasing gestational age, except hypoglycemia where the incident was highest at 36 weeks (66.7%), versus 28.5% at 35 weeks, and 22.7% at 34 weeks (p value=0.039). However, none of the morbidities were significantly associated with any indication of birth with or without adjustment of gestational age (Figure 1).

**Conclusion(s):** Majority of LPT suffer from morbidities resulting in hospital stay. Although, factors that result in LPT births do contribute to morbidity, physiological immaturity plays an important role in producing poorer outcomes.

**Authors:** Melissa Lorenzo, Megan D. Laupacis, Wilma Hopeman, Imtiaz Ahmad, Faiza Khurshid

**Tables:**

Table Caption: Predictive risk of neonatal morbidities including apnea of prematurity, hypoglycemia, hyperbilirubinemia, and requirement of CPAP of late preterm infants born with different indications of deliveries against across gestational ages (34 0/7 weeks to 36 6/7 weeks gestation).
TABLE TITLE: Demographic characteristics of the late preterm infant study cohort.

TABLE:

Note: The PDF table below is only an approximation of the HTML content and may not match formatting exactly.

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<tr>
<td>Multiple gestation</td>
<td>13(31.7%)</td>
<td>6(14.6%)</td>
<td>22(5.7%)</td>
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<td>Assisted reproduction (IVF)</td>
<td>6(60%)</td>
<td>1(8.3%)</td>
<td>5(41.7%)</td>
<td>12(4.3%)</td>
<td>.445</td>
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<tr>
<td>Caesarian-section</td>
<td>28(24.1%)</td>
<td>15(12.9%)</td>
<td>73(62.9%)</td>
<td>116(41.6%)</td>
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<tr>
<td>Maternal age (years)</td>
<td>29.37±6.7</td>
<td>28.98±6</td>
<td>30.28±5.3</td>
<td>35.4±0.86</td>
<td>.35</td>
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<tr>
<td>Apgar score at 5 min</td>
<td>8.6±1</td>
<td>8.32±1.6</td>
<td>8.5±1.1</td>
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<tr>
<td>Delayed cord clamping</td>
<td>63(42.3%)</td>
<td>34(22.8%)</td>
<td>52(34.9%)</td>
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<tr>
<td>Cord pH</td>
<td>7.21±.06</td>
<td>7.1±.1</td>
<td>7.2±.05</td>
<td>7.21±.07</td>
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<td>Antenatal steroids</td>
<td>20(33.3%)</td>
<td>8(13.3%)</td>
<td>32(53.3%)</td>
<td>60(21.5%)</td>
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<td>Length of hospital stay (days)</td>
<td>9.0±7.86</td>
<td>9.0±7.3</td>
<td>9.89±7.8</td>
<td>9.39±7.7</td>
<td>.68</td>
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</tbody>
</table>
Reduction in Federal Funding Could Reduce Quality of Specialized Pediatric Care

New study indicates Medicaid and CHIP are essential in supporting specialty care referral networks serving chronically ill children.

TORONTO, May 5, 2018 – Hospitals caring for children with serious, chronic illness are highly dependent on public payers, according to a new study. The research found that proposals to dramatically reduce federal expenditures on Medicaid and Children's Health Insurance Program (CHIP) could destabilize current specialty care referral networks serving all children, including the majority of privately-insured children in greatest need of high quality, specialized, pediatric care. Findings from the research will be presented during the Pediatric Academic Societies (PAS) 2018 Meeting in Toronto.

Although Medicaid and CHIP are directed at providing health services for low-income children, the potential impact of reduced Medicaid and CHIP spending on regionalized systems of hospital care for seriously ill children remains unexplored. The objectives of the study were to assess the role of Medicaid and CHIP in regional hospitals serving large numbers of seriously ill children; to assess the importance of these regional hospitals to privately-insured, seriously ill children; and to assess the characteristics of the hospitals with the highest patient volume and Medicaid and CHIP dependence.

Researchers conducted a retrospective analysis between the 2012 national KID inpatient database and the 2012 California confidential, unmasked Patient Discharge Database from the Office of Statewide Health Planning and Development. Public payers were defined as Medicaid and CHIP, and major pediatric hospitals as those with >500 discharges of children <18 years old with a serious, chronic illness. Serious chronic conditions were defined by validated diagnostic algorithms and excluded asthma and mental health conditions. The most common included conditions were prematurity, congenital heart disease, cancer and neurological/genetic disorders.

Nationally, major pediatric hospitals reported over 50 percent of bed days covered by public payers with the 10 highest volume hospitals ranging from 36 percent to 100 percent. Similarly in California, 69 percent of bed days were covered by public payers with the six highest volume hospitals reporting >50 percent public payers. One in three privately-insured children were discharged from major hospitals with >50 percent public payers.
The characteristics of hospitals in the top quintile of Medicaid bed days and had >50 percent publicly insured discharges were 63 percent urban, most often in the south (36 percent) and least often in the northeast (12 percent), 21 percent urban teaching hospitals, and 70 percent children’s hospitals.

Dr. Lisa Chamberlain, one of the authors of the study, will present the abstract, “Dependence of Privately-insured, Chronically Ill Children on Medicaid Reliant Hospitals,” during the PAS 2018 Meeting on Monday, May 7 at 3:30 p.m. EDT. Reporters interested in an interview with Dr. Chamberlain should contact PAS2018@piercom.com.

Please note: Only the abstract is being presented at the meeting. In some cases, the researcher may have additional data to share with media.

The PAS 2018 Meeting, taking place in Toronto on May 5-8, 2018, brings together thousands of pediatric scientists and other health care providers to improve the health and well-being of children worldwide. For more information about the PAS 2018 Meeting, please visit www.pas-meeting.org.

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Abstract: Dependence of Privately-insured, Chronically Ill Children on Medicaid Reliant Hospitals

**Background:** Although Medicaid/CHIP are directed at providing health services for low-income children, the potential impact of reduced Medicaid/CHIP spending on regionalized systems of hospital care for seriously ill children remains unexplored.

**Objective:** 1) To assess the role of Medicaid and CHIP in regional hospitals serving large numbers of seriously ill children; 2) to assess the importance of these regional hospitals to privately-insured, seriously ill children; and 3) to assess the characteristics of the hospitals with the highest patient volume and Medicaid/CHIP dependence.

**Design/Methods:** We conducted a retrospective analysis of two datasets: 1) the 2012 national KID Inpatient Database and 2) the 2012 California confidential, unmasked Patient Discharge Database from the Office of Statewide Health Planning and Development. We defined “public payers” as Medicaid and CHIP and “major pediatric hospitals” as those >500 discharges of children <18 years old with a serious, chronic illness. Serious chronic conditions were defined by validated diagnostic algorithms and excluded asthma and mental health conditions. The most common included conditions were prematurity, congenital heart disease, cancer, and neurological/genetic disorders.
**Results:** Hospitals caring for children with serious, chronic illness are highly dependent on public payers. (Table 1) Nationally, major pediatric hospitals reported 55 percent of bed days were covered by public payers with the 10 highest volume hospitals ranging from 36 percent to 100 percent. (Figure 1) Similarly in California, 69 percent of bed days were covered by public payers with the 6 highest volume hospitals reporting >50 percent public payers. One in three privately-insured children were discharged from major hospitals with >50 percent public payers. The characteristics of hospitals in the top quintile of Medicaid bed days and had >50 percent publicly insured discharges were 63 percent urban, most often in south (36 percent) and least often in the northeast (12 percent), 21 percent were urban teaching hospitals, 70 percent were children’s hospitals.

**Conclusion(s):** Proposals to dramatically reduce federal expenditures on Medicaid and CHIP could destabilize current specialty care referral networks serving all children, including the majority of privately-insured children in greatest need of high quality, specialized, pediatric care.

**Authors:** Lisa J. Chamberlain, Olga Saynina, Paul H. Wise

**Table/Figure:**

<table>
<thead>
<tr>
<th>Payer</th>
<th>Number of Discharges</th>
<th>Percent of Discharges</th>
<th>Total Number of Bed-Days</th>
<th>Percent of Bed-Days</th>
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<tbody>
<tr>
<td>United States</td>
<td></td>
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<tr>
<td>Public</td>
<td>186,318</td>
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<td>2,145,898</td>
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<td>218,148</td>
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<tr>
<td>Missing</td>
<td>592</td>
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<tr>
<td>Total</td>
<td>364,205</td>
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<td>3,619,835</td>
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<tr>
<td>California</td>
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<tr>
<td>Public</td>
<td>20,651</td>
<td>66%</td>
<td>170,817</td>
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<td>Private</td>
<td>10,343</td>
<td>33%</td>
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<td>1%</td>
</tr>
<tr>
<td>Missing</td>
<td>2</td>
<td>0%</td>
<td>43</td>
<td>0%</td>
</tr>
<tr>
<td>Total</td>
<td>31,484</td>
<td>100%</td>
<td>247,677</td>
<td>100%</td>
</tr>
</tbody>
</table>

*Major hospitals defined as those with >500 annual discharges to children <18 years old.
^Total percent may sum to greater than 100 due to rounding.
Figure 1. Total number of bed-days for US children <18 years of age with serious chronic illness plotted by the percent of discharges covered by public payors. Each point on graph represents one hospital.
Mothers of Children Born with Neonatal Abstinence Syndrome are More Likely to Experience Mental Health Problems

TORONTO, May 5, 2018 – According to a new study, mothers of infants with neonatal abstinence syndrome (NAS) have a higher prevalence of mental health diagnoses in the first two months postpartum, in comparison to mothers of infants without NAS. Findings from the study will be presented during the Pediatric Academic Societies (PAS) 2018 Meeting in Toronto.

Women with a history of substance use disorders (SUD) have a high incidence of coexisting psychiatric and mood disorders as well as difficulty managing adversity. Such characteristics may affect the ability of pregnant women with histories of SUD to cope with an infant with NAS, particularly one with a protracted neonatal intensive care unit (NICU) course, exacerbating symptoms of mental health disorders.

The research data was extracted from Truven Marketscan® Commercial Claims and Encounters database from 2005 to 2013. Newborns with NAS were identified using the ICD-9 code 779.5 (drug withdrawal in the newborn). Newborn inclusion criteria included a delivery code, gestational age code or other perinatal code, gestational age of 35 weeks or greater, known discharge status and linkage to mother’s records. Maternal inclusion criteria were inpatient claim indicating delivery of newborn and continuous enrollment nine months prior to and one year after delivery. Infants with significant medical diseases were excluded. Researchers matched each mother of a newborn with NAS to a mother of a newborn without NAS on age at delivery, birth year, gestational age, NICU stay and maternal mental health outcomes in the nine months prior to delivery.

The study found 338 mother-infant pairs met all inclusion and exclusion criteria and were matched to one control, and 246 (73 percent) of the infants with NAS had a NICU stay. Median length of stay for these infants was 10 days compared to three days for infants with no admission to the NICU (p<0.001). Compared to matched controls, mothers of an infant with NAS were significantly more likely (p<0.01 for all of the following) to have claims for major depression (33 percent vs. 11 percent), postpartum depression (7 percent vs. 0 percent), anxiety (27 percent vs. 1 percent) and adjustment reaction (9 percent vs. 4 percent).
“In the presence of the ongoing opioid epidemic across North America and beyond, evaluation of the far-reaching consequences of this crisis is crucial,” said Dr. Tammy Corr, the lead author of the study. “For new mothers affected by substance use disorders, careful, repeated mental health screenings over the course of the first year of her baby’s life may be beneficial to both the mother and her infant.”

Dr. Corr will present the abstract, “Mental Health Outcomes of Mothers with Infants Diagnosed with Neonatal Abstinence Syndrome,” during the PAS 2018 Meeting on Monday, May 7 at 11:30 a.m. EDT. Reporters interested in an interview with Dr. Corr should contact PAS2018@piercom.com.

Please note: Only the abstract is being presented at the meeting. In some cases, the researcher may have additional data to share with media.

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**Abstract:** Mental Health Outcomes of Mothers with Infants Diagnosed with Neonatal Abstinence Syndrome

**Background:** Women with a history of substance use disorders (SUD) have a high incidence of coexisting psychiatric and mood disorders as well as difficulty managing adversity. These characteristics may affect the ability of a pregnant woman with a history of SUD to cope with an infant with neonatal abstinence syndrome (NAS), particularly one with a protracted Neonatal Intensive Care Unit (NICU) course, exacerbating symptoms of mental health disorders.

**Objective:** Determine the incidence of mental health diagnoses in the first 12 months postpartum in mothers of an infant with NAS compared to matched controls of mothers with an infant without NAS.

**Design/Methods:** Data were extracted from Truven MarketScan® Commercial Claims and Encounters database for the years 2005-2013. Newborns with NAS were identified using the ICD-9 code 779.5 (drug withdrawal in the newborn). Newborn inclusion criteria were a delivery code, gestational age code or other perinatal code, gestational age of 35 weeks or greater, known discharge status and linkage to mother’s records. Maternal inclusion criteria were inpatient claim indicating delivery of newborn and continuous enrollment 9 months prior to and 1 year after delivery. Infants with significant medical diseases were excluded. We matched each mother of a newborn with NAS to a mother of a newborn
without NAS on age at delivery, birth year, gestational age, NICU stay and maternal mental health outcomes in the 9 months prior to delivery.

**Results:** 338 mother-infant pairs met all inclusion and exclusion criteria and were matched to one control. 246 (73%) of the infants with NAS had a NICU stay. Median length of stay for these infants was 10 days compared to 3 days for infants with no admission to the NICU (p<0.001). Compared to matched controls, mothers of an infant with NAS were significantly more likely (p<0.01 for all of the following) to have claims for major depression (33% vs. 11%), postpartum depression (7% vs. 0%), anxiety (27% vs. 1%), and adjustment reaction (9% vs. 4%).

**Conclusion(s):** Mothers of infants with NAS have a higher prevalence of mental health diagnoses in the first 12 months postpartum compared to mothers of infants without NAS. Programs that provide support to new mothers with a history of SUD may be beneficial to both the mother and her infant.

**Authors:** Tammy Corr, Eric Schaefer, Christopher Hollenbeak, Douglas Leslie
Survey Shows Correlation between Second Hand Marijuana and Tobacco Smoke Exposure and Emergency Department Visitation in Children

New research examines the impact of second hand smoke from tobacco to understand marijuana’s impact on children.

TORONTO, May 5, 2018 – Children exposed to the combination of marijuana and tobacco smoke have increased emergency department (ED) visitation and otitis media episodes compared to children with no smoke exposure, according to a new survey being presented during the Pediatric Academic Societies (PAS) 2018 Meeting. This association was not seen in children exposed to only marijuana smoke or to only tobacco smoke. This is the first study to demonstrate the notable impact between second hand marijuana smoke exposure and child health.

Marijuana is the most common illicit substance in the U.S. The goal of this study was to determine association between second hand marijuana smoke (SHMS) exposure and rates of ED visitation, and rates of tobacco sensitive conditions: asthma, otitis media and viral respiratory infections.

The research included a cross-sectional survey of caregivers of children presenting to the ED of an urban, tertiary care, academic children’s hospital in Colorado. Data collected included caregiver demographics and use of tobacco and/or marijuana, along with index child medical history, number of overall ED visits and number of tobacco sensitive conditions in the prior year. Caregivers were classified into four categories depending on use: marijuana use only, tobacco use only, both tobacco and marijuana use, and neither marijuana nor tobacco use (control group). Poisson regression models were created to determine differences in overall ED visitation, as well as tobacco sensitive conditions. Results were expressed using incident rate ratios (IRR) and 95% confidence intervals. A total of 1,500 caregivers completed the survey.

The survey found that overall, 140 caregivers (9.2 percent, 95%CI = 7.7-10.7 percent) reported regularly smoking marijuana, and 285 caregivers (19 percent, 17.1-21.1 percent) reported regularly smoking tobacco. Exposure groups included: marijuana only (n=62, 4.1 percent), tobacco only (n=213, 14.2 percent), marijuana and tobacco (n=75, 5 percent), and unexposed (n=1147, 76.6 percent). When compared against each other, all groups had a similar rate of ED visitation other than the marijuana and tobacco group which had a significantly higher rate of ED visits compared to the controls. Children in the
marijuana + tobacco group also had a statistically significant increase in otitis media episodes compared to controls (IRR = 1.81, 95%CI = 1.38, 2.35); differences were not elicited among the other groups or for other tobacco sensitive conditions.

Dr. Adam Johnson will present the abstract, “Impact of Second Hand Marijuana Smoke Exposure on Pediatric Health and Emergency Department Visitation,” during the PAS 2018 Meeting on Saturday, May 5 at 1:15 p.m. EDT. Reporters interested in an interview with Dr. Johnson should contact PAS2018@piercom.com.

Please note: Only the abstract is being presented at the meeting. In some cases, the researcher may have additional data to share with media.

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**Abstract:** Impact of Second Hand Marijuana Smoke Exposure on Pediatric Health and Emergency Department Visitation

**Background:** Marijuana is the most commonly used illicit substance in the U.S. Second Hand Marijuana Smoke (SHMS) exposure and its subsequent impact on child health have not been studied.

**Objective:** To determine association between SHMS exposure and rates of ED visitation, and rates of tobacco sensitive conditions: asthma, otitis media, and viral respiratory infections.

**Design/Methods:** Cross sectional survey of caregivers of children presenting to the ED of an urban, tertiary care, academic children’s hospital in Colorado. Caregivers were enrolled prior to medical evaluation, survey items were self-reported, and responses remained confidential. Data collected included caregiver demographics and use of tobacco and/or marijuana; along with index child medical history, number of overall ED visits, and number of tobacco sensitive conditions in the prior year. Caregivers were classified into 4 categories depending on use: marijuana use only, tobacco use only, both tobacco and marijuana use, and neither marijuana nor tobacco use (control group). Poisson regression models were created to determine differences in overall ED visitation, as well as tobacco sensitive conditions. We expressed results using incident rate ratios (IRR) and 95% confidence intervals.
Results: A total of 1500 caregivers completed the survey. Overall, 140 caregivers (9.2%, 95%CI = 7.7-10.7%) reported regularly smoking marijuana, and 285 caregivers (19%, 17.1-21.1%) reported regularly smoking tobacco. Exposure groups included: marijuana only (n=62, 4.1%), tobacco only (n=213, 14.2%), marijuana + tobacco (n=75, 5%), and unexposed (n=1147, 76.6%). When compared against each other, all groups had a similar rate of ED visitation other than the marijuana + tobacco group which had a significantly higher rate of ED visits compared to the controls (Table). Children in the marijuana + tobacco group also had a statistically significant increase in otitis media episodes compared to controls (IRR = 1.81, 95%CI = 1.38, 2.35); differences were not elicited among the other groups or for other tobacco sensitive conditions.

Conclusion(s): Children exposed to the combination of marijuana and tobacco smoke have increased ED visitation and otitis media episodes compared to children with no smoke exposure. This association was not seen in children exposed to only marijuana smoke or to only tobacco smoke. This is the first study to demonstrate the notable impact between second hand marijuana smoke exposure and child health.

Authors: Adam B. Johnson, Rakesh D. Mistry

Table:

<table>
<thead>
<tr>
<th>Exposure Group</th>
<th>Mean number of ED visits in the prior 12 months</th>
<th>IRR for ED visits (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marijuana only (n=62)</td>
<td>2.19</td>
<td>1.12 (0.94-1.34)</td>
</tr>
<tr>
<td>Tobacco only (n=213)</td>
<td>2.09</td>
<td>1.07 (0.96-1.18)</td>
</tr>
<tr>
<td>Marijuana + Tobacco (n=75)</td>
<td>2.48</td>
<td>1.24 (1.07-1.45)</td>
</tr>
<tr>
<td>Controls (n=1147)</td>
<td>1.97</td>
<td>referent</td>
</tr>
</tbody>
</table>
Few Transgender Teens and Their Parents Willing to Delay Hormone Therapy to Preserve Fertility

TORONTO, May 5, 2018 – Research on transgender teens’ and their parents’ attitudes regarding fertility preservation will be presented during the Pediatric Academic Societies (PAS) 2018 Meeting in Toronto. A new study found that while more research is needed on the subject, fertility preservation is a major factor for only a minority of transgender teens and their parents in deciding to delay hormone therapy.

Fertility preservation is an important issue to address with transgender and gender non-conforming youth and their families, prior to undergoing hormone therapy. However, little is known about transgender teens’ and their parents’ attitudes on fertility preservation.

The authors surveyed 66 youth and 52 parents of youth receiving gender-affirming medical care at Children’s Hospital of Philadelphia’s Gender and Sexuality Development Clinic. The average age of youth participating in the study was 16 and the majority (63 percent) was assigned female sex at birth. Surveys were administered electronically and contained 36 items about knowledge of fertility preservation, desire to have biologic children and other factors that may influence the decision to pursue fertility preservation.

“While hormone therapy has drastically improved the lives of countless transgender and gender non-conforming youth, its impact on fertility can unfairly force individuals to decide at a very early age whether or not they should preserve the ability to be a biological parent one day,” said Rebecca Persky, MD, former Children’s Hospital of Philadelphia resident, and lead author on the study. Dr. Persky now is a pediatric endocrinology fellow at the Eunice Kennedy Shriver National Institute of Child Health and Human Development, part of the National Institutes of Health. “These are difficult conversations for physicians to have with youth and families, and we hope our findings on how adolescents and parents approach these decisions will ultimately help providers counsel patients on hormone therapy with their fertility desires in mind.”

While the majority of youth and parents were not willing to delay therapy to preserve biologic fertility, parents were significantly more likely to be willing to delay treatment and cited wanting more information as a major factor.
Dr. Persky will present the abstract, “Attitudes Towards Fertility Preservation Among Transgender Youth and Their Parents,” during the PAS 2018 Meeting on Monday, May 7 at 10:30 a.m. EDT. Reporters interested in an interview with Dr. Persky should contact PAS2018@piercom.com.

Please note: Only the abstract is being presented at the meeting. In some cases, the researcher may have additional data to share with media.

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Abstract: Attitudes Towards Fertility Preservation Among Transgender Youth and Their Parents

Background: Fertility preservation (FP) is an important issue to address with transgender and gender non-conforming (T/GNC) youth and their families prior to starting gender-affirming hormones. However, little is known about transgender youths’ and their parents’ attitudes about FP.

Objective: To better understand attitudes of T/GNC youth and their parents about fertility preservation.

Design/Methods: Between January 2017 and December 2017, we conducted a cross-sectional survey of T/GNC youth and their parents who obtained medical care at a pediatric hospital-based clinic for T/GNC youth. Surveys were administered electronically and contained 36 items about knowledge of FP, desire to have biologic children, and other factors that may influence their decision to pursue FP procedures. Logistic regression was used to examine the relationship between willingness to delay treatment to preserve fertility, desire to have biologic children, and demographic factors.

Results: Sixty-six youth and 52 parents completed the survey. Youth participants were mean age 16 and majority (63%) assigned female sex at birth. Parents were mean age 48. Only 20% of youth and 11.5% of parents found it important to have biologic offspring, and for youth, importance of having biologic children was associated with perceiving it as important to their parents (OR = 6.07 9% CI: 1.28, 28.7). Very few youth (4.5%) agreed they would be willing to delay hormone treatment to undergo FP, but for those who did, the importance of having biologic children was the most important predictor (OR: 6.76, 95% CI: 6.53, 6.99). Lack of information about whether hormone therapy definitely prevents biologic fertility was associated with parent willingness to delay treatment for FP (OR: 24.57, 95% CI: 3.9,
Further, 70% of youth agreed that discomfort with a part of the body they don’t identify with was a factor that influenced their decision to undergo FP. Religious, financial, ethical, and demographic factors were not associated with willingness to delay treatment for FP.

**Conclusion(s):** While the majority of transgender youth and their parents did not find it important to have biologic offspring and would not be willing to delay starting hormone therapy to pursue FP, parental concern about uncertainty of effect on biologic fertility was associated with willingness to delay treatment. More qualitative research is needed to understand youth and parent decisions regarding FP.

**Authors:** Rebecca Persky, Siobhan Gruschow, Claire Carlson, Jill Ginsberg, Nadia Dowshen

**Table:**
### Adjusted odds of willingness to delay treatment among youth

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Willingness to delay treatment to preserve fertility</th>
<th>Odds Ratio</th>
<th>95% Confidence Intervals</th>
</tr>
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<tbody>
<tr>
<td>Sex at birth</td>
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<td>2.23</td>
<td>0.06, 77.11</td>
</tr>
<tr>
<td>Importance of having biologic children</td>
<td></td>
<td>32.9</td>
<td>1.19, 909.19*</td>
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<td>Having enough information</td>
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<td>0.82</td>
<td>0.02, 42.47</td>
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<td>Religious factors</td>
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<td>Limited time to decide</td>
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<td>14.84</td>
<td>0.47, 473.09</td>
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</table>

*P < 0.05

### Adjusted odds of willingness to delay treatment among parents

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Willingness to delay treatment to preserve fertility</th>
<th>Odds Ratio</th>
<th>95% Confidence Intervals</th>
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<td>Having enough information</td>
<td></td>
<td>24.57</td>
<td>3.917, 154.15*</td>
</tr>
<tr>
<td>Importance of having biologic grandchildren</td>
<td></td>
<td>0.37</td>
<td>0.03, 4.49</td>
</tr>
<tr>
<td>Believe that child can make a meaningful decision</td>
<td></td>
<td>0.93</td>
<td>0.18, 4.77</td>
</tr>
<tr>
<td>Financial factors</td>
<td></td>
<td>4.18</td>
<td>0.78, 22.35</td>
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<tr>
<td>Belief that there will be better options in the future</td>
<td></td>
<td>3.89</td>
<td>0.74, 20.56</td>
</tr>
</tbody>
</table>

*P < 0.05
New Study Examines Urban-Rural Residence and Rates of Child Physical Abuse Hospitalizations

Abused rural children were younger, more likely to have public insurance, live in zip codes with lower median household incomes and be victims of abusive head trauma.

TORONTO, May 5, 2018 – After adjusting for poverty, rates of child physical abuse (CPA) hospitalizations only varied for black children across the urban-rural spectrum, according to findings of a new study examining the rates of CPA hospitalizations and urban-rural status of children’s county of residence. In addition, central metro counties remain important areas for prevention efforts, particularly for black children. Findings from the study will be presented during the Pediatric Academic Societies (PAS) 2018 Meeting in Toronto.

This study used the 2012 Kids’ Inpatient Database and U.S. Census data. CPA hospitalizations for black, non-Hispanic white and Hispanic children <5 years of age were identified using discharge codes and categorized by the urban-rural status of children’s county of residence: central metro, fringe/small metro and rural. Chi-square tests assessed for differences in CPA hospitalizations between urban-rural categories. Rates of CPA hospitalizations for the total child and race/ethnicity-stratified populations were calculated for each urban-rural category. Rates were adjusted using race/ethnicity and poverty and compared using Poisson regression.

The study found that there were 3,082 CPA hospitalizations involving children residing in central metro (32.0 percent), fringe/small metro (53.0 percent) and rural (15.0 percent) counties. Abused rural children, compared to both metro categories, were younger (p= 0.002), more likely to have public insurance (p= 0.008), live in zip codes with lower median household incomes (p< 0.001) and be victims of abusive head trauma (p< 0.001).

The unadjusted rates of CPA hospitalizations were: 16.9 per 100,000 total children, 29.3 per 100,000 black children, 15.4 per 100,000 non-Hispanic white children and 13.1 per 100,000 Hispanic children. Adjusted CPA hospitalization rates for total child populations did not vary across urban-rural categories (p= 0.63). However, the poverty-adjusted rate of CPA hospitalizations for black children decreased 34.8 percent from central metro to rural (p= 0.001). Adjusted rates of CPA hospitalizations for non-Hispanic white and Hispanic children did not vary across urban-rural categories.
Rural counties have higher child poverty and less access to social services. The limited existing literature is conflicting on how CPA rates may vary across the urban-rural spectrum. Understanding these population-level data could inform policy and CPA prevention strategies. Further study of protective and risk factors contributing to these differences may inform future policy and prevention initiatives.

Dr. Henry T. Puls, one of the authors of the study, will present findings from “Urban-Rural Residence & Rates of Child Physical Abuse Hospitalizations: A National Population-Based Study” during the PAS 2018 Meeting on Saturday, May 5 at 1:15 p.m. EDT. Reporters interested in an interview with Dr. Puls should contact PAS2018@piercom.com.

Please note: Only the abstract is being presented at the meeting. In some cases, the researcher may have additional data to share with media.

The PAS 2018 Meeting, taking place in Toronto on May 5-8, 2018, brings together thousands of pediatric scientists and other health care providers to improve the health and well-being of children worldwide. For more information about the PAS 2018 Meeting, please visit www.pas-meeting.org.

###

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**Abstract:** Urban-Rural Residence & Rates of Child Physical Abuse Hospitalizations: A National Population-Based Study

**Background:** Rural counties have higher child poverty and less access to social services. The limited existing literature is conflicting on how child physical abuse (CPA) rates may vary across the urban-rural spectrum. Understanding these population-level data could inform policy and CPA prevention strategies.

**Objective:** To determine if the rates of CPA hospitalizations vary by the urban-rural status of children’s county of residence.

**Design/Methods:** This study used the 2012 Kids’ Inpatient Database and US Census data. CPA hospitalizations for Black, non-Hispanic White, and Hispanic children <5 years of age were identified using discharge codes and categorized by the urban-rural status of children’s county of residence: central metro, fringe/small metro, and rural. Chi-square tests assessed for differences in CPA hospitalizations between urban-rural categories. Rates of CPA hospitalizations for the total child and race/ethnicity-stratified populations were calculated for each urban-rural category. Rates were adjusted using race/ethnicity and poverty and compared using Poisson regression.
Results: There were 3,082 CPA hospitalizations involving children residing in central metro (32.0%), fringe/small metro (53.0%), and rural (15.0%) counties (Table 1). Abused rural children, compared to both metro categories, were younger (p= 0.002), more likely to have public insurance (p= 0.008), live in ZIP codes with lower median household incomes (p< 0.001), and be victims of abusive head trauma (p< 0.001). The unadjusted rates of CPA hospitalizations were: 16.9 per 100,000 total children, 29.3 per 100,000 Black children, 15.4 per 100,000 non-Hispanic White children, and 13.1 per 100,000 Hispanic children. Adjusted CPA hospitalization rates for total child populations did not vary across urban-rural categories (p= 0.63). However, the poverty-adjusted rate of CPA hospitalizations for Black children decreased 34.8% from central metro to rural (p= 0.001; Figure 1). Adjusted rates of CPA hospitalizations for non-Hispanic White and Hispanic children did not vary across urban-rural categories.

Conclusion(s): After adjusting for poverty, rates of CPA hospitalizations only varied for Black children across the urban-rural spectrum. Central metro counties remain important areas for prevention efforts, particularly for Black children. Further study of protective and risk factors contributing to these differences may inform future policy and prevention initiatives.

Authors: Henry Puls, Jessica Bettenhausen, Jessica Markham, Jessica Markham, Jacqueline Walker, Kathryn Kyler, Mary Ann Queen, Matt Hall
<table>
<thead>
<tr>
<th></th>
<th>Overall</th>
<th>Central Metro</th>
<th>Fringe/Small Metro</th>
<th>Rural</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>3082</td>
<td>585 (32.0)</td>
<td>1636 (53.0)</td>
<td>461 (15.0)</td>
</tr>
<tr>
<td>Race</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Black</td>
<td>885 (27.1)</td>
<td>399 (40.5)</td>
<td>375 (22.9)</td>
<td>62 (13.4)</td>
</tr>
<tr>
<td>Non-Hispanic White</td>
<td>1520 (51.3)</td>
<td>273 (27.7)</td>
<td>959 (58.6)</td>
<td>349 (75.7)</td>
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<tr>
<td>Hispanic</td>
<td>667 (21.6)</td>
<td>314 (31.9)</td>
<td>303 (18.5)</td>
<td>56 (10.9)</td>
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<tr>
<td>Age (years)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;1</td>
<td>1837 (59.6)</td>
<td>544 (55.2)</td>
<td>1006 (61.5)</td>
<td>283 (62.5)</td>
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<tr>
<td>1</td>
<td>440 (14.3)</td>
<td>128 (12.8)</td>
<td>241 (14.7)</td>
<td>73 (16)</td>
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<td>2-4</td>
<td>805 (26.1)</td>
<td>315 (32)</td>
<td>390 (23.8)</td>
<td>95 (21.6)</td>
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<tr>
<td>Sex*</td>
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<td></td>
</tr>
<tr>
<td>Male</td>
<td>1833 (59.5)</td>
<td>570 (57.8)</td>
<td>981 (60)</td>
<td>282 (61.2)</td>
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<tr>
<td>Insurance type</td>
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<td></td>
<td></td>
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<td>Public</td>
<td>2402 (77.9)</td>
<td>772 (78.4)</td>
<td>1245 (76.1)</td>
<td>384 (83.4)</td>
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<tr>
<td>Private</td>
<td>361 (11.7)</td>
<td>107 (10.8)</td>
<td>207 (12.6)</td>
<td>46 (10.4)</td>
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<tr>
<td>Other</td>
<td>319 (10.3)</td>
<td>106 (10.8)</td>
<td>184 (11.2)</td>
<td>29 (6.3)</td>
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<tr>
<td>Median household income*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lowest</td>
<td>1304 (43.1)</td>
<td>487 (50.6)</td>
<td>538 (33.4)</td>
<td>279 (61.8)</td>
</tr>
<tr>
<td>Below average</td>
<td>802 (26.5)</td>
<td>185 (19.5)</td>
<td>475 (29.7)</td>
<td>134 (29.6)</td>
</tr>
<tr>
<td>Above average</td>
<td>610 (20.2)</td>
<td>185 (19.2)</td>
<td>391 (24.2)</td>
<td>31 (7.6)</td>
</tr>
<tr>
<td>Highest</td>
<td>311 (10.3)</td>
<td>102 (10.6)</td>
<td>205 (12.7)</td>
<td>4 (1)</td>
</tr>
<tr>
<td>Abuse type</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Abusive head trauma</td>
<td>1263 (41)</td>
<td>346 (35.1)</td>
<td>694 (42.4)</td>
<td>223 (48.4)</td>
</tr>
<tr>
<td>Fracture</td>
<td>816 (26.5)</td>
<td>226 (22.9)</td>
<td>442 (27)</td>
<td>143 (32.1)</td>
</tr>
<tr>
<td>Other</td>
<td>578 (18.7)</td>
<td>250 (25.4)</td>
<td>271 (16.5)</td>
<td>57 (12.3)</td>
</tr>
<tr>
<td>Multiple types</td>
<td>426 (13.8)</td>
<td>163 (16.6)</td>
<td>229 (14)</td>
<td>33 (7.2)</td>
</tr>
<tr>
<td>In-hospital mortality*</td>
<td>173 (5.6)</td>
<td>50 (5.1)</td>
<td>88 (5.3)</td>
<td>38 (7.8)</td>
</tr>
</tbody>
</table>

*All variables assess with chi-square tests and statistically significant with p < 0.01 unless otherwise specified.

*Not statistically significant (Gender p = 0.39; Mortality p = 0.09)

*Urban-rural categories per the National Center for Health Statistics’ scheme.

*Central Metro counties are those in metropolitan statistical areas (MSA) of 1 million population that 1) contain entire population of the MSA’s principle city, 2) are completely contained within the MSA’s principle city, or 3) contain at least 250,000 residents of the MSA’s principle city.

*Fringe/Small metro counties are those in MSA but not qualifying as central metro.

*Rural counties are those outside of MSAs.

*Median household income based upon the ZIP Code of children’s residence.
Figure 1: Poverty-adjusted race/ethnicity stratified rates of CPA hospitalizations across the urban-rural status of children’s county of residence.
New Study Examines Factors Associated with Sexual Coercion Among Adolescents in Rural Communities

TORONTO, May 5, 2018 – A new study examining factors associated with sexual coercion among 10th graders in a rural Midwestern, low-to-middle income high school found that sexual coercion was reported by 18 percent (13 percent of males and 23 percent females). The research findings will be presented during the Pediatric Academic Societies (PAS) 2018 Meeting.

Predictors included age, race, ethnicity, prior alcohol, marijuana and/or prescription drug use, controlling relationship, adverse childhood experiences, sexual self-efficacy and comfort talking to a parent/guardian about sex.

Among males, sexual coercion was associated with higher adverse childhood experiences, controlling relationship behavior, alcohol use and lower sexual self-efficacy. Among females, sexual coercion was associated with lower sexual self-efficacy and lower comfort talking about sex with a parent.

Consent is essential to healthy adolescent relationships, and sexual coercion is associated with poor sexual health outcomes. Modifiable predictors are poorly understood, particularly among adolescents in rural areas who may have less access to sexual health resources.

“On a national level, sex education policy has been reduced to a battle over abstinence,” said Dr. Mary Ott, one of the authors of the study. “This community-based work, conducted in partnership with Health Care Education and Training, provides a more nuanced picture of adolescents’ educational needs, particularly around sexual consent. The associations with adverse childhood experiences and parent communication highlight the importance of healthy environments in adolescent development. The associations with controlling behaviors and sexual self-efficacy point to the importance of teaching healthy relationship skills, including respect and gender equity.”

The study concluded that sexual coercion is common among adolescents in rural communities. In order to achieve positive sexual health outcomes, comprehensive adolescent pregnancy prevention programming in rural areas must integrate education on consent, identification of controlling behaviors, effects of substance use on decision-making, and parent/child communication.
Dr. Ott will present findings from “Only 'Yes' Means Yes: Sexual Coercion Among Adolescents in a Rural High School” during the PAS 2018 Meeting on Sunday, May 6 at 10:30 a.m. EDT. Reporters interested in an interview with Dr. Ott should contact PAS2018@piercom.com.

Please note: Only the abstract is being presented at the meeting. In some cases, the researcher may have additional data to share with media.

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Abstract: Only 'Yes' Means Yes: Sexual Coercion Among Adolescents in a Rural High School

Background: Consent is essential to healthy adolescent relationships, and sexual coercion is associated with poor sexual health outcomes. Modifiable predictors are poorly understood, particularly among adolescents in rural areas who may have less access to sexual health resources.

Objective: We examine factors associated with sexual coercion among 10th graders in a rural high school.

Design/Methods: We surveyed 10th graders (N=328; Table 1) in a rural, Midwestern, low-to-middle income high school prior to an evidence-based pregnancy prevention program. Sexual coercion was 1 item: “In your lifetime, has anyone you were dating or going out with forced you to do sexual things that you did not want to do?” (never vs. 1 or more times). Predictors included (Table 2): age, race, ethnicity, prior alcohol, marijuana and/or prescription drug use (no/yes), controlling relationship behaviors (1-item “has [any partner] tried to control where YOU go, who you see, or what you do?”), adverse childhood experiences (8-items, ?=0.74; e.g. incarcerated parents, family violence), sexual self-efficacy (6 items, ?=0.65, e.g., “I can say no to sex”) and comfort talking to a parent/guardian about sex (7-items; ?=0.61; e.g. “My parent would answer my question [about sex] honestly”). Significant factors from bivariate models (chi-square and t-tests) were retained for a final logistic regression model. We tested for and found interactions with gender, so all models were stratified by gender (SPSS, 24.0). We report significance to p<.10 because stratified analysis limited power.

Results: (Tables 1 & 2) The mean age was 15.6, half were male, and half were Latino. Sexual coercion was reported by 18% (13% of males and 23% females). Among males, sexual coercion was associated
with higher adverse childhood experiences (aOR=1.32, p<.10), controlling relationship behavior (aOR=10.56, p<.001) and alcohol use (aOR=4.18, p<.10, and lower sexual self-efficacy (aOR=0.06, p<.001); among females, sexual coercion was associated with lower sexual self-efficacy (aOR=0.53, p<.05) and lower comfort talking about sex with a parent lowered sexual coercion in females (aOR=0.51, p<.05).

**Conclusion(s):** Sexual coercion is common among adolescents in rural communities. In order to achieve positive sexual health outcomes, comprehensive adolescent pregnancy prevention programming in rural areas must integrate education on consent, identification of controlling behaviors, effects of substance use on decision-making, and parent/child communication.

**Authors:** Amy Katz, Indiana University, Indianapolis, Indiana, United States
Devon Hensel, Health Care Education and Training, Inc., Indianapolis, Indiana, United States
Leigh Zaban, Indianapolis, Indiana, United States
Monique Hensley, Indianapolis, Indiana, United States
Abby Hunt, Indianapolis, Indiana, United States
Mary Ott, Indianapolis, Indiana, United States

*Health Care Education and Training, Inc. served as the Project Director*
### Table 1: Rural High School 10th Grade Health Class Characteristics

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>N(%) or Mean, SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>15.6, 0.7</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>163 (51%)</td>
</tr>
<tr>
<td>Race (a)</td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>180 (55%)</td>
</tr>
<tr>
<td>Black or African American</td>
<td>1 (0.3%)</td>
</tr>
<tr>
<td>Other, Multiracial</td>
<td>16 (4.8%)</td>
</tr>
<tr>
<td>Ethnicity - Hispanic or Latino</td>
<td>166 (51%)</td>
</tr>
<tr>
<td>Experienced sexual coercion one or more times</td>
<td>50 (18%)</td>
</tr>
</tbody>
</table>

(a) "Race" and "Ethnicity" separated because of federal reporting. Race has 131 missing values because many Latino adolescents skipped this question.

### Table 2: Predictors of Sexual Coercion

<table>
<thead>
<tr>
<th>Factors Associated with Sexual Coercion</th>
<th>aOR</th>
<th>95% Confidence Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>Males</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adverse Childhood Experiences</td>
<td>1.32ξ</td>
<td>0.96-1.81</td>
</tr>
<tr>
<td>Alcohol Use (ever)</td>
<td>4.18ξ</td>
<td>0.78-22.46</td>
</tr>
<tr>
<td>Partner with Controlling Relationship Behavior</td>
<td>10.56***</td>
<td>2.52-44.20</td>
</tr>
<tr>
<td>Sexual Self-Efficacy (I can say no to sex)</td>
<td>0.06***</td>
<td>0.01-0.33</td>
</tr>
<tr>
<td>Females</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adverse Childhood Experiences</td>
<td>1.20</td>
<td>0.97-1.46</td>
</tr>
<tr>
<td>Sexual Self-Efficacy (I can say no to sex)</td>
<td>0.53*</td>
<td>0.31-0.90</td>
</tr>
<tr>
<td>Comfort talking about sex with parent</td>
<td>0.51*</td>
<td>0.26-0.98</td>
</tr>
</tbody>
</table>

§ p<.10, *p<.05, **p<.01, ***p<.001
Pediatric Academic Societies Meeting
May 5 – 8, 2018 | Toronto Canada

Embargoed for Release: 12:01 a.m. EDT, Saturday, May 5, 2018

PAS Media Contact:
(214) 217-7300
PAS2018@piercom.com

PAS Press Office (May 5-8, 2018):
(832) 371-6239

Influenza Vaccine Delays Are a Problem for Pediatricians

TORONTO, May 5, 2018 – Pediatricians report influenza vaccine delivery delays as a significant problem, particularly for the Vaccines For Children (VFC) program vaccines, leading to many missed opportunities for vaccination, according to a new survey being presented at the Pediatric Academic Societies (PAS) 2018 Meeting.

A nationally representative survey among pediatricians was conducted from June 2017 through September 2017 to assess the extent to which delays in receipt of influenza vaccine from private and VFC program stocks pose problems and provider contingency plans in the event of influenza vaccine delays.

For private stock influenza vaccine, considering the last three influenza vaccination seasons, three percent reported delays in receipt of influenza vaccine as a major problem, 18 percent a moderate problem, 32 percent a minor problem, and 48 percent as not a problem. In contrast, for VFC influenza vaccine, 15 percent reported delays as a major problem, 32 percent a moderate problem, 33 percent a minor problem, and 20 percent as not a problem.

When either VFC or private influenza vaccine is out of stock, 56 percent reported delaying vaccination for patients whose vaccine is out of stock, 19 percent referred these patients elsewhere, seven percent postponed vaccination for all patients, and 18 percent borrowed vaccine between stocks. Among the 50 respondents who reported borrowing between stocks, almost all (98 percent) borrowed for individual patient visits while only 30 percent borrowed for influenza vaccination clinics.

Uptake of influenza vaccine among children is low compared to other childhood vaccines, and missed opportunities for vaccination play an important role in this low uptake. Problems with receiving influenza vaccine in a timely manner within pediatric practices are an important cause of missed opportunities, but little is known about pediatricians’ experiences and practices related to influenza vaccine delivery delays. Providers use a variety of strategies for addressing these delays, but in most cases, children either must go elsewhere or return to the clinic to receive influenza vaccine. To increase uptake of influenza vaccine among children, systematic changes are needed to address these delays.
Dr. Sean O’Leary, one of the authors of the study, will present findings from “Experiences and Practices Regarding Influenza Vaccine Delays among Pediatricians” during the PAS 2018 Meeting on Saturday, May 5 at 5 p.m. EDT. Reporters interested in an interview with Dr. O’Leary should contact PAS2018@piercom.com.

Please note: Only the abstract is being presented at the meeting. In some cases, the researcher may have additional data to share with media.

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**Abstract:** Experiences and Practices Regarding Influenza Vaccine Delays among Pediatricians

**Background:** Uptake of influenza vaccine among children is low compared to other childhood vaccines, and missed opportunities for vaccination play an important role in this low uptake. Problems with receiving influenza vaccine in a timely manner within pediatric practices are an important cause of missed opportunities, but little is known about pediatricians’ experiences and practices related to influenza vaccine delivery delays.

**Objective:** To assess, among a national sample of pediatricians (Peds), 1) the extent to which delays in receipt of influenza vaccine from private and Vaccines-for-Children Program (VFC) stocks pose problems; and 2) provider contingency plans in the event of influenza vaccine delays.

**Design/Methods:** A nationally representative survey among Peds from June through September 2017.

**Results:** The response rate was 79% (372/471). For private stock influenza vaccine, considering the last 3 influenza vaccination seasons, 3% reported delays in receipt of influenza vaccine as a major problem, 18% a moderate problem, 32% a minor problem, and 48% as not a problem. In contrast, for VFC influenza vaccine, 15% reported delays as a major problem, 32% a moderate problem, 33% a minor problem, and 20% as not a problem (p<0.001 for private stock versus VFC). When either VFC or private influenza vaccine is out-of-stock, 56% reported delaying vaccination for patients whose vaccine is out-of-stock, 19% referred these patients elsewhere, 7% postponed vaccination for all patients, and 18% borrowed vaccine between stocks. Among the 50 respondents who reported borrowing between stocks,
almost all (98%) borrowed for individual patient visits while only 30% borrowed for influenza vaccination clinics.

**Conclusion(s):** Pediatricians report influenza vaccine delivery delays as a significant problem, particularly for VFC vaccines, leading to many missed opportunities for vaccination. Providers use a variety of strategies for addressing these delays, but in most cases, children either must go elsewhere or return to the clinic to receive influenza vaccine. To increase uptake of influenza vaccine among children, systematic changes are needed to address these delays.

**Authors:** Sean O’Leary, Mandy Allison, Laura Hurley, Brenda Beaty, Lori Crane, Michaela Brtnikova, Erin McBurney, Allison Kempe
New Studies Measure Screen-Based Media Use in Children

Screen-based media are increasingly prevalent in children’s lives beginning in infancy, with different aspects linked to potential benefits and developmental/health risks.

Related study is the first to use MRI to explore the influence of story format (audio, illustrated, animated) on the engagement of brain networks supporting language, visual imagery and learning in preschool-age children.

TORONTO, May 5, 2018 — A new study examines the effectiveness of the ScreenQ, a measure of screen-based media use in children. Findings from the study will be presented during the Pediatric Academic Societies (PAS) 2018 Meeting.

“In a single generation, the explosion of screen-based media has transformed the experience of childhood, from TV and videos, to an unlimited range of content available at any time via portable devices that can be challenging to monitor,” said Dr. John S. Hutton, one of the authors of the study. “The emergence of these technologies has far outpaced our ability to quantify its effects on child development, human relationships, learning and health, fueling controversies among parents, educators and clinical providers. The ScreenQ is a novel measure of screen-based media use in children intended for pediatric clinical use, incorporating evidence-based factors known to influence these effects, including access to screens, frequency and context of use (e.g., meals), content (e.g., violent versus educational) and co-viewing with grownup caregivers.”

This study involved 27 healthy children from employee families at an academic medical center (15 boys, 12 girls; mean 57±7 months old, mid/high-SES). A 17-item version of the ScreenQ was developed applying a conceptual model of screen-based media use involving aspects cited in American Academy of Pediatrics (AAP) guidelines: access, frequency (e.g., age of use), content and interactivity (e.g., co-viewing). Responses were categorical, except for frequency, where numerical response was converted into a categorical score. Higher scores reflect greater risk. Validated measures were administered as criterion-referenced standards, including the EVT and PPVT (language), BRIEF-P (executive function), BASC (behavior), and StimQ-P READ home reading environment survey. Modern theory Rasch methods were used to evaluate items for smoothness, modality, difficulty, polarity, density and outliers. Preliminary indices of internal consistency were estimated using Cronbach’s, and of validity using a
Spearman-rho correlation coefficient with criterion-referenced standards (<0.05). Items failing one or more of these criteria were eliminated.

The study found that applying these methods, the ScreenQ was reduced to 10 items (three access, two frequency, three content, two interactivity). The reduced version demonstrated strong internal consistency (Cronbach’s =0.63), good person- and item-level reliability, and variability in Logit endorsability. While non-significant, ScreenQ scores were negatively correlated with StimQ-P (-0.17), PPVT (-0.17), EVT (-0.17), and positively with BRIEF composite (0.20) and BASC (0.22) scaled scores. Kolmogorov-Smirnov tests revealed near-normality for ScreenQ scores (p=0.14), but not for StimQ-P (p=0.03).

Preliminary evidence suggests that the ScreenQ is an efficient, valid means to assess screen-based media use in children in the context of AAP guidelines and cognitive-behavioral risks, warranting further development.

A related study by Dr. Hutton, to be presented as a platform at the PAS 2018 Meeting, is the first to use magnetic resonance imaging (MRI) to explore the influence of story format (audio, illustrated, animated) on the engagement of brain networks supporting language, visual imagery and learning in preschool-age children.

AAP recommends that parents begin reading to their children as soon as possible after birth, and provide limits on screen-based media use. In addition to TV, screen-based story platforms with animated features are increasingly marketed to children, yet the influence of animation on brain development is unknown. The purpose of this study was to determine whether there were differences in the engagement of functional brain networks supporting narrative processing for stories presented in audio, illustrated and animated format.

Key findings suggest a “Goldilocks Effect,” where audio may be “too cold” at this age, requiring more cognitive strain to process the story, animation “too hot,” fast-moving media rendering imagination and network integration less necessary, and illustration “just right,” limited visual scaffolding assisting the child while still encouraging active imagery and reflection.

“They underscore the appeal of illustrated books at this age, raise important questions about the influence of media on early brain development, and provide novel context for AAP reading and screen time recommendations,” said Dr. Hutton.

Dr. Hutton will present findings from the “Assessment of Screen-Based Media Use in Children: Development and Psychometric Refinement of the ScreenQ” during the PAS 2018 Meeting on Sunday, May 6 at 5:45 p.m. EDT. Findings from “Goldilocks Effect? Illustrated Story Format Seems ‘Just Right’ and Animation ‘Too Hot’ for Integration of Functional Brain Networks in Preschool-Age Children” will be presented on Sunday, May 6 at 9:45 a.m. EDT. Reporters interested in an interview with Dr. Hutton should contact PAS2018@piercom.com.

Please note: Only the abstracts are being presented at the meeting. In some cases, the researcher may have additional data to share with media.
The PAS 2018 Meeting, taking place in Toronto on May 5-8, 2018, brings together thousands of pediatric scientists and other health care providers to improve the health and well-being of children worldwide. For more information about the PAS 2018 Meeting, please visit www.pas-meeting.org.

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Abstract: Assessment of Screen-Based Media Use in Children: Development and Psychometric Refinement of the ScreenQ

Background: Screen-based media are increasingly prevalent in children’s lives beginning in infancy, with different aspects linked to potential benefits and developmental/health risks. American Academy of Pediatrics (AAP) recommendations involve access to screens, age and frequency of use, co-viewing, and content, though there is presently no validated, comprehensive measure available.

Objective: The purpose of this study was to pilot test and refine a comprehensive, evidence-based measure of screen-based media use in children (ScreenQ).

Design/Methods: This study involved 27 healthy children from employee families at an academic medical center (15 boys, 12 girls; mean 57±7 months old, mid/high-SES). A 17-item version of the ScreenQ was developed applying a conceptual model of screen-based media use involving aspects cited in AAP guidelines: access, frequency (e.g. age of use), content, and interactivity (e.g. co-viewing). Responses were categorical, except for frequency, where numerical response was converted into a categorical score. Higher scores reflect greater risk. Validated measures were administered as criterion-referenced standards, including the EVT and PPVT (language), BRIEF-P (executive function), BASC (behavior), and StimQ-P READ home reading environment survey. Modern theory Rasch methods were used to evaluate items for smoothness, modality, difficulty, polarity, density, and outliers. Preliminary indices of internal consistency were estimated using Cronbach’s, and of validity using a Spearman-rho correlation coefficient with criterion-referenced standards (<0.05). Items failing one or more of these criteria were eliminated.

Results: Applying these methods, the ScreenQ was reduced to 10 items (3 access, 2 frequency, 3 content, 2 interactivity). The reduced version demonstrated strong internal consistency (Cronbach’s =0.63), good person- and item-level reliability, and variability in Logit endorsability, summarized in figure 1. While non-significant, ScreenQ scores were negatively correlated with StimQ-P (-0.17), PPVT (-0.17), EVT (-0.17), and positively with BRIEF composite (0.20) and BASC (0.22) scaled scores, shown in table 1. Kolmogorov-Smirnov tests revealed near-normality for ScreenQ scores (p=0.14), but not for StimQ-P (p=0.03), histograms shown in figure 2.
Conclusion(s): Preliminary evidence suggests that the ScreenQ is an efficient, valid means to assess screen-based media use in children in the context of AAP guidelines and cognitive-behavioral risks, warranting further development.

Authors: John Hutton, Yuanfang Xu, Thomas DeWitt, Tzipi Horowitz-Kraus, Richard Ittenbach

Tables/Figures:
Table 1: Correlation of ScreenQ total score with criterion-referenced measures

<table>
<thead>
<tr>
<th>Measure</th>
<th>Spearman Correlation Coefficient</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>StimQ READ total score</td>
<td>-0.174</td>
<td>0.38</td>
</tr>
<tr>
<td>PPVT standard score</td>
<td>-0.165</td>
<td>0.41</td>
</tr>
<tr>
<td>EVT standard score</td>
<td>-0.174</td>
<td>0.38</td>
</tr>
<tr>
<td>BRIEF composite score</td>
<td>0.199</td>
<td>0.32</td>
</tr>
<tr>
<td>BASC (behavioral total)</td>
<td>0.217</td>
<td>0.28</td>
</tr>
</tbody>
</table>

Figure 1: Item Analysis (Rasch) and Summary Statistics for ScreenQ.
Abstract: Goldilocks Effect? Illustrated Story Format Seems “Just Right” and Animation “Too Hot” for Integration of Functional Brain Networks in Preschool-Age Children

Background: The American Academy of Pediatrics (AAP) recommends that parents begin reading to their children as soon as possible after birth, and provide limits on screen-based media use. In addition to TV, screen-based story platforms with animated features are increasingly marketed to children, yet the influence of animation on brain development is unknown.

Objective: To determine whether there are differences in the engagement of functional brain networks supporting narrative processing for stories presented in audio, illustrated, and animated format.

Design/Methods: This study involved functional magnetic resonance imaging (fMRI) during a single visit. Employee families from an academic medical center were enrolled, and 27/32 children completed fMRI (84%; 15 boys, 12 girls; age 43-70 mo, mean 57±7). The fMRI protocol involved 3 different, unrhymed stories by the same author lasting 5 minutes each presented in audio, illustrated, and animated format during separate runs, shown in figure 1. These were in the same sequence for all children. Analyses involved comparison of within- and between-network functional connectivity (FC) across formats involving visual perception, visual imagery, semantic language, Default Mode (DMN), and cerebellar brain networks, defined via literature review and refined via a validated parcellation method. FC was calculated as the mean of the sum of pair-wise, Fisher-transformed, bivariate correlation coefficients for all regions of interest (ROI), then compared between formats via 2-tailed, paired t-tests applying false discovery rate (FDR) correction (p<0.05). Post-hoc tests were done for significant results to characterize FC changes on a ROI level.

Results: FC was decreased within the language network and increased between visual, DMN, and cerebellar networks for illustration relative to audio. Between-network FC was sharply decreased for animation relative to the other formats, especially illustration. A summary is in figure 2.

Conclusion(s): Our findings suggest that illustrated format provides visual scaffolding that assists the language network and encourages active imagery and self-reflection in young children, while animation may inhibit such network integration in favor of continuous audio-visual perception. They raise important questions about optimal promotion of healthy brain development, and provide novel neurobiological context for AAP reading and screen time recommendations.
**Authors:** John Hutton, Jonathan Dudley, Tzipi Horowitz-Kraus, Thomas DeWitt, Scott Holland

**Figures:**

![Figure 1: fMRI story paradigm and *a priori* defined functional brain networks included in analyses. Numbers on brain identifiers are neurological Brodmann or cerebellar Areas (left hemisphere shown).](image1)

Figure 1: Functional MRI protocol design and a priori-defined functional brain networks.

![Figure 2: Connectome wheels showing within- and between-network functional connectivity changes between story formats.](image2)

Figure 2: "Treads" in each wheel represent within-network FC, and "spokes" represent between-network FC (red increased, blue decreased; solid lines p<0.05, FDR corrected).
Study Examines Impact of Extended Maternity Leave on Breastfeeding in Active Duty Mothers

TORONTO, May 5, 2018 – While there is no demonstrable difference in initiation of breastfeeding between six-week and 12-week maternity leave policies, there is a significant increase in breastfeeding duration and exclusivity through nine months for active duty mothers under the 12 week policy, according to a new study being presented at the Pediatric Academic Societies (PAS) 2018 Meeting.

The study evaluated the effects of prolongation of maternity leave duration on the initiation and duration of breastfeeding in active duty mothers at a single military treatment facility. Secondary outcomes assessed infant and maternal health outcomes, branch-related impact and officer versus enlisted status.

Across 2014, active duty military mothers were allowed six weeks maternity leave. This was increased to 12 weeks in 2016. Breast milk and breastfeeding have significant medical, psychosocial and financial benefits for the mother-infant dyad with exclusive breastfeeding recommended for six months by the American Academy of Pediatrics and the World Health Organization. Additional population target recommendations have been published for exclusivity and duration according to the Healthy People 2020 goal.

The retrospective cohort study utilized data collected from U.S. Department of Defense electronic healthcare records of infants born to active duty mothers delivered at a single site during calendar years 2014 and 2016. The study found no significant change in breastfeeding initiation occurred between the 2014 and 2016 groups. However, a significant increase in breastfeeding establishment was identified at the two (8.3 percent; p=0.013), four (12.7 percent; p=0.001), six (14 percent; p=0.001) and nine month (12.4 percent; p=0.002) visits in the 12 weeks leave cohort. Exclusive breastfeeding also increased significantly at two (8.1 percent; p=0.043), four (9.6 percent p=0.015) and six (7.5 percent; p=0.046) months and trended toward significance at nine months (6.1 percent; p=0.052).

Before this research, there were no studies evaluating military active duty breastfeeding prior and after implementation of extended maternity leave policies.
"This study was conducted to evaluate and validate existing knowledge about breastfeeding success in a military population," said Andrew Delle Donne, one of the authors of the study. “Similar to civilian studies, we found that longer duration of maternity leave increases breastfeeding success throughout the first year of life in a military population. The conclusions are important to justify increased maternity leave in the military population and provide additional support to conclusions made in civilian studies."

Mr. Delle Donne will present findings from “Impact of Extended Maternity Leave on Breastfeeding in Active Duty Mothers” during the PAS 2018 Meeting on Saturday, May 5 at 2:45 p.m. EDT. Reporters interested in an interview with Mr. Delle Donne should contact PAS2018@piercom.com.

Please note: Only the abstract is being presented at the meeting. In some cases, the researcher may have additional data to share with media.

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**Abstract:** Impact of Extended Maternity Leave on Breastfeeding in Active Duty Mothers

**Background:** Breastmilk and breastfeeding has significant medical, psychosocial, and financial benefits for the mother-infant dyad with exclusive breastfeeding recommended for 6 months by AAP and WHO. Additional population target recommendations have been published for exclusivity and duration according to the Healthy People 2020 goal. Across 2014, active duty military mothers were allowed 6 weeks maternity leave, this was increased to 12 weeks in 2016. There are no studies evaluating military active duty breastfeeding prior and after implementation of extended maternity leave policies.

**Objective:** To evaluate the effects of prolongation of maternity leave duration on the initiation and duration of breastfeeding in active duty mothers at a single military treatment facility. Secondary outcomes assessed infant and maternal health outcomes, branch related impact, and officer versus enlisted status.

**Design/Methods:** This is a retrospective cohort study utilizing data collected from DoD electronic healthcare records of infants born to active duty mothers delivered at a single site during calendar years 2014 and 2016.
Results: No significant change in breastfeeding initiation occurred between the 2014 and 2016 groups. However, a significant increase in breastfeeding establishment was identified at the two (8.3%; p=0.013), four (12.7%; p=0.001), six (14%; p=0.001), and nine month (12.4%; p=0.002) visits in the 12 weeks leave cohort. Exclusive breastfeeding also increased significantly at two (8.1%; p=0.043), four (9.6% p=0.015), and six (7.5%; p=0.046) months and trended toward significance at 9 months (6.1%; p=0.052).

Conclusion(s): While there is no demonstrable difference in initiation of breastfeeding between 6 week and 12 week maternity leave policies, there is a significant increase in breastfeeding duration and exclusivity through 9 months for active duty mothers under the 12 week policy. This data supports a potential prospective study to assess continued prolongation of maternity leave policy and duration of successful breastfeeding in an active duty military population.

Authors: Andrew Delle Donne, Alex Hatch, Nicholas Carr, Jonathan Shapiro
Study Shows Barriers Exist for Texas Adolescents Seeking Emergency Contraception

TORONTO, May 5, 2018 – Barriers exist for Texas adolescents seeking emergency contraception, according to findings from a new study being presented at the Pediatric Academic Societies (PAS) 2018 Meeting. The study evaluated the availability of levonorgestrel (LNG) 1.5mg oral tablet, also known as the morning-after pill, in Texas and assessed knowledge of pharmacy staff about this medication.

In the U.S., emergency contraception in the form of LNG has been available over-the-counter for over 10 years and without an age limit for five years. Yet, the study found that almost half (46.5 percent) of over 700 pharmacies surveyed in Texas have an age requirement for purchase and over 50 percent require some type of consultation prior to purchase, though statewide pharmacy staff knowledge about effective use of the medication was inadequate. Results from the study indicate that most pharmacy staff would not be able to provide appropriate drug counseling.

“Texas has the fifth highest rate of teen pregnancy and the highest rate of repeat teen pregnancy in the U.S., but comprehensive sex education and contraception services are not readily available to all adolescents across the state, thus emergency contraception is often used as a substitute for more effective contraceptive methods,” said Dr. Maria Monge, one of the authors of the study.

“As Texas faces ongoing challenges in improving maternal health outcomes and decreasing teen pregnancy rates, removing barriers so that adolescents may more easily access over-the-counter emergency contraception is an important piece of this puzzle that deserves additional attention.”

Dr. Monge will present findings from the study, “Barriers to Obtaining and Effectively Using Emergency Contraception in Texas Adolescents,” during the PAS 2018 Meeting on Monday, May 7 at 10:30 a.m. EDT. Reporters interested in an interview with Dr. Monge should contact PAS2018@piercom.com.

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Abstract: Barriers to Obtaining and Effectively Using Emergency Contraception in Texas Adolescents

Background: In the U.S., emergency contraception (EC) in the form of levonorgestrel (LNG) 1.5mg oral tablet has been available over-the-counter (OTC) for over 10 years and without an age limit for five years. Texas has the fifth highest teen pregnancy rate and the highest rate of repeat teen pregnancy in the U.S. Access to contraceptive services for these adolescents can be challenging, resulting in OTC EC being an invaluable resource for pregnancy prevention. This study evaluated LNG EC availability in Texas and assessed knowledge of pharmacy staff about this medication.

Design/Methods: Texas pharmacies were divided into 6 geographic regions and 25% of pharmacies in each region were randomly selected for inclusion. Each pharmacy was contacted by phone, and verbal consent for participation was obtained before asking 3 questions about EC availability and 3 questions about pharmacy staff knowledge. Data were recorded and stored using RedCap and were de-identified except for zip codes. A Chi-square test of independence was performed to see if EC availability, age requirement for purchase, or pharmacy staff knowledge varied by region or county population.

Results: Of the 1203 pharmacies that were contacted, 771 pharmacy employees (97% pharmacists or pharmacy techs) verbally consented to participate and answered at least 1 question about EC. LNG EC was available in 76.1% of pharmacies; 6.3% required a prescription to obtain LNG EC. The availability of EC did not vary significantly by geographic regions (p=0.33) or county population (p=0.60). Almost half (46.5%) of pharmacies with EC available reported an age requirement for purchase, and this did not vary by region (p=0.227). Over half (51.8%) required consultation with pharmacy staff to obtain EC. Only 10% of pharmacy staff members recognized that there may be a weight limitation with use of LNG EC. Only 1% knew that the medication could be used up to 120 hours after unprotected intercourse.

Conclusion(s): Despite OTC status without age requirement, barriers exist for Texas adolescents seeking LNG EC. These include limited availability of LNG EC and pharmacies requiring a prescription and/or maintaining an age minimum for purchase of the medication. Over 50% of the pharmacies required consultation prior to an adolescent obtaining EC. However, results from this study indicate that most pharmacy staff would not be able to provide appropriate drug counseling. While preliminary, results of this study reveal a need to proactively educate patients and pharmacy staff regarding LNG EC.

Authors: Maria C. Monge, Miranda Loh, Cameron Goff, Alec LaPlace, Viet Nguyen, Abigail Onwunali, Rajvi Patel
Survey Finds Many Adolescents Are Not Talking to Their Doctors and Parents About Sex; Greater Need for Sexually Transmitted Infections Screening

New study assesses the rate at which adolescents discuss sex with their parents and primary care providers, and the frequency at which they receive screening for sexually transmitted infections.

TORONTO, May 5, 2018 – Nearly half of adolescents (45 percent) reported that they were not routinely asked about sex by their primary care providers (PCPs) and only 13 percent were offered sexually transmitted infection (STI) screening, according to results of a new survey being presented during the Pediatric Academic Societies (PAS) 2018 Meeting. The survey also found that 90 percent of parents reported that they talk to their adolescents about sex but only 39 percent of adolescents reported the same.

The objective of the survey was to assess the rate at which adolescents discuss sex with their parents and PCPs and the frequency at which they receive screening for STIs. In this study, 582 adolescents, aged 13-17, and 516 parents of adolescents attending the 2017 Minnesota State Fair were surveyed.

Adolescents were asked whether they had seen a PCP in the past year, if they were asked about sexual activity and/or offered STI screening, and whether they discuss sex with parents. Parents were queried about their knowledge of discussions had by their child’s PCP as well as discussions they personally have had with their adolescent about sex. Frequencies, Chi-square analyses and logistic regression were used to evaluate the variables.

“ Teens and young adults account for more STIs than all other ages combined,” said Dr. Kari Schneider, one of the authors of the study. “Pediatricians and parents play a vital role in discussing STIs and safer sex practices with adolescents.”

Additional findings include:

- Increased age was associated with greater likelihood of being asked about sex or offered STI testing.
- Females were more likely to be asked about sex.
- White adolescents were less likely than other ethnicities to be offered testing.
• Regarding PCP/adolescent discussion of sexual activity, 49 percent of parents indicated awareness that such discussions occurred while 24 percent did not know.
• Twenty-five percent of parents felt that PCPs should not discuss sex.
• A female parent was more likely to discuss sex.
• Parents were less likely to report discussing sex if the teen was younger or if the parent’s ethnicity was anything other than white.

Dr. Brinda Desai will present findings from the study, “Let’s Talk about Sex: Do Adolescents’ Parents and Primary Care Physicians Talk to Them About Sex?” during the PAS 2018 Meeting on Sunday, May 6 at 5:45 p.m. EDT. Reporters interested in an interview with Dr. Desai should contact PAS2018@piercom.com.

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**Abstract:** Let’s Talk About Sex: Do Adolescents’ Parents and Primary Care Physicians Talk to Them About Sex?

**Background:** Teens/young adults account for more sexually transmitted infections (STIs) than all other ages combined. Primary care provider (PCP) visits are opportunities to provide health care services to treat and prevent STIs. Similarly, parent-adolescent communication has been shown to protect against teen sexual risk-taking behavior.

**Objective:** Assess the rate at which adolescents discuss sex with their parents and PCPs and frequency at which they receive screening for sexually transmitted infections.

**Design/Methods:** Adolescents, aged 13-17, and parents of adolescents attending the 2017 Minnesota State Fair were invited to complete an 18-question survey. Adolescents were queried whether they had seen a PCP in the past year, if they were asked about sexual activity and/or offered STI screening, and whether they discuss sex with parents. Parents were queried about their knowledge of discussions had
by their child’s PCP as well as discussions they personally have had with their adolescent about sex. Frequencies, Chi-square analyses, and logistic regression were used to evaluate the variables.

Results: 582 adolescents and 516 parents were surveyed. The majority (90%) of adolescents had been seen in the past year by PCP - 55% of these were asked about sex and 13% were offered STI testing. Increased age was associated with greater likelihood of being asked about sex (OR 6.8, p<0.0001) or offered STI testing (OR 9.8, p=0.008). Females were also more likely to be asked about sex (OR 1.9, p=0.003). White adolescents were less likely than other ethnicities to be offered testing (OR 4.0, p=0.036). Regarding PCP/adolescent discussion of sexual activity, 49% of parents indicated awareness that such discussions occurred while 24% did not know. Twenty-five percent of parents felt that PCPs should not discuss sex. 90% of parents reported that they discuss sex with their adolescent while only 39% of adolescents reported the same. A female parent was more likely to discuss sex (OR 2.8, p=0.002). Parents were less likely to report discussing sex if the teen was younger (OR 0.3, p=0.035) or if parent’s ethnicity was anything other than white (OR 0.33, p=0.014).

Conclusion(s): Nearly half of adolescents reported that they were not routinely asked about sex by their PCPs and few were offered STI screening. Parents report discussing sex with their teens but this is not supported by adolescent report. Further work is needed to increase the frequency of sexual history taking by PCPs and educating parents on the importance of these discussions.

Authors: Brinda Desai, Joanna Ekstrom, Rachel Cafferty, Meghan Fanta, Shane McWhirter, Danielle Quallich, William Sveen, Erin Gutowski, James Gray, Daniel Nerheim, Cynthia Davey, Kari Schneider
Study Examines Prevalence and Autonomy of Digital Device Usage in Toddlers

Clinicians must encourage parents to carefully supervise and limit their child’s cumulative digital device usage.

TORONTO, May 5, 2018 – A new study found there was an alarming tendency for a cumulative digital device (DD) usage time far higher than current American Academy of Pediatrics (AAP) recommendations. The research will be presented during the Pediatric Academic Societies (PAS) 2018 Meeting in Toronto.

In 2016, the AAP revised their policy of 15 years on a healthy media diet to say that children less than 18 months old should avoid screen media other than video chatting, that parents can introduce co-watched high quality programming (HQP) with their child of 18-24 months, and that children 2-5 years old should co-watch less than one hour a day of HQP. However, it is unclear how current toddler digital device usage (TDU) adheres to these guidelines. This study examined the prevalence and autonomy of current TDU by DD.

In an anonymous survey distributed via Amazon Mechanical Turk, parents of children aged 0-3 years were asked to identify which DD were present in the home, which DD were used by their child, the frequency of usage for each DD in times per week, and duration of each usage session for each DD. Parents were then asked about the level of parental supervision during TDU and their child’s independence in navigating various DD.

There was an 80.2 percent effective response rate out of 637 respondents of which 90.6 percent of children used at least one household DD. Of smartphone and/or tablet-using children, 56.8 percent knew how to unlock the DD and 70.2 percent knew how to get to their favorite apps. Of TV watching children, 37.5 percent knew how to turn on and navigate the TV. Of children using laptops or desktops, 44.9 percent knew how to get to their favorite sites or games.

The study concludes that it is essential for the AAP to structure new guidelines addressing the wide variety of DD used by children and emphasizing limits for cumulative DD usage. With substantial rates of parent-reported DD child autonomy, clinicians must encourage parents to carefully supervise and limit their child’s cumulative DD usage.
Heejin Lim will present the abstract, “Digital Device Diversity: Prevalence and Autonomy of Digital Device Usage in Children Aged 0-3 Years,” during the PAS 2018 Meeting on Saturday, May 5 at 6:30 p.m. EDT. Reporters interested in an interview with Lim should contact PAS2018@piercom.com.

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Abstract: Digital Device Diversity: Prevalence and Autonomy of Digital Device Usage in Children Aged 0-3 Years

Background: In 2016, the American Academy of Pediatrics (AAP) revised their policy of 15 years on a healthy media diet to say that children < 18 months old should avoid screen media other than video chatting, that parents can introduce co-watched high quality programming (HQP) with their child of 18-24 months, and that children 2-5 years old should co-watch < 1 hour a day of HQP. However, it is unclear how current toddler digital device usage (TDU) adheres to these guidelines. To this end, this study will examine the prevalence and autonomy of current TDU by digital device (DD).

Objective: To identify the prevalence of TDU through types of DD used, frequency and duration of usage for each DD, and autonomy of DD feature usage.

Design/Methods: In an anonymous survey distributed via Amazon Mechanical Turk, parents of children aged 0-3 years were asked to identify which DD were present in the home, which DD were used by their child, the frequency of usage for each DD in times per week, and duration of each usage session for each DD. Parents were then asked about the level of parental supervision during TDU and their child’s independence in navigating various DD.

Results: There was an 80.2% effective response rate out of 637 respondents (n=511, 43.6% female children, 29.7 month average child age), of which 90.6% of children used at least one household DD. Household DD presence and frequency of TDU are shown in Table 1, while Table 2 shows TDU duration. 56.8% of smartphone and/or tablet-using children knew how to unlock the DD and 70.2% knew how to
get to their favorite apps. 37.5% of TV watching children knew how to turn on and navigate the TV. 44.9% of children using Laptops or Desktops knew how to get to their favorite sites or games.

**Conclusion(s):** While the most common duration of individual DD usage was within the AAP’s limits, there was an alarming tendency for a cumulative DD usage time far higher than current recommendations. It is essential for the AAP to structure new guidelines addressing the wide variety of DD used by children and emphasizing limits for cumulative DD usage. With substantial rates of parent-reported DD child autonomy, clinicians must encourage parents to carefully supervise and limit their child’s cumulative DD usage.

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**Tables:**

<table>
<thead>
<tr>
<th></th>
<th>DD Present in House</th>
<th>DD Used by Child</th>
<th>Less than once a month</th>
<th>Once a month</th>
<th>Several times a month</th>
<th>Once a week</th>
<th>Several times a week</th>
<th>Once a day</th>
<th>Multiple times a day</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TV</strong></td>
<td>90.0%</td>
<td>73.7%</td>
<td>0.3%</td>
<td>1.5%</td>
<td>1.5%</td>
<td>3.8%</td>
<td>15.8%</td>
<td>29.3%</td>
<td>47.8%</td>
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<tr>
<td><strong>Laptop</strong></td>
<td>76.0%</td>
<td>10.5%</td>
<td>10.2%</td>
<td>12.2%</td>
<td>10.2%</td>
<td>14.3%</td>
<td>22.4%</td>
<td>20.4%</td>
<td>10.2%</td>
</tr>
<tr>
<td><strong>Desktop</strong></td>
<td>43.6%</td>
<td>9.5%</td>
<td>4.5%</td>
<td>6.8%</td>
<td>11.4%</td>
<td>2.7%</td>
<td>29.5%</td>
<td>35.0%</td>
<td>20.5%</td>
</tr>
<tr>
<td><strong>Tablet</strong></td>
<td>83.8%</td>
<td>70.8%</td>
<td>3.7%</td>
<td>3.4%</td>
<td>9.1%</td>
<td>7.3%</td>
<td>27.1%</td>
<td>20.1%</td>
<td>29.3%</td>
</tr>
<tr>
<td><strong>Smartphone</strong></td>
<td>87.0%</td>
<td>51.3%</td>
<td>6.3%</td>
<td>2.9%</td>
<td>16.7%</td>
<td>9.2%</td>
<td>29.2%</td>
<td>15%</td>
<td>20.8%</td>
</tr>
<tr>
<td><strong>Gaming System</strong></td>
<td>58.7%</td>
<td>15.3%</td>
<td>16.9%</td>
<td>11.3%</td>
<td>12.7%</td>
<td>12.7%</td>
<td>22.5%</td>
<td>7.0%</td>
<td>16.9%</td>
</tr>
</tbody>
</table>

Table 1: Presence of DD and Frequency of usage in children by DD

Table 1 Caption: Presence of DD and Frequency of usage in children by DD
Table 2: Duration of child DDU session by digital device

<table>
<thead>
<tr>
<th></th>
<th>1-30 min</th>
<th>30m-1 hr</th>
<th>1h-2h</th>
<th>2h-3h</th>
<th>3h-4h</th>
<th>4h-5h</th>
<th>5h-6h</th>
<th>6h+</th>
</tr>
</thead>
<tbody>
<tr>
<td>TV</td>
<td>15.9%</td>
<td>30.0%</td>
<td>28.8%</td>
<td>13.8%</td>
<td>7.4%</td>
<td>2.4%</td>
<td>0.3%</td>
<td>1.5%</td>
</tr>
<tr>
<td>Laptop</td>
<td>50.0%</td>
<td>26.1%</td>
<td>13.0%</td>
<td>6.5%</td>
<td>4.3%</td>
<td>4.3%</td>
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<td>0%</td>
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<tr>
<td>Desktop</td>
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<td>2.3%</td>
<td>2.3%</td>
<td>0%</td>
<td>2.3%</td>
</tr>
<tr>
<td>Tablet</td>
<td>34.5</td>
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<td>21.8%</td>
<td>10.5%</td>
<td>2.8%</td>
<td>0.9%</td>
<td>0.6%</td>
<td>0.3%</td>
</tr>
<tr>
<td>Smartphone</td>
<td>67.1%</td>
<td>15.2%</td>
<td>11.0%</td>
<td>3.0%</td>
<td>1.3%</td>
<td>1.3%</td>
<td>0.4%</td>
<td>0.8%</td>
</tr>
<tr>
<td>Gaming System</td>
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<td>28.2%</td>
<td>11.3%</td>
<td>5.6%</td>
<td>5.6%</td>
<td>2.8%</td>
<td>1.4%</td>
<td>0%</td>
</tr>
</tbody>
</table>

Table 2 Caption: Duration of child DDU session by DD
TORONTO, May 5, 2018 – States with stricter firearm laws have lower rates of firearm-related deaths in children, according to cross-sectional analyses to be presented during the Pediatric Academic Societies (PAS) 2018 annual meeting. The Children’s-led research team also found that states with laws that mandated universal background checks prior to firearm and ammunition purchase were associated with lower rates of firearm-related mortality in children, compared with states that lacked these laws.

“Injuries due to firearms are the nation’s third-leading cause of pediatric death,” says Monika Goyal, M.D., M.S.C.E., director of research in the Division of Emergency Medicine and Trauma Services at Children’s National Health System and lead author of the research paper. “Firearm legislation at the state level varies significantly. Our findings underscore the need for further investigation of which types of state-level firearm legislation most strongly correlates with reduction in pediatric injuries and deaths.”

The research team analyzed data from the 2015 Web-based injury statistics query and reporting system maintained by the Centers for Disease Control and Prevention to measure the association between Brady Gun Law Scores—a scorecard that evaluates how strict firearms legislation and policies are in all 50 states—and state-based rates of firearm-related death among children 21 years and younger.

In 2015, 4,528 children died from firearm-related injuries. Eighty-seven percent were male; 44 percent were non-Latino black; their mean age was 18.

State-specific firearm-related mortality rates among children were as low as 0 per 100,000 to as high as 18 per 100,000. Median mortality rates were lower among the 12 states requiring universal background checks for firearm purchase at 3.8 per 100,000 children compared with 5.7 per 100,000 children in states that did not require background checks. Similarly, the five states with this requirement had a lower median mortality rate, 2.3 per 100,000 children, when compared with states that did not require background checks for ammunition purchase, 5.6 per 100,000 children.
“Newtown. Orlando. Las Vegas. Parkland. Those are among the mass shootings that have occurred across the nation in recent years. While these tragedies often are covered heavily by the news media, they represent a subset of overall pediatric injuries and deaths due to firearms. Pediatric firearm-related injuries are a critical public health issue across the U.S.,” Dr. Goyal adds.

“Pediatricians have helped to educate parents about other public health concerns, such as the danger posed by second-hand exposure to tobacco smoke or non-use of seat belts and car seats. In addition to presenting our most recent study results, members of our research group are also hosting a workshop at PAS aimed at inspiring pediatric clinicians to similarly tackle this latest public health challenge and to advocate for firearm safety,” she says.

Pediatric Academic Societies 2018 annual meeting presentations:

**Saturday, May 5, 2018**
“Newtown, Orlando, Las Vegas … What pediatric providers can do to improve firearm safety.” 8 a.m. to 10 a.m. (ET) Alyssa Silver; Alex Hogan; Asad Bandealy, M.D.; Priti Bhansali, M.D.; Gabriella Azzarone; Monika Goyal, M.D., M.S.C.E.; Nancy Dodson; Kavita Parikh, M.D., M.S.H.S.; Shilpa Patel, M.D.; Sabah Iqbal

**Monday, May 7, 2018**
“The association of state gun laws with pediatric mortality from firearms.”
4:15 p.m. to 4:30 p.m. (ET) Monika Goyal, M.D., M.S.C.E.; Gia Badolato; Shilpa Patel, M.D.; Sabah Iqbal; Katie Donnelly, M.D.; Kavita Parikh, M.D., M.S.H.S.

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**About Children’s National Health System**
Children’s National Health System, based in Washington, D.C., has been serving the nation’s children since 1870. Children’s National is #1 for babies and ranked in every specialty evaluated by *U.S. News & World Report* and has been designated two times as a Magnet® hospital, a designation given to hospitals that demonstrate the highest standards of nursing and patient care delivery. This pediatric academic health system offers expert care through a convenient, community-based primary care network and specialty outpatient centers in the D.C. Metropolitan area including the Maryland suburbs and Northern Virginia. Home to the Children’s Research Institute and the Sheikh Zayed Institute for Pediatric Surgical Innovation, Children’s National is one of the nation’s top NIH-funded pediatric institutions. Children’s National is recognized for its expertise and innovation in pediatric care and as a strong voice for children through advocacy at the local, regional and national levels.

**About The Pediatric Academic Societies (PAS) Meeting**
The Pediatric Academic Societies (PAS) Meeting brings together thousands of pediatricians and other health care providers united by a common mission: improve the health and well-being of children worldwide. This international gathering includes researchers, academics, as well as clinical care providers and community practitioners. Presentations cover issues of interest to generalists as well as topics critical to a wide array of specialty and sub-specialty areas. The PAS Meeting is produced through a partnership of four pediatric organizations that are leaders in the advancement of pediatric research and child advocacy: American Pediatric Society, Society for Pediatric Research, Academic Pediatric
Association and American Academy of Pediatrics. For more information, please visit www.pas-meeting.org. Follow on Twitter @PASMeeting and #PAS2018, or like us on Facebook.