

**APA Region IX and X  
Region Meeting  
200114-1-JA**

**February 1-2, 2020  
Monterey, California**

**Course Content and Abstracts**

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## Disclosures

### *Region IX Co-Chairs*

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No Relevant Financial Relationships to Disclose  
No Relevant Financial Relationships to Disclose  
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## Learning Objectives and References

### Oral Abstracts:

- Describe active research in the field of pediatrics

### Works in Progress:

- Create plan to improve study designs and dissemination

### Panel Discussion: Hot Topics in Pediatric Hospital Medicine

- Identify current trends in pediatric hospital medicine

*Addressing Social Determinants of Health in Clinical Settings: The Role of Informatics*  
Matt Pantell

#### Key references:

- Arons A, DeSilvey S, Fichtenberg C, Gottlieb L. Documenting social determinants of health-related clinical activities using standardized medical vocabularies. *JAMIA Open*. 2019;2(1):81-88.
- Pantell M, Kaiser S, Torres J, Gottlieb L, Adler N. Associations between social factor documentation and hospital length of stay and readmission among children. *Hospital Pediatrics*. 2020;10(1):1-10.
- Navathe A, Zhong F, Lei V, Chang F, Sordo M, Topaz M, Navathe S, Rocha R, Zhou L. Hospital readmission and social risk factors identified from physician notes. *Health Services Research*. 2018;53(2):1110-1136.
- National Academies of Sciences, Engineering, and Medicine. *Integrating Social Care Into the Delivery of Health Care: Moving Upstream to Improve the Nation's Health*. Washington, DC: National Academies Press; 2019.

*The Family Centered Inpatient Team: Family as Team Captain*  
Heather Pierce

*Perspectives on Pediatric Palliative Care*  
Ami Doshi

### Workshops:

- Incorporate current research on vaccine hesitancy and implicit bias into patient care.

*“The Sickler in Room 202 is a Poor Historian”*: Exploring How Stigmatizing Language Reflects Implicit Bias

Julia Raney

*Addressing Parental Vaccine Hesitancy*  
Annie Chen

Keynote Speaker:

The Pediatric Approach to Trauma, Treatment and Resilience

Moira Szilagyi

- To understand the process of developing the PATTeR Curriculum, a trauma-informed approach to trauma care in the pediatric setting.
- To identify the major components of Trauma-informed care.
- To understand the pros and cons of screening for ACEs in pediatric settings

Key references:

- Allen, J. G. (2013). Restoring Mentalizing in Attachment Relationships: Treating Trauma with Plain Old Therapy. Arlington, VA, American Psychiatric Publishing.
- Blaustein, M., and Kinniburgh, K. (2019). Treating Traumatic Stress in Children and Adolescents: How to Foster Resilience through Attachment, Self-Regulation and Competency. New York, New York, The Guiliford Press.
- Garner, A. a. S. B. (2018). Thinking Developmentally. Itsaca, IL, American Academy of Pediatrics Press.
- Hughes, D. , Balin, J. (2016). The Neurobiology of Attachment-Focused Therapy: Enhancing Connection and Trust in the Treatment of Children and Adolescents. New York, W.W. Norton & Company.
- Masten, A. S. (2001). "Ordinary magic. Resilience processes in development." Am Psychol **56**(3): 227-238.
- Wu, G., et al. (2013). "Understanding resilience." Front Behav Neurosci **7**: 10.

# Oral Presentations

## Saturday

### Abstract ID: 1055

#### **Early Acquisition And Conversion Of Pseudomonas In Hispanic Youth With Cystic Fibrosis**

*Meghan McGarry, MD, University of California, San Francisco, San Francisco, CA, United States; Chiung-Yu Huang, PhD, UCSF, San Francisco, CA, United States; Ngoc Ly, MD MPH, University of California, San Francisco, San Francisco, CA, United States*

#### **Background:**

Hispanic patients with cystic fibrosis (CF) have increased mortality and more severe pulmonary disease than white patients for reasons not yet known. Acquisition of *Pseudomonas aeruginosa* is associated with more severe pulmonary function, rapid decline in pulmonary function, and increased mortality. Conversion of *Pseudomonas aeruginosa* to mucoid, multidrug resistant, chronic forms is strongly associated with severe pulmonary disease. Acquiring any *Pseudomonas aeruginosa* before 5 years old is associated with more severe pulmonary function later in life. It is not known if *Pseudomonas aeruginosa* pulmonary infections differ by ethnicity in CF.

#### **Objective:**

To determine if the timing and risk of *Pseudomonas aeruginosa* acquisition vary between Hispanic and white subjects with CF.

#### **Methods:**

This longitudinal cohort study of subjects ages 0-21 years in the CF Foundation Patient Registry (CFFPR) from 2008 to 2015 compared acquisition of initial, mucoid, multidrug-resistant, and chronic *Pseudomonas aeruginosa* between Hispanic and white patients. Risk of acquisition was assessed by Kaplan-Meier survival curves and timing of acquisition was determined with Cox proportional hazards regression models. All analyses were adjusted for sex, CFTR mutation class, CF-related diabetes, pancreatic insufficiency and age of entry into CFFPR. Stratified analysis was done to analyze ethnic differences in risk of *Pseudomonas aeruginosa* between U.S. Census Regions. Sensitivity analyses were done with inclusion of measures of socioeconomic status.

## Results:

Of 10,366 subjects, 788 (7.5%) were Hispanic and 9,676 (92.5%) were white. Hispanic subjects acquired *Pseudomonas aeruginosa* at a younger median age than white subjects: initial (5.6 vs. 7.3 years,  $p<0.001$ ), mucoid (16.4 vs. 19.9 years,  $p<0.001$ ), and chronic (15.0 vs. 16.7 years,  $p<0.001$ ). Hispanic subjects had a higher risk than white subjects of acquiring all forms of *Pseudomonas aeruginosa*. Hispanics had a 27% higher risk of acquiring initial *Pseudomonas aeruginosa* (HR 1.27, 1.10-1.45,  $p<0.001$ ), a 51% higher risk of acquiring mucoid *Pseudomonas aeruginosa* (HR 1.51, 1.36-1.67,  $p<0.001$ ), a 100% higher risk of acquiring multidrug-resistant *Pseudomonas aeruginosa* (HR 2.00, 1.72-2.33,  $p<0.001$ ), and a 24% higher risk of having chronic *Pseudomonas aeruginosa* (HR 1.24, 1.12-1.37,  $p<0.001$ ) compared to white subjects. The ethnic differences in risk of acquiring *Pseudomonas aeruginosa* was not uniform across the United States. Inclusion of socioeconomic measures slightly decreased the ethnic difference in risk of acquisition.

## Conclusions:

Hispanic patients have an increased risk of acquiring all forms of *Pseudomonas aeruginosa* and acquire all forms at an earlier age than white patients. There are geographic differences in the ethnic differences in risk of acquisition. The increased risk and earlier age of onset of *Pseudomonas aeruginosa* may be a contributing factor to the increased morbidity and mortality in Hispanic patients with CF.

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## Abstract ID: 2108

### Does Being a Coach Benefit Clinician-Educators? A Cross-Sectional Survey of Coach Self-Efficacy, Job Satisfaction, and Burnout

*Martha Elster, MD; Patricia O'Sullivan, EdD; Virginie Muller-Juge, MSc; Leslie Sheu, MD, University of California, San Francisco, San Francisco, CA, United States; Sunitha Kaiser, MD, MSc, UCSF Benioff Children's Hospital San Francisco, CA, United States; Karen Hauer, MD, PhD, University of California, San Francisco, San Francisco, CA, United States*

Background: Clinician-educators face multiple responsibilities that reward but also contribute to burnout. Coaching is a new role for faculty that benefits clinician-educators, particularly in professional development and community building with other coaches. However, attention to outcomes of coaching programs fails to distinguish between the coach and other clinician-educator roles. Using the Social Cognitive Career Theory framework, we conducted a cross-sectional survey to compare self-efficacy, job satisfaction, and burnout between coach and non-coach faculty.

Methods: Coaches (funded at 20% full-time equivalent), faculty with other funded education positions (“funded faculty”), and faculty without funded education positions (“unfunded faculty”) at a public medical school completed a 48-item electronic survey in Fall 2019. Questions measured faculty self-efficacy (in teaching, professional development, and

scholarship), job satisfaction, and burnout. We calculated scores for each construct using a five-point Likert scale and analyzed results using analysis of variance followed by post hoc tests and chi-square tests.

Results: 202 of 384 faculty (52.6%) responded. Only complete surveys (n=186) were analyzed. Teaching self-efficacy did not significantly differ across faculty groups. Coaches (n=39) and funded faculty (n=71) had significantly higher professional development self-efficacy than unfunded faculty (n=76) (Table 1,  $p < 0.001$ ). Coaches had significantly lower scholarship self-efficacy than funded faculty and were not significantly different from unfunded faculty (Table 1,  $p=0.028$ ). Coaches and funded faculty reported higher job satisfaction than unfunded faculty (Table 2,  $p=0.001$ ). Burnout was prevalent with 56.2% of faculty reporting burnout. Coaches and unfunded faculty experienced more burnout than funded faculty (Table 2,  $p=0.038$ ).

Conclusions: Coaches report high professional development self-efficacy and high job satisfaction, similar to funded educators, and higher than unfunded faculty. However, coaches also experience high burnout which requires further exploration.

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## Abstract ID: 3141

### Disentangling Adverse Childhood Experiences (ACEs) and Early Adolescent Brain Development

*Denise McIntyre, MPH, CDU/UCLA Medical Education Program, Los Angeles, CA, United States; Adam Schickedanz, MD, PhD, UCLA Department of Pediatrics, Los Angeles, CA, United States*

**Title:** Disentangling Adverse Childhood Experiences (ACEs) and Early Adolescent Brain Development

**Authors:** Denise McIntyre, MPH<sup>1,2</sup>, Natalia Orendain, PhD(c)<sup>3</sup>, Susan Bookheimer, PhD<sup>3</sup>, Adam Schickedanz, MD, PhD<sup>2,4</sup>.

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**Funding and Disclosures:** This study received no external funding. The authors have no conflicts to disclose.

### Background:

Adverse childhood experiences (ACEs) during early childhood influence brain structures involved in threat detection, emotional regulation, and reward anticipation. However, associations between ACEs and early *adolescent* brain development are unexplored. Limbic structures associated with emotional regulation, reward learning, and motivation undergo peak

development in adolescence. We describe the persistence of neurobiological effects of ACEs on brain structure volume in a national sample of early adolescents.

### **Methods:**

Using the Adolescent Brain Cognitive Development (ABCD, <https://abcdstudy.org/>) study sample of children ages nine and ten, we constructed a total ACE count from twenty-four ABCD survey items in eight ACE domains: physical abuse, sexual abuse, emotional abuse, neglect, parental substance abuse, parental mental illness, intimate partner violence, and divorce or separation. The ACE score was then binned to 0, 1, 2-3, and 4 or more. We used linear regression to examine associations between ACE score and volume in the following areas of the brain: amygdala, hippocampus, and nucleus accumbens, as well as white matter tracts (anterior cingulate, insula, uncinate, superior longitudinal fasciculus and corpus callosum). Covariates were whole brain volume, whole brain mean cortical thickness, family income, parental education, parent age, child age, gender, race, ethnicity, and household size.

### **Results:**

The sample consisted of 11,875 youth (52.1% male, 63.4 % white). Prevalence of specific ACEs included physical abuse (0.9%), sexual abuse (1.9%), intimate partner violence (IPV) (18.0%), neglect (0.4%), emotional abuse (17.9%), parental substance abuse (12.3%), divorce/separation (16.2%), history parental mental illness (33.2%).

Adjusted linear regression analysis showed higher ACE score was associated with a volume reduction of 3.25 mm<sup>3</sup> (p=0.002, 95% CI -5.34, -1.16) in right and 3.37 mm<sup>3</sup> (p=0.008, 95% CI -5.85, -0.88) in the left nucleus accumbens areas and increased cortical thickness of 0.005 mm the left rostral anterior cingulate (p = 0.026, 95% CI 0.00062, 0.0099).

Increased ACEs was associated with reduction in hippocampal, amygdala, and insular volume and white matter tracts, but these associations did not persist in covariate adjusted models.

### **Conclusion:**

Exposure to ACEs is associated with differences in adolescent neural structures implicated in the regulation of emotional responses and reward learning: the rostral anterior cingulate and nucleus accumbens, respectively. Given the risk of behavioral problems and mental health issues linked to ACE exposure, understanding trauma-related neuro-morphology may help inform interventions for trauma-exposed adolescents.

## Abstract ID: 3167

### Referral and Resource Utilization Among Food Insecure Families

*Cristin Fritz, MD, MPH, Children's Hospital Colorado, Aurora, CO, United States; Jacob Thomas, M.S., Adult and Child Consortium for Health Outcomes Research and Delivery Science, Aurora, CO, United States; Mark Brittan, MD, MPH; Emma Mazzio, MD, Children's Hospital Colorado, Aurora, CO, United States; Julia Pitkin, MD, Children's Hospital Colorado, Aurora, CO, United States; Christina Suh, MD, MPH, University of Colorado School of Medicine/Children's Hospital Colorado, Aurora, CO, United States*

**Objective:** Children that experience food insecurity (FI), defined as the lack of consistent access to enough food to lead an active and healthy lifestyle, experience worse health outcomes. Routine screening for FI has increased in response to the American Academy of Pediatrics recommendation. However, the utilization of available food resources after a need is reported is not well understood. We aimed to identify patient and system characteristics associated with referral and resource utilization in response to FI identified in a medical setting.

**Methods:** Patients' families are routinely screened for FI during outpatient and select inpatient encounters at Children's Hospital Colorado (CHCO) using the validated 'Hunger Vital Sign' questions. In response to a positive screen, parents are offered referral to Hunger Free Colorado (HFC), a community-based organization that connects families to federal (Supplemental Nutrition Assistance Program (SNAP)) and local (food banks) food resources. HFC makes 3 attempts to contact families within 7 days of receiving a referral. HFC sends secure, patient-level data on referral outcomes (i.e. SNAP enrollment) back to CHCO monthly. We linked CHCO screening and Electronic Health Record data to HFC referral data for patients 0-18 years that were screened in the inpatient or outpatient setting from January 2017 to December 2018. Using this data, we compared demographic and clinical variables among patients based on acceptance of HFC referral and connection to a food resource after referral using Pearson's chi-square or the Kruskal-Wallis test.

**Results:** Of 1,959 patients that screened positive for FI during the study period, 372 (19%) accepted a referral to HFC and 237 (64%) of those patients referred to HFC accepted a food resource (Figure 1). HFC successfully contacted 283 (76%) of referred patients. Those accepting a referral to HFC were more likely to be inpatient (35% v. 18%,  $p < 0.001$ ) and have self-pay insurance (36% v. 28%,  $p = 0.008$ ) (Table 1a). Connection to a food resource was associated with more people living in the home (3 v. 2,  $p < 0.001$ ) and active enrollment in SNAP (25% v. 12%,  $p = 0.021$ ) (Table 1b).

**Conclusion:** Only a small proportion of patients with FI are ultimately connected to food resources after referral from a medical setting. Higher rates of referral among inpatients suggests that increased screening efforts in the inpatient setting may be warranted. Additionally, family perspectives are needed to determine which systemic barriers exist to discourage these families from obtaining needed resources.

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**Abstract ID: 3109****Central Venous Catheter Associated DVT in Pediatric Populations**

*Haarika Srinath, BA; Kaitlyn Foreman, MD candidate, Keck School of Medicine of USC, Los Angeles, CA, United States; Margaret Trost, MD; Julie Jaffray, MD; Emily Krava, MPH, CHLA, Los Angeles, CA, United States*

**Background:** Rates of pediatric deep vein thrombosis (DVT) are increasing as use of central venous catheters (CVC) to treat chronically or severely ill patients increases. The relationship between children with medical complexity (CMC) and CVC-related DVT has not been explored.

**Objective:** To evaluate prevalence of DVT following placement of CVC at our institution. To determine CVC and patient-related factors associated with increased or decreased risk of developing DVT

**Methods:** Retrospective chart review of patients who received a CVC between 2012 and 2016. Recorded variables included type of CVC, line location, removal reason, and duration in place. Patient level factors included age, sex, platelet number, and comorbidities. Patients were also classified as medically complex based on two published scales (complex chronic conditions=CCC, and CCI=chronic condition indicator). We compared characteristics between patients with and without DVT using t-test for continuous variables and Fisher's exact test for categorical variables.

**Results:** We reviewed 588 CVC placements in 252 children and 29 (5%) CVCs were associated with DVT in 25 (10%) patients. Patients included had an average age of 6.1 years, were 52% male, and the majority were medically complex (CCC=75%, CCI=90%). CVCs associated with DVT were more commonly double lumen PICCs (38 vs. 26%) or located in the femoral vein (28 vs. 8%;  $p=0.002$ ) than non-DVT associated CVCs. A larger proportion of patients with DVT were female (60 vs. 47%), medically complex by the CCC scale (88 vs. 73%) and had congenital heart disease (36 vs. 20%) than children without DVT, although these differences were not statistically significant.

**Conclusions:** CVC placement in the femoral vein is associated with DVT. In this population most children met published definitions for medical complexity and CVC-associated DVT occurred in 10% of patients. Further study is needed to identify specific risk factors that may be useful for predicting CVC-associated DVT.

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# Sunday

**Abstract ID: 3117**

## **Eliminating Medicaid Coverage Gaps for Justice Involved Youth at Reentry**

**Background:** Justice-involved youth experience a higher burden of disease than their peers in the general population, and they are more likely to rely on Medicaid for access to healthcare services. Despite the important of Medicaid for this population, the federal Medicaid Inmate Exclusion Policy prohibits federal Medicaid dollars from funding healthcare for detainees in correctional facilities. As a result, many juvenile detention centers suspend or terminate Medicaid upon youth entering custody. Such practices can cause healthcare coverage gaps during reentry when formerly incarcerated youth return to their communities.

**Objective:** To identify solutions for eliminating gaps in Medicaid coverage for justice-involved youth (JIY) during reentry.

**Methods:** We conducted semi-structured telephone interviews with 28 informants from across the U.S. with expertise in Medicaid and the justice system. We analyzed the qualitative interviews to identify emergent themes and policy solutions for eliminating Medicaid coverage gaps during reentry after incarceration. During this process, a conceptual model emerged describing the interaction between Medicaid coverage gaps during reentry to health and social outcomes.

**Results:** Three themes emerged from the interviews: Theme 1) Medicaid coverage gaps during youths' reentry contribute to poor health outcomes and recidivism; Theme 2) The burden placed on youth and their families to re-activate Medicaid coverage during or after incarceration is inefficient and leads to coverage gaps; and Theme 3) Scalable strategies exist at the local, state, and federal level to prevent gaps in Medicaid coverage after incarceration. Table 1 shows sub-themes of Theme 3. The conceptual model describes the interaction of Medicaid coverage gaps with individual- and population-level factors to influence health and social outcomes, including likelihood of recidivism (Figure 1).

**Conclusions:** Participants identified a diverse array of policy and practice-based solutions that could be implemented at federal, state, and local levels to eliminate gaps in Medicaid coverage for JIY during reentry. High-priority solutions included adopting policies that prevent Medicaid deactivation during incarceration and improving the reactivation process during reentry. Strategies to promote continuous Medicaid coverage during this transition period may improve health outcomes, reduce cycles of incarceration, and decrease government spending on healthcare.

## **Abstract ID: 3164**

### **Finding the Meaning in Medicine: Residents' Perspectives on Humanism**

*Helen Pu, MD; Laura Bachrach, MD; Rebecca Blankenburg, MD, MPH, Stanford School of Medicine, Palo Alto, CA, United States*

**Background:** Humanism is a broadly defined term that ranges from concepts such as empathy to professionalism. Unfortunately, these characteristics have been shown to degrade over the course of medical education as physicians suffer from increased rates of depression and burnout. Few studies have explored residents' perspectives on humanism, which could influence how humanism interventions are created, implemented, and evaluated.

#### **Objectives:**

1. Identify the components of humanism from a pediatric resident perspective.
2. Describe how pediatric residents perceive the role of humanism in their graduate medical education.

**Methods:** We conducted an IRB-approved exploratory qualitative study using 7 focus groups in November 2018 to February 2019. Questions were developed based on literature review and expert consensus. Focus groups were audio-recorded and transcribed verbatim. Two investigators independently coded the transcripts and reconciled codes using an inductive approach to thematic analysis to develop categories and themes. The third author reviewed all the code applications and categories for validation. To further ensure trustworthiness, we performed a member check whereby participants reviewed and commented on the accuracy of the themes. In addition, content analysis was performed for one question which asked participants to rank terms they felt were most important to their definition of humanism.

**Results:** 32 Residents participated (18 PGY1, 12 PGY2, 2 PGY3-5). Major themes that arose were: 1) Residents feel humanism is an important part of their practice and training. 2) Residents' definitions of humanism are derived from their own personal experience and are unique to each individual. 3) Though they have unique specific definitions, residents have a general consensus that compassion, empathy, and respect are components of humanism. 4) Residents felt that the terms excellence and resilience (found in the Gold Humanism Honor Society definition) did not always resonate with their personal definitions of humanism. 5) The work and structure of residency are often in direct conflict with promoting humanism in residents. Cultural and structural changes are needed in residency training in order to create environments that promote humanistic care.

**Conclusion:** Residents believe that humanism is an intrinsic part of practicing medicine. It both motivates and gives perspective. Most residents agree that humanism should be highly prioritized by residency programs and that institutional cultural change is necessary to promote humanism.

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**Abstract ID: 3158****Association Between Clinically-Identified Prenatal Food Insecurity and Prematurity, Pediatric Utilization, and Postnatal Social Needs**

*Vida Sandoval, BS, David Geffen School of Medicine at UCLA, Los Angeles, CA, United States; Ashaki Jackson, MFA PhD, Department of Obstetrics & Gynecology, Los Angeles County Department of Health Services, Los Angeles, CA, United States; Erin Saleeby, MD MPH, Department of Obstetrics & Gynecology, Los Angeles County Department of Health Services; David Geffen School of Medicine at UCLA, Los Angeles, CA, United States; Lynne Smith, MD, Lundquist Institute for Biomedical Innovation at Harbor-UCLA Medical Center; Department of Pediatrics, David Geffen School of Medicine at UCLA, Los Angeles, CA, United States; Adam Schickedanz, MD PhD, Department of Pediatrics, David Geffen School of Medicine at UCLA, Los Angeles, CA, United States*

**Objectives:** Childhood social needs negatively impact child developmental and health outcomes. However, the relationship between clinically-identified prenatal social needs, including food insecurity, and childhood health, health care, and social needs has not been examined.

**Methods:** We examined longitudinal data from 268 mother-child dyads receiving prenatal and pediatric care as well as social needs screening in both care settings at a large public, academically affiliated safety net medical center between October 2018 (when pediatric screening began) and July 2019. Associations among prenatal social needs including food insecurity, postnatal social needs, premature birth, pediatric inpatient and outpatient utilization, and missed vaccinations were estimated using covariate-adjusted regression models.

**Results:** Mothers who experienced prenatal food insecurity had higher odds of later social needs in the pediatric setting with their children (odds ratio [OR] for any social need 3.6; 95% confidence interval [CI] 1.5-8.4,  $p=0.003$ ). Mothers experiencing prenatal food insecurity had 4.5 higher odds of having a child born premature (95% CI 1.3-14.9,  $p=0.02$ ). Mothers who had prenatal food insecurity also had children with higher counts of inpatient visits (incidence rate ratio [IRR] 2.5, 95% CI 1.1-5.8,  $p=0.04$ ) and missed immunizations (IRR 1.3, 95% CI 0.2-2.4,  $p=0.03$ ) in the first 6 months of life.

**Conclusions:** Prenatal social needs, especially food insecurity, were found to be associated with adverse perinatal and pediatric outcomes, including prematurity, inpatient hospitalizations, and missed vaccinations. Identification of food insecurity and other social needs in the prenatal period may offer opportunities to intervene to reduce childhood health hazards.

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## Abstract ID: 3156

### **Hospitalization patterns of children in foster care with chronic medical illness compared to the general population of children with chronic medical illnesses in the State of California**

*Elana Feldman, MD, Stanford, Palo Alto, CA, United States; Olga Saynina, MBA, Stanford University, Palo Alto, CA, United States; Lisa Chamberlain, MD, MPH, Packard Children's Hospital, Stanford, CA, N/A*

**Background:** Children in foster care with medical complexity are a distinctly vulnerable population. There has not yet been a large scale study done of hospitalization patterns in this population and how their health care utilization compares to children with similar diagnoses who are not in foster care.

**Objectives:** To describe the hospitalization patterns of foster children in California Children's Services (CCS), California's public insurance program for low income children with chronic medical conditions, as compared with children who have CCS and are not involved with the foster care system.

**Methods:** This is a retrospective cohort study using CCS administrative data from the years 2009-2013. A two year period of enrollment was analyzed for each individual. Individuals were excluded if they were enrolled in CCS for less than 3 months. Children in foster care were identified by the use of MediCal Aid codes associated with foster care status at two separate visits during the study period. The Patient Medical Complexity Algorithm and the Pediatric Complex Chronic Conditions Classification System were both used to compare similar groups.

**Results:** A total of 313,771 children were enrolled in CCS during the study period. Out of those 9,777 (3%) fit criteria for being involved in the foster care system (Table 1). These children had a higher number of mean hospitalizations during the study period (0.95 for foster children compared to 0.68 for non foster children) and a higher mean acute length of stay (22 days for foster children compared to 18 days for non foster children). Although they had slightly lower 30 day readmission rates. When compared by complexity, children in foster care had medical costs 10%-25% higher compared to children of similar complexity not in foster care (Table 2).

**Conclusion:** Children in foster care with medical complexity are hospitalized at higher rates and have longer length of stays than other children with medical complexity. They also have significantly higher medical costs than other children with similar medical complexity and similar medical conditions. These findings support the need for additional resources for this specific population.

## **Abstract ID: 3138**

### **Outcomes of Children with Cystic Fibrosis Admitted to Pediatric Intensive Care Units**

*Michael Smith, MD; Matt Zinter, MD; Meghan McGarry, MD; Ngoc Ly, MD MPH, University of California, San Francisco, San Francisco, CA, United States*

#### ***Objective***

Data on outcomes of children with cystic fibrosis (CF) admitted to pediatric intensive care units (PICUs) are limited and outdated. Prior studies cite PICU mortality rates ranging from 37.5 to 100%. Given the advances made in CF care, we expect outcomes for these patients to have changed significantly since last studied. We provide an updated report on PICU mortality and the factors associated with death among critically ill children with CF.

#### ***Design***

Retrospective multicenter cohort analysis utilizing data from the Virtual Pediatric Systems (VPS) database.

#### ***Setting***

Data were collected from 135 PICUs from January 1, 2009 – June 20, 2018.

#### ***Patients***

1,633 children with CF accounting for 2,893 PICU admissions were studied.

#### ***Interventions***

None.

#### ***Measurements***

The primary outcome was mortality during PICU admission. Predictors included demographics, anthropometrics, diagnoses, clinical characteristics, and critical care interventions. Odds ratios of mortality were calculated in univariate and multivariable analyses to assess differences in mortality associated with predictor variables. Generalized estimating equation models were used to account for multiple admissions per patient.

#### ***Main Results***

The overall PICU mortality rate was 6.6%. Factors associated with increased odds of mortality included hemoptysis/pulmonary hemorrhage, pneumothorax, gastrointestinal bleeding, bacterial/fungal infections, lower BMI/malnutrition, and need for noninvasive or invasive respiratory support. Intubation/mechanical ventilation occurred in 26.4% of the 2893 admissions

and was associated with a 19.1% mortality rate. Of the nonsurvivors, 20.7% died without receiving mechanical ventilation.

### ***Conclusions***

The mortality rate during PICU admissions for patients with CF is significantly lower compared to prior studies, both in the overall cohort and in the subset requiring invasive mechanical ventilation. These data provide updated insight into the prognosis for CF patients requiring critical care.

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# Works in Progress

## Primary Care

**Abstract ID: 3154**

### **Assessing physician knowledge of Early Intervention and its impact on self-reported developmental delay care**

*ABRAHAM GALLEGOS, MD, UCLA Pediatrics, Los Angeles, CA, United States; Alejandra Casillas, MD, MSHS; David Elashoff, PhD, MS; Jose Escarce, MD, PhD, UCLA, Los Angeles, CA, United States; Rebecca Dudovitz, MD, MSHS, UCLA Pediatrics, Los Angeles, CA, United States*

**Background:** It is estimated that approximately 13% of infant and toddlers have delays that make them eligible for early intervention (EI) services via IDEA Part C; however, only approximately 2-3% of children are receiving services. In addition, substantial disparities exist with low-income and minority children being less likely to receive EI compared to more wealthy and white children with similar developmental delays. Qualitative studies with physicians and parents suggest that poor clinician knowledge of the EI referral process might be a barrier to making an EI referral, parents not completing a referral if made, particularly for families with low health literacy. However, there are no studies quantifying primary care provider knowledge of the EI referral process and whether it varies by provider characteristics.

**Objectives:** We seek to describe current provider knowledge of the EI process and variations by provider characteristics and practice setting.

**Methods:** We aim to recruit a nationally representative sample of over 400 pediatric and family practice physicians providing well child care to at least 5 patients per week. We will use the American Medical Association listserv, a national database of all physicians. The information on the AMA Masterfile is documented upon entering medical school and continuously updated throughout residency and when obtaining/renewing licenses onto the AMA Physician Masterfile. Typical participation rate for similar studies is 30-50%. We will invite 3,500 to complete an online survey assessing: a physician's knowledge of the EI referral process with a set of 10 multiple choice questions, their confidence with different developmental delay management skills, their views regarding a physician's role in developmental delay management, current clinical practice for developmental delay. Additionally, the survey asks participants to report their gender, ethnicity, age range, years in practice, practice type, if they practice in a medical home, percent of children with public insurance. Data will be analyzed in STATA to describe provider knowledge across each area and test whether knowledge is associated with provider demographics, practice setting, and training.

**Results:** Results will be available at the time of presentation.

**Conclusions:** Identifying knowledge gaps regarding EI referrals is critical to designing interventions and professional development activities. Describing physician populations who is prone to low knowledge can allow for focused medical education opportunities to mitigate disparities access to EI.

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## **Abstract ID: 3182**

### **Parent Navigators in a General Pediatrics Clinic to Reduce Disparities in Services for Individuals with Developmental Disabilities**

*Christine Mirzaian, MD, MPH, Children's Hospital Los Angeles, Los Angeles, CA, N/A*

The California Department of Developmental Services (DDS) oversees the activities of 21 regional centers in California, which are tasked to provide services to individuals at-risk for or diagnosed with development disabilities (DD) across the life span. Much of this work occurs through purchase of services (POS) such as therapies for developmental delays or supports for individuals and families of individuals with DD, such as respite care. DDS has recognized that there are POS disparities among ethnic minorities specific to each regional center.

At the AltaMed General Pediatrics Clinic at CHLA, many Hispanic families are served whose children or young adults are at risk for, or are diagnosed with developmental disabilities. Many of our families have difficulty accessing regional center services. They often report having difficulty making the initial call to the regional center to request an evaluation, difficulty with completing the necessary application or forms, or in general dissatisfaction with services obtained. As a response to this identified need, the USC UCEDD applied for and secured funding through DDS to provide Parent Navigators in a general pediatrics clinic in order to assist families with navigating the regional center system and obtaining necessary services.

This study is to evaluate the effectiveness of Parent Navigators in a general pediatrics clinic including the following outcomes:

- 1) Number children were referred to the regional center with assistance from Parent Navigators
- 2) Number of referrals to Early Start (ages 0-3 years) vs Lanterman services (age >3 years) will be counted.
- 3) Number of children who were referred to the regional center through the Parent Navigators received an evaluation
- 4) Number children/young adults whose families worked with the Parent Navigators experienced an increase in regional center services

Future evaluation components will also include physician satisfaction with Parent Navigators, which will be evaluated using a survey, as well as family satisfaction and experiences with Parent Navigators which will be studied using qualitative interviews.

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## Abstract ID: 3183

### Community Resource Referrals for Families at Community Clinics: Rates and Utilization Using an Online Platform

*Janette Ortiz, BS, UCLA, Los Angeles, CA, United States; Kendra Liljenquist, PhD, MPH, University of Washington/Seattle Children's, Seattle, WA, United States; Lorena Porrás-Javier, MPH, University of California, Los Angeles, CA, United States; Tumaini Coker, MD, MBA, University of Washington/Seattle Children's, Seattle, WA, United States*

**Background:** Assessing social determinants of health (SDOH) at every age range is crucial to maintaining and improving the health of individuals. Clinics can serve as a place for assessment and a source where patients can receive information about organizations and/or programs in the community that can alleviate social and economic stressors. Currently, Northeast Valley Health Corporation (NEVHC), a federally qualified health center (FQHC), is using an online platform to assist their clinic staff once SDOH have been assessed. The online platform, One Degree, serves as a search engine and tracking system for the clinic staff offering community resource referrals (CRR) to their patients.

**Objective:** Examine number and status of CRR given to patients via One Degree by clinic staff type.

**Design/Methods:** A secondary analysis is being conducted on CRR data that NEVHC retrieved from their One Degree platform. The data includes date of initial referral, referral status, and clinic staff who provided the initial referral. CRR provided to families from Oct 2018-Oct 2019 will be sorted by both the type of referring clinic staff (community health educators, nutritionists, family specialists, family medicine care coordinators, parent coaches, and providers) and the status of the referrals. Status of CRR are defined as follows: 1) planned – patient plans to access resource, 2) utilized – patient received resource information or resource, 3) unsuccessful – patient accessed resource but did not meet eligibility requirements for the resource, and 4) declined – patient no longer wants/needs referral. We will examine total number of unique patients seen by each clinic staff type and CRRs given to unique patients. Using descriptive statistics, we will examine referral rates and status by clinic staff type and report the significance level for differences by staff type.

**Hypothesis:** We hypothesize that there will be significant differences by clinic staff type, with parent coaches (i.e., health educators) having the greatest referral rate and utilization status.

#### Timeline:

Analysis (12/2019)

Presentation (1/2019)

#### Key Questions:

Is it meaningful to include the various staff types in the same analysis, since some staff types only provide very specific types of referrals (i.e., nutritionist, providers)?

How can we incorporate or account for difference in clinic staff use of One Degree, e.g., coaches generally provide additional follow up after the first referral?

Should we consider parents' independent access to One Degree for self-referral?

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# Community Health

**Abstract ID: 1044**

## **Beyond Colocation: Development of a School Health Integration Measure**

*Kenny Ferenchak, MEdT, UCLA David Geffen School of Medicine, Los Angeles, CA, United States; Sang Leng Trieu, DrPH, The Los Angeles Trust for Children's Health, Los Angeles, CA, United States; Rosina Franco, MD, Student Health and Human Services, Los Angeles Unified School District, Los Angeles, CA, United States; Rebecca Dudovitz, MD, MSHS, UCLA Pediatrics, Los Angeles, CA, United States*

### **Purpose:**

Beyond the inherent advantage of geographic colocation, the ultimate goal for school-based health centers (SBHCs) is to integrate health services with educational services, working together with schools to achieve a common goal of student well-being and success. However, no measures exist to operationalize the concept of integration for both clinics and their partner schools.

### **Methods:**

To address this gap, we created the School Health Integration Measure. Expanding upon the literature and current best-practice standards, we utilized a modified Delphi method to develop the tool among a panel of 12 school health experts from across Los Angeles, California. We then surveyed staff at 18 Los Angeles Unified School District SBHC campuses to pilot test the measure. The survey also asked respondents to provide an overall 1-10 rating of integration at their sites (10 being high integration) and brief demographics.

### **Results:**

The school health expert panel included SBHC providers, school administrators, organizational facilitators working to coordinate school health activities, school mental health providers, and school health researchers. The panel started with 36 items based on the literature and reached consensus on 12 items across the 5 domains of health authority, integrated programming, marketing and recruitment, shared outcomes, and staff collaboration to comprise the School Health Integration Measure. 22 participants completed the pilot survey, including 12 SBHC staff and 10 school employees. Average score on the measure was 3.53 (range 2.25-5) out of a possible range of 1-5. The measure had high internal consistency (Cronbach's  $\alpha = 0.9385$ ) and was significantly associated with the participants' 1-10 integration ratings ( $p = 0.001$ ).

### **Conclusions:**

The School Health Integration Measure provides a new tool to quantify the degree to which health and educational services are integrated at SBHC sites. Measuring school health integration can help drive practice improvement initiatives, identify SBHC and school characteristics that

are associated with better integration, and test whether better integration is associated with better student health.

**Key Words:**

School-based services, adolescent health services, minority health, school-based health center, service integration

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**Abstract ID: 2110**

**Exploring Trends in Oregon Kindergarten Readiness Assessment Scores: Can we identify and learn from schools beating the odds?**

*Kylie M. L. Seeley, BS; Jaime W. Peterson, MD, MPH; Katharine E. Zuckerman, MD, MPH, Oregon Health & Science University School of Medicine; Oregon Health & Science University and Portland State University School of Public Health, Portland, OR, United States*

Background: School Readiness (SR) is an important predictor of a child's future academic success. Children who enter school ready for kindergarten are more likely to succeed academically, be healthy and lead productive lives. However, low-income children often enter kindergarten behind their more affluent peers. In 2018, more than half of all Oregon kindergarteners were living in poverty and performed below the state average on the entry exam, the Oregon Kindergarten Assessment (OKA). Yet, many low-income children thrive. Positive deviance (PD) is an approach that highlights uncommon practices that reduce risk on low-resource communities.

Objective: We use a PD approach to analyze data from the 2018-2019 OKA to identify positive deviants, defined as schools serving a large percentage of low-income children who are exceling on the OKA. These schools will be the site of qualitative interviews with school and community stakeholders, in hopes of identifying novel SR interventions for other low-income children in Oregon.

Methods: We used the publicly available 2018-2019 OKA data to identify "high-poverty" schools, defined as schools serving greater than 75% economically disadvantaged students (N= 212 schools). "High poverty schools" were ranked by average Approach to Learning (AL) score. Positive deviants were defined as high-poverty schools with AL scores in the top centile (n=21). Positive deviants will be matched with a comparison group (high-poverty school with average OKA performance). Qualitative interviews will be conducted with the school-dyads (positive deviant and matched-control) from highest to lowest rank.

Results: In the 2018-2019 school year, 41,005 children entered kindergarten in Oregon and 54.4% (21,988) children were economically disadvantaged. The average Approach to Learning (AL) score among all schools was 3.57 (2.2-4.6, SD = 0.30); among economically disadvantaged children within all schools was 3.47 (2.2-4.6, SD = 0.32); among "high-poverty schools" was 3.54 (2.2-4.5, SD=0.31); and among the positive deviants was 4.10 (4-4.5, SD = 0.12).

Conclusions: Previous analyses have already shown gaps in SR between higher and lower income communities. Utilizing a positive deviant approach, we identified 21 high-poverty schools that are beating the odds on the OKA. Next steps include qualitative interviews with school and community stakeholders of the positive deviants to identify novel interventions that could inform district resource allocation and future community interventions before kindergarten.

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## **Abstract ID: 3169**

### **Riverside Resilience: A Countywide Roadmap for Health Promotion**

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*Dianne Leibrandt, MPH, Riverside University Health System- Public Health, Riverside, CA, United States*

**Background:** Adverse childhood experiences (ACEs), such as abuse, neglect, and household dysfunction, increase risk for poor health outcomes and reduced quality of life. Adverse community experiences (ACERs), such as lack of affordable housing, community violence, and discrimination, can synergistically increase rates of ACEs. The primary goal of the Riverside Resilience initiative is to reduce the incidence of ACEs and ACERs, and to demonstrate an improvement in associated health and educational outcomes in the pediatric population of Riverside County.

**Methods:** The Riverside Resilience Roadmap was created with input from key stakeholders using community convenings, interviews, and survey data. Three workgroups focused on strategies to: 1) educate and engage partnerships; 2) activate policy and practice change; and 3) implement innovative ways to collect outcomes data.

**Results:** The Educate workgroup developed and translated handouts on ACEs and resilience, initiated ongoing education and engagement efforts such as arts and cultural expressions of the issues (e.g. obras, fotonovellas, rotafolios for promotores), and launched the Riverside Resilience ACEs Connection website. The Activate workgroup created and submitted a Trauma Informed Practice Resolution to the Board of Supervisors, reviewed existing toolkits to guide trauma-informed organizational change, and conducted a survey about existing programs and organizational readiness to change. The Measurement workgroup reviewed sources of regional data and created an online Riverside ACEs Data Dashboard.

**Conclusions:** Key gaps in information, training, and data were identified and incorporated into a logic model used to revise the Riverside Resilience Roadmap. Next steps to address these key gaps include building upon existing programs and resources, expanding training related to trauma and resilience for clinics and schools, and implementing processes to collect local data.

**Public Health Implications:** This work is exemplary of a countywide approach to cross-sectoral collaboration and strategic implementation of activities to address and ultimately prevent ACEs and ACERs.

# Medical Education

**Abstract ID: 2106**

**Confronting the Crisis: Impact of a curriculum addressing pain management, opioid prescribing, and addiction prevention practices for pediatric residents.**

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**Background:** There has been a massive increase in opioid prevalence, misuse, and abuse, with approximately 660 child and young adult deaths due to opioid overdose in the United States in 2016. While opioids are important analgesics for treating pain, their use in pain management can vary widely amongst providers. Studies have demonstrated that pediatric residents lack knowledge and confidence in pain management. This year, the ACGME issued a call to action for all residency programs to provide teaching to “prevent addiction when possible, while effectively treating pain...[and to] recognize [opioid] addiction in its earliest stages.” Despite this need, limited curricula on this topic exist, with none published addressing appropriate pain management strategies in tandem with addiction prevention strategies in the pediatric population.

**Objective:** We will evaluate the effects of a video curriculum on resident knowledge, confidence, and self-reported behaviors in pain management, opioid prescription, and addiction prevention practices.

**Methods:** We will conduct this IRB-pending, prospective, study at Lucile Packard Children’s Hospital Stanford (LPCHS) and Santa Clara Valley Medical Center (SCVMC) from April to December 2020. Using Kern’s six-step approach, extensive literature review, and collaboration with content and medical education experts, we will develop a 30-minute video curriculum addressing fundamental topics of pediatric acute pain management including: self-report pain assessment tools, non-opioid medications, opioid utilization/prescription practices, and strategies for addiction prevention. Pediatric residents will watch the curriculum at a single noon conference at LPCHS and at monthly noon conferences at SCVMC. Participants will complete a de-identified 1) immediate pre- and post-course validated assessment of clinical knowledge and self-reported confidence and 2) immediate pre- course and 4-week follow-up survey given at the end of the SCVMC rotation to assess self-reported rates of opioid safety counseling behaviors (i.e. proper administration, storage, and disposal of opioids) performed at time of patient discharge. Changes in knowledge, confidence, and behavior will be assessed using paired T-tests.

**Anticipated Results/Conclusion:** We hypothesize that after participating in this curriculum, pediatric residents’ 1) confidence in and knowledge of pain management, opioid prescription, and addiction prevention practices and 2) self-reported rates of opioid safety counselling provided to patients at time of discharge will significantly increase.

## **Abstract ID: 3111**

### **Designing and Implementing a Longitudinal Project-Based Advocacy Curriculum for Pediatric Residents**

*Michael Mattiucci, MD; Laura Bricklin, MD, University of Colorado, Aurora, CO, United States; Emma Mazzio, MD, Children's Hospital Colorado, Aurora, CO, United States; Ariel Porto, MD, University of Colorado, Aurora, CO, United States; Julia Pitkin, MD, Children's Hospital Colorado, Aurora, CO, United States; Jane Jarjour, MD; Alexis Ball, MD; Michelle Brajcich, MD; Emma Harding, MD; Rachel Sewell, MD; Hilary Stempel, MD, MPH, University of Colorado, Aurora, CO, United States*

#### **Background:**

Advocacy is an essential part of pediatric resident education. At the University of Colorado, this ACGME requirement is met with a 1-month rotation during the intern year. While this brief rotation teaches fundamentals of pediatric advocacy, time limitations restrict exploring additional core concepts and community-based application is limited. A longitudinal learning approach is needed to teach and apply higher level advocacy skills such as the execution of a policy proposal and establishing community partnerships.

#### **Objective:**

1. Design a longitudinal project-based advocacy curriculum for pediatric residents at the University of Colorado that aims to:
  1. Develop competence in advocacy skills through workshops in the context of project-based learning.
  2. Engage faculty, local community advocates, policymakers, and topic experts as mentors and educators in creating and sustaining a longitudinal advocacy curriculum.
  3. Enhance advocacy opportunities within the residency to instill a culture where advocacy activities and education are prevalent and valued.

#### **Methods:**

A small cohort of 10 senior residents drove the development and implementation of this 12-month project-based curriculum starting during the 2019-2020 academic year. The curriculum is delivered in conjunction with an annual project with monthly skill sessions, morning reports, and chalk talks conducted through the lens of the selected project (Table 1). The ultimate goal is accomplishing a meaningful policy change while learning and applying discrete advocacy skills in real-time towards the selected policy change. Monthly themes in specific advocacy topics provide foundational advocacy knowledge.

#### **Results:**

During the 2019-2020 academic year, University of Colorado Pediatric residents implemented a longitudinal project-based advocacy curriculum. In the 5 months since implementation of the

curriculum began, nearly one-third of pediatric residents (n=37) attended a skill session. The sessions have had a median of 15 residents and at least one faculty member in attendance. Monthly learning topics are taught through morning reports every other month and chalk talks throughout each month.

### **Conclusion:**

We show that it is feasible to create a resident-led, project-based, longitudinal advocacy curriculum for pediatric residents. There has been meaningful resident and faculty engagement. Several challenges remain, including sustainability of the curriculum, selection of an achievable policy project, and engagement of various stakeholders within the hospital and community, including young people and their families.

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### **Abstract ID: 3174**

#### **Evaluation of a Transgender Health Curriculum for Pediatric Residents**

*Bradford Nguyen, MD; Debra Yeh, MD, Stanford University Palo Alto, CA, United States; Rebecca Blankenburg, MD, MPH, Stanford School of Medicine, Palo Alto, CA, United States*

**BACKGROUND:** Transgender patients have faced discrimination when receiving healthcare and find providers to be ill-equipped in treating transgender patients. In one survey of 397 transgender patients, 89.4% of respondents reported that there were not enough health professionals trained in LGBT care. Current literature shows there exist gaps in medical trainee education on working with transgender patients and in teaching transgender health topics.

**OBJECTIVE(S):** (1) Implement a dedicated transgender health curriculum in the Stanford pediatrics residency. (2) Evaluate impact of curriculum on residents' comfort, confidence, and knowledge in caring for transgender youth

**DESIGN/METHODS:** We built a transgender curriculum for residents using Kern's six steps of curriculum development. Residents participated in a 20-minute independent module activity and a clinic experience built into their adolescent rotation. Residents were evaluated pre and post intervention with a 28-item survey, with 19 Likert scale questions to assess comfort and confidence and 9 questions to assess knowledge. The survey also included an open-ended question to explore resident recommendations and comments on having a transgender curriculum.

**PRELIMINARY RESULTS:** 62 residents who already completed their adolescent rotation prior to our intervention responded to our initial survey. To date 6 residents have participated in the Transgender Health Curriculum. Prior to our intervention, residents reported mean comfort ratings of 3.6 for transgender individuals, compared to 4.2 in cisgender individuals (out of 5). Residents also reported confidence ratings of 3.3 in asking about gender identity, and scores of 2.4 and 2.9 in discussing gender with children and adolescents respectively. Residents showed an average score of 2.0 on topics surrounding transgender care.

**CONCLUSION:** In our initial survey, residents show room for improvement in areas of comfort and confidence in treating transgender patients. Residents are overall less comfortable in several aspects of a patient visit when it involves a transgender patient as compared to a cisgender patient. We hope that the implementation of our Transgender Health Curriculum will improve these measures of comfort and confidence.

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# Resident Life

**Abstract ID: 3110**

## **The Unintended Consequences of Secure Text Messaging Systems in Healthcare: A Qualitative Study of Pediatric Residents' and Nurses' Perspectives.**

*Sara Aziz, MD; Jonji Barber, MD; Amit Singh, MD; Amethyst Alayari, MD; Carrie Rassbach, MD, M.A.Ed, Lucile Packard Children's Hospital Stanford, PALO ALTO, CA, United States*

**Background:** As hospitals are shifting away from traditional paging systems and towards secure two-way text messaging systems, new challenges have arisen. While there is extensive literature on the advantages of secure text messaging systems (STMS), there is very limited research on the challenges and unintended consequences of such systems. Preliminary data shows that STMS have led to a dramatic increase in the volume of interruptions residents experience during their workday. Interruptions are known to disrupt clinical workflow and may contribute to medical errors.

**Objective:** to investigate residents' and nurses' experiences with our hospital's STMS and identify their main concerns and frustrations with the system

**Methods:** This is an exploratory qualitative study with semi-structured focus groups of pediatric residents and nurses. Residents' and nurses' sessions will take place separately with the goal of having 6-8 participants per group. The total number of focus groups will be determined based on saturation of themes. Focus group participants will complete a demographic survey at the end of the session. Sessions will be audio recorded and transcribed verbatim. Data will be coded separately by 2 different coders and then reviewed by a qualitative research expert. Themes will be developed through conventional content analysis.

**Anticipated Results:** We anticipate that we will be able to identify the main concerns and frustrations that residents and nurses have with STMS, with the hopes that these findings will guide future quality improvement efforts.

**Timeline:** An IRB application was submitted in November 2019. We will start the recruitment process for the focus groups once the IRB application is approved. Focus groups will be held in January-February 2020. Data will be transcribed in March 2020. Coding and analysis will take place in April-June 2020.

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## Abstract ID: 3113

### Perceptions of Lactation-Related Discrimination Experienced by Physician Mother Trainees

*Caitlin Billingham, MD MPH; Jessica Gold, MD MS; Caroline Rassbach, MD MA, Stanford Children's Health, Palo Alto, CA, United States*

**Background:** There is growing recognition in the medical literature of female physicians as a particularly at-risk breastfeeding group. Due to a variety of unique barriers in the workplace, physician mothers are less likely to meet their desired breastfeeding goals, despite federal, state, and local policies that may exist to protect them. In addition, aggregate survey data suggests that instances of maternal bias and discrimination in the workplace are high, often directly related to pregnancy, maternity leave, and breastfeeding practices. Female physician trainees have reported even more pronounced barriers than their faculty counterparts. Our study aims to describe the lived experience of trainees who are pumping/breastfeeding at work.

**Objective(s):** 1) Explore the experience of female trainees as they navigate lactation at work while fulfilling clinical duties, 2) Understand workplace culture as it relates to lactation, 3) Describe perceptions of lactation-related bias or discrimination witnessed or experienced, 4) Summarize barriers and strategies for improving the institutional environment surrounding lactation.

**Methods:** This will be an IRB-approved, exploratory study using qualitative methods with a phenomenological framework. Data will be analyzed through the lens of Cruess et al.'s conceptual model of professional identity formation in medicine, with particular focus on factors that impact socialization in the workplace. We will conduct semi-structured focus groups of physician mother trainees (residents and fellows) across disciplines within the Stanford housestaff community between January and May 2020. To meet inclusion criteria, participants must self-report breastfeeding (includes pumping) at some time during their residency or fellowship training. Questions will be developed using extensive literature review and consensus of experts in both medical education and lactation to appropriately address study objectives. Sessions will be audio recorded and transcribed verbatim. Two authors will independently code transcripts, with validation by a third author for consensus of thematic analysis and by member checking for accuracy.

**Anticipated Results:** We anticipate that female resident and fellow trainees will describe their personal experiences navigating lactation and work, including any instances of maternal bias and discrimination they have encountered. We hope our study will highlight opportunities to promote workplace culture change and help inform ways institutions can enhance their support of physician mothers.

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## Abstract ID: 3128

### **Can an intervention influence the growth vs fixed mindset of pediatric residents?**

*Mahnoosh Nik-Ahd, MD, MPH, UCSF Benioff Children's Hospital Oakland, Oakland, CA, United States; Ellen Laves, MD; Shruti Kant, MBBS, UCSF, San Francisco, CA, United States*

**Background:** Mindset is the attitude we bring to a task. Growth Mindset is an incremental theory of intelligence suggesting that knowledge can be obtained through deliberate practice and focused effort. Fixed Mindset suggests intelligence is an innate trait, fixed in quantity and which does not change significantly over time. Studies from other fields suggest that instruction can influence mindset. While optimization of the learning environment is critical in medical education, residents are often exposed to situations in which the learning environment still serves as a barrier to their learning. Little is known about resident mindset. Changes in individual mindset, in conjunction with changes to the learning environment, may be helpful in improving the learning experience for residents. We aim to 1) determine whether an intervention can influence resident mindset, and 2) develop a theoretical framework that describes the relationship between communication and the shaping of resident mindset.

**Methods:** This is a pilot mixed-methods medical education study. Participants include UCSF pediatric interns (n=30). In the quantitative phase, participants are randomized to the intervention vs control arm during a 2-day required procedural simulation experience. The chief residents randomly assign roughly half the class to Day 1 and the second half to Day 2. On both days, interns will be given a previously validated 3-question survey to assess their baseline mindset. On Day 1, interns will undergo a growth mindset intervention, which consists of a contrived journal abstract and 3 brief videos with growth mindset-oriented messaging. Day 2 interns will serve as the control group. At the end of both days, interns will be given the same 3-question survey again. We will use the Wilcoxon signed-rank test to determine if there has been a significant change in mindset pre- and post-intervention.

The qualitative phase will consist of focus group interviews with a goal of approximately 10-15 total interns from both intervention and control groups. Constant comparison analysis of focus group transcripts will be used to assess emerging themes in discussion of intern mindset and past experiences.

**Results:** Data collection & analysis for Part 1 will be completed in Dec 2019 and for Part 2 in Feb 2020.

**Conclusions:** We hope to offer a novel growth mindset intervention and theoretical framework for learners to internalize a powerful message that can change their inner landscape and thus improve their learning experience when the external learning environment is outside their control.

**Abstract ID: 3148**

**Suddenly a Senior: Understanding Pediatric Resident and Faculty Perspectives on Desirable Leadership Skills in a Senior Resident**

*Amethyst Alayari, MD, Stanford Pediatrics Residency Palo Alto, CA, United States; Walter Wickremasinghe, MD, Boston Children's Hospital Boston, MA, United States; Rebecca Blankenburg, MD, MPH, Stanford School of Medicine, Palo Alto, CA, United States*

**Background:**

While physicians are continuously refining their clinical knowledge and patient treatment plans, they are often concomitantly relied upon by large multidisciplinary teams and expected to serve as leaders. Relative to management sciences and other health care professions, traditional medical training in the United States lacks well-defined leadership development curricula, and existing curricula is variable. Ideally, a longitudinal curriculum would exist that nurtures the skills of medical providers over time and can re-evaluate leadership concepts in differing contexts. However, due to the restrictions of curricular time in medical training, it is beneficial to prioritize specific leadership skills. In review of the literature, there has not been a targeted needs assessment for residents and attending physicians that investigates which leadership skills are deemed most desirable and valuable in a senior resident. We aim to understand pediatric residents' and attending physicians' perspectives on which leadership skills are most desirable and valuable in a senior resident.

**Methods:** This IRB-approved needs assessment paper survey will be distributed to pediatric residents at a single institution (N= approximately 100 total). A similar needs assessment utilizing Qualtrics will be e-mailed to pediatric faculty who work directly with the pediatric residents on the general pediatrics inpatient and outpatient teams as well as pediatric faculty coaches that are part of the residency's Coaching Program. One inpatient subspecialty group of pediatricians will also be included to include diversity of opinion. The content of the survey will be determined by analyzing existing literature in leadership curricula both from a medical and management sciences perspective. Descriptive frequencies, Mann-Whitney Test, and Fisher's Test will be used to compare the responses to each question. The needs assessment will reveal which leadership skills or behaviors that pediatric residents and faculty find most important in a senior resident and which skills or behaviors should be prioritized to focus additional training on.

**Anticipated Results and Conclusions:** From correlating the literature review with the results of the residents' needs assessment and results of the faculty needs assessment, we hope to identify and prioritize the skills residents need for acting as a senior resident. We envision the data from the needs assessment will contribute to the formation of an appropriate leadership curriculum for residents as they become senior residents and team leaders.

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# ACE's Potpurri

**Abstract ID: 3121**

## **Portraying Pediatric Death in Rural Guatemala**

*Kristin Kalita, MD; Sonja Ziniel, PhD MA; Kimberly O'Hara, MD; Lilliam Ambroggio, PhD, Children's Hospital Colorado, Aurora, CO, United States; Joshua Williams, MD, Denver Health Medical Center, Denver, CO, United States; Cassandra Matz, LCSW, Children's Hospital Colorado, Aurora, CO, United States; Guillermo A. Bolaños, MD, University of Colorado, Aurora, CO, United States; Edwin Asturias, MD, Children's Hospital Colorado, Aurora, CO, United States*

### Background

Death is a natural part of life and as such is not unique to a specific age, race, religion, or social class. However, the dying process and the dimensions of a “good death” can be influenced by multiple factors, such as community-specific values, cultural beliefs, and socioeconomics. Consequently, recognition of those influences is needed in order to better guide providers in supporting their dying patients and their families, especially in low-resources settings.

### Objectives

Our study will investigate important factors in pediatric deaths in rural, southwest Guatemala. We aim to 1) describe deaths in children under 5 years; 2) explore the degree to which a caregiver’s decisions in the context of a child’s death are associated with social determinants of health and cultural beliefs; 3) determine which characteristics of a child’s death are most highly associated with a caregiver’s perception of a good death.

### Methods

A cross-sectional study will be conducted with bereaved caregivers using a face-to-face survey that will include the validated WHO Verbal Autopsy Instrument. Primary outcomes will include: the demographics of the deceased children and their parents, the causes of and circumstances surrounding the deaths, the cultural beliefs of the bereaved caregivers, and their perspectives of their children’s death.

Participants will be recruited with the help of local leaders, and surveys will be conducted by a trained Guatemalan research nurse. Data analysis will involve descriptive statistics and multiple linear regression.

### Conclusions

We hypothesize that higher religiosity, less formal education, lower family income, and previous loss of a child will be most highly associated with the death occurring at home, greater likelihood of seeking care from a traditional healer or religious leader, and a lesser belief in the ability of

hospitals to care for children well. We also hypothesize that death in the home, less child suffering in the end of life period, and a more peaceful death will be most highly associated with the caregiver's perception of the death as a good death. Such information may impact how healthcare providers interact with families and may guide the resources that communities should advocate for their patients and caregivers.

#### Desired Feedback

We seek feedback related to the recruitment process, data analysis, potential ancillary questions to answer with the collected data, and opportunities for future qualitative work or collaboration.

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### **Abstract ID: 3157**

#### **Human Trafficking Survivors' Perspectives on Electronic Health Record Tools for Assessment and Support of Patients Impacted by Human Trafficking**

*Nia Stallworth, MD, MPH , UCSF Benioff Children's Hospital Oakland, Oakland , CA, United States; Lela Bachrach, MD, MS , UCSF Benioff Children's Hospital Oakland , Oakland , CA, United States*

#### Introduction

Alameda county is a hotspot for child sex trafficking. UCSF Benioff Children's Hospital Oakland (UBCHO), the only free standing children's hospital in the East Bay, cares for many of these trafficked youth. Human trafficking is estimated to be a \$32 billion-a year industry worldwide. This profitable crime often flies under the radar because exploiters intentionally try to evade detection, and victims may experience stigma, shame, and/or trauma bonds such that they don't self-identify as a victim. Youth impacted by human trafficking often present to medical settings with traumatic injuries, reproductive health concerns, and/or for mental health concerns. When patients impacted by human trafficking present to a health care setting, there is an opportunity to offer support and resources that will promote their health and safety.

#### Background

The Epic SafetyNet tool, developed at UBCHO, allows providers to flag patients impacted by human trafficking (with the term 'SafetyNet') such that the patient will be automatically offered social work support when they present to any department of UBCHO. The SafetyNet tool also facilitates referrals to community supports such as MISSSEY (Motivating, Inspiring, Supporting, & Serving Sexually Exploited Youth), WestCoast C-CHANGE program (an intensive mental health program that helps children heal from sexual exploitation), and BAWAR (Bay Area Women Against Rape). It also facilitates data collection so that aggregate reports regarding health outcomes of this population can be generated. It is well known that medical providers can play an important role in stopping the trafficking cycle; however, few studies have included the voices of trafficking victims and survivors when investigating best practices for hospital programs and procedures.

## Methods

We conducted 7 interviews with adult trafficking survivors to get their input on the SafetyNet tool. Survivors were recruited through our networks with Bay Area hospitals and non profit organizations. After obtaining consent, we used a standardized list of questions to conduct one on one interviews. Responses were kept confidential. Response data were analyzed using Dedoose software and a general inductive approach.

## Results

We found that participants agreed on the importance of identifying and supporting trafficking victims in the hospital setting. However, they stressed the need for education for everyone involved in patient care. Providers should be educated on how to take a patient-centered approach and they should be familiar with hospital response protocols. Any flags on a patient's chart which indicate trafficking risk should be subtle. They should be placed and taken down in conversation between patient and provider/social worker. Finally, participants said that showing genuine care and concern without judgement is essential when interacting with patients impacted by human trafficking.

## Conclusions

In the future technology can be a powerful tool to help in the fight against human trafficking. This study highlights the importance of including victim and survivor voices in our efforts. By involving individuals who have experienced human trafficking in the design of these tools meant to offer support and assistance, we are more likely to achieve our goal of being helpful and empowering.

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## **Abstract ID: 3166**

### **Examining the impact of language and social characteristics on PTSD among children and families after PICU admission.**

*Hannah Canty, MD; Georgiana McDermott Burnside, BS; Lee Sanders, MD, MPH, Stanford University, Palo Alto, CA, United States*

Background: Child survival after intensive-care admission has increased over the past few decades. Little is known, however, about the impact of language and social characteristics on post-traumatic stress disorder (PTSD) among children and families after admission to the pediatric intensive care unit (PICU).

Objectives: To assess the family and child characteristics associated with acute PTSD stress symptoms among PICU-hospitalized children.

Methods: We conducted a cross-sectional study at a large academic medical center. Eligibility criteria: child age 8-18 years; PICU admission > 24 hours; caregiver speaks English or Spanish. Exclusion criteria: moderate to severe developmental delay. Prior to discharge, both child and parent were asked to complete a standardized survey. Primary outcome was child post traumatic distress, defined as a score of 17 or greater on Child Revised Impact of Events Scale (CRIES 8). Family characteristics included parent age, parent language proficiency and parent-reported outcomes on the Hospital Anxiety and Depression Scale, the Stanford Acute Stress Reaction Questionnaire and the Duke University Religion Index. Child characteristics included child age, and child clinical factors. Mann-Whitney t-test and Kruskal Wallis test were used to analyze the primary hypotheses that language affects parent and child stress and socioeconomic status affects parent and child stress.

Preliminary Data: 27 children and 33 caregivers completed the surveys. 8 (30%) children and 6 caregivers (18%) were classified with PTSD risk. Table 1 demonstrates the distribution of Child Revised Impact of Events (CRIES-8) scores among all children. Table 2 demonstrates the associations between caregivers' social factors and Child Revised Impact of Events (CRIES-8) score. Social characteristics associated with a trend toward increased risk of PTSD in children included caregiver limited English proficiency, limited social support, and caregiver report of an issue with social determinants of health. The presence of caregiver stress demonstrated a trend toward higher risk of stress in the child. Children whose family income was either >150,000 or <50,000 demonstrated a trend toward increased stress.

Conclusions: Preliminary data suggests caregiver language proficiency, caregiver stress, and caregiver social support and social determinants of health may be risk factors for PTSD among children admitted to a pediatric intensive care unit. Patient recruitment is ongoing to determine if these risk factors are statistically significant.

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## **Abstract ID: 3179**

### **California Pediatricians' Perceptions of Adverse Childhood Experiences Screening in Clinical Care: Perspectives Ahead of First-in-the-Nation ACEs Screening Reimbursement**

*Denise Nunez, MD; Julia Reading, BA; Adam Schickedanz, MD PhD, University of California, Los Angeles, Los Angeles, CA, United States*

Title: California Pediatricians' Perceptions of Adverse Childhood Experiences Screening in Clinical Care: Perspectives Ahead of First-in-the-Nation ACEs Screening Reimbursement

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## Introduction

Adverse Childhood Experiences (ACEs) are stressful or traumatic events that occur before age 18 and may result in poor health outcomes over the life course. ACEs include childhood abuse, neglect, or household dysfunction (exposure to violence in the household, parental substance abuse, parental imprisonment, parental mental illness, or divorce). In January of 2020, reimbursement became available for pediatricians and other medical practices screening for ACEs among Medicaid patients in California. California pediatricians' perceptions of and attitudes towards clinical ACEs screening has yet to be described.

## Methods

We will survey pediatricians who are members the largest California American Academy of Pediatrics Chapter (AAP-CA Chapter 2, Southern California) regarding their perceptions of and attitudes toward clinical ACEs screening. This survey will be distributed via email and administered via the web. The survey structure and questions were adapted from previous validated surveys investigating social risk and various forms of poverty-related adversity, as well as additional items identified through a literature review of existing studies and survey instruments administered to clinicians on perceptions of ACEs. The survey instrument assesses pediatricians' understanding of the health impact of ACEs, pediatricians' support for clinical ACEs screening, and barriers perceived by clinicians to screen and intervene upon ACEs (Appendix). Quantitative and qualitative data will be analyzed from survey responses to support descriptive results and estimation of associations between various clinician characteristics and attitudes and preferences toward ACEs screening.

## Potential Implications

The results of our study could provide valuable data to understand the needs of pediatricians and opportunities to improve ACEs screening in clinical care state-wide and nationally. We anticipate having findings from this survey to present by January of 2020.

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# Complex Care

**Abstract ID: 2115**

## **Impact of viral testing on treatment outcomes of pediatric tracheostomy-associated acute respiratory infections**

*Jennifer Marino, BS; Madison Lodge, BA, Keck School of Medicine at the University of Southern California, Los Angeles, CA, United States; Christopher Russell, MD, MS, Children's Hospital Los Angeles, Los Angeles, CA, United States*

**Background:** Children with tracheostomy are at increased risk of developing acute respiratory infections (ARI), which are associated with higher hospitalization rates, longer lengths of stay (LOS), and antibiotic treatment. Respiratory viral (RV) testing is associated with decreased antibiotic treatment in otherwise healthy children. The impact of RV testing on antibiotic prescribing patterns in children with tracheostomy and suspected ARI remains inconclusive.

**Objective:** To assess the association between RV testing and continued antibiotic treatment in children with suspected tracheostomy-associated ARI.

**Methods:** We performed a single-center prospective chart review of children with a pre-existing tracheostomy who had a respiratory culture obtained on hospital admission day 0 or 1. Our primary predictor was rapid RV polymerase chain reaction testing results. We used bivariate analyses to evaluate the association between RV testing and continued antibiotic treatment, defined as three or more days of antibiotics targeting bacterial ARI pathogens. We hypothesize that a positive RV test will be associated with decreased odds of continued antibiotic treatment.

**Results:** A total of 58 unique patients and 71 discharges met inclusion criteria. Of the discharges, 52% (n=71) were male, 63% (n=71) were of Hispanic/Latino ethnicity, and 83% (n=60) had public insurance. The median age was 10 years old (IQR=3-16 years) and the median hospital LOS was 7 days (IQR=3-13 days). Respiratory viral (RV) tests were performed in 68% of admissions (n=48), of which 40% (n=19) were positive. The most common viruses were human rhinovirus (n=15; 79%) and adenovirus (n=3; 16%). On bivariate analysis, admissions associated with a positive RV test had similar odds of receiving continued antibiotic treatment, when compared to those with a negative RV test (53% vs 41%;  $\chi^2=0.6$ , p=0.44). Those with a positive bacterial respiratory culture result were more likely to receive continued antibiotic treatment, when compared to those with a negative bacterial respiratory culture result (72% versus 45%;  $\chi^2=15.2$ , p<.001).

**Conclusions/Next Steps:** Preliminary data suggest that RV testing is not associated with continued antibiotic treatment in patients with suspected tracheostomy-associated ARI. Continued recruitment of our full cohort and analysis of confounding variables, such as respiratory comorbidities (e.g. chronic lung disease), and laboratory tests (e.g. WBC count), is necessary to determine the association between RV testing in children with tracheostomy-associated ARI.

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## Abstract ID: 3122

### **CareCoordion: Development and Pilot Testing of a Patient Communication Tool for Children with Medical Complexity**

*Vivek Shah, BS BA; Anna Le, BS, David Geffen School of Medicine, Los Angeles, CA, United States; Jyodi Mohole, BS, UCLA, Los Angeles, CA, United States; Shannon Wu, BS; Nicole Nguyen, BS; Angela Bi, BA; Ryan J. Elliott, AB; Ami Hayashi, BS; Evelyn Shen, BS; Justin Lee, BA, David Geffen School of Medicine, Los Angeles, CA, United States; Siem Ia, RN, MS, CPNP, UCLA Department of Pediatrics and Mattel Children's Hospital, Los Angeles, CA, United States; Danika Pineda, UCLA Department of Pediatrics and Mattel Children's Hospital, Los Angeles, CA, United States; Carlos Lerner, MD MPhil, UCLA Department of Pediatrics, David Geffen School of Medicine, and Mattel Children's Hospital, Los Angeles, CA, United States*

#### Objective:

Children with medical complexity (CMC) and their caretakers face the challenge of effectively and accurately communicating their extensive medical history. This challenge is more significant in emergency situations when CMC and their caretakers must convey relevant information to physicians outside of their regular provider network without access to their electronic medical records. To improve communication and resulting care during high-stress situations, innovative means to efficiently transmit medical information from patient to physician are needed. This pilot sought to address this challenge by developing an accessible patient communication tool using human-centered design principles to relay the most up-to-date medical information in a personalized manner.

#### Methods:

Through focus groups, we conducted a needs assessment with patient families and the UCLA Medical Home team on how to further enhance care coordination that was accessible for all patients. We identified a two-fold need: consolidation of pertinent medical information and effective communication of complex medical history in emergency situations. Through iterative prototyping, we designed the CareCoordion: a laminated, multipanel pocket-sized card with patient demographic information, clinical diagnoses, pertinent medical considerations, allergies, emergency plans, guardian contact information, and office contacts. With permission, families were contacted via phone to provide feedback at least 8 weeks after receiving the card.

#### Results

15 English and 1 Spanish-speaking patient families piloted the tool, which was offered in English and Spanish. Patients had medical complexities such as global development delay, epilepsy, and requirement of multiple assistive medical devices. The pilot implementation of this tool with patient families in our Medical Home department yielded valuable feedback for future improvements in design and execution. Suggestions included adding personalized emergency

plans such as critical warning signs, symptoms associated with diagnoses, and home-management protocols.

### Conclusion

We developed a portable, user-friendly tool for CMC patients to communicate their medical needs, especially in emergency medical situations. Future iterations will build upon patient feedback, expand the pilot program to include more patients, and create a sustainable workflow for updating cards.

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### **Abstract ID: 3155**

#### **Pediatric post-tracheotomy bacterial tracheostomy associated respiratory infection hospitalizations: A single-center prospective cohort study**

*Madison Lodge, BA; Jennifer Marino, BS, Keck School of Medicine at the University of Southern California, Los Angeles, CA, United States; Christopher Russell, MD, MS, Children's Hospital Los Angeles, Los Angeles, CA, United States*

**Background:** In children with an existing tracheostomy, bacterial pneumonia is the most common reason for hospitalization. Previous retrospective studies have demonstrated that Hispanic ethnicity, younger age, *Pseudomonas aeruginosa* colonization and discharge on home mechanical ventilation (HMV) are associated with differential odds of bTRAIN readmission. Our objective is to identify risk factors for bTRAIN hospitalizations post-tracheotomy.

**Methods:** We conducted a prospective cohort study of children who underwent tracheotomy at Children's Hospital Los Angeles. Patients were excluded if were decannulated prior to discharge (n=1) or expired during their initial hospitalization (n=3) or who had less than one year of follow-up (n=8). We conducted detailed chart review for the initial tracheostomy placement hospitalization and for subsequent bTRAIN readmissions. We used bivariate analysis for categorical predictors and logistic regression for continuous predictors to identify association between our predictors, such as age, prematurity, ethnicity, and discharge on HMV, with our primary outcome of readmission with bTRAIN treated with a complete antibiotic course.

**Results:** Out of the 52 patients who underwent tracheotomy and met inclusion criteria, 60% (n=31) were male, 69% (n=36) identified as Hispanic/Latino ethnicity, 38% (n=18 of 48) were born full term, and 79% (n=41) had public insurance (n=52). Median age at hospital admission where tracheostomy placement occurred was 24 days (IQR: 0-748 days). 54% (n=27 of 48) of patients were discharged with HMV. Out of 48 patients with complete data, 52% (n=25) had at least one bTRAIN hospital readmission. Currently, admission age at tracheostomy placement is not associated with increased odds of bTRAIN readmission (OR=1.16; 95% CI: 0.95-1.4; p=.15). Odds of bTRAIN readmission were similar whether discharged on HMV or not (48% vs 57%;  $\chi^2=0.4$ , p=0.54). Prematurity was not associated with increased odds of bTRAIN readmission (46% vs 56%;  $\chi^2=0.4$ , p=0.82). Hispanic ethnicity does not increase odds of bTRAIN readmission (56% vs 54%;  $\chi^2=0.002$ , p=0.97).

**Conclusion/Next Steps:** Preliminary results suggest that prematurity, HMV, and Hispanic ethnicity do not affect odds of bTRAIN readmission. It is possible that older age increases the odds of bTRAIN readmission. Our next steps are to enroll enough numbers to achieve adequate power and to then analyze the association between other variables, such as respiratory comorbidities, presence of a gastrostomy tube, and *Pseudomonas aeruginosa* colonization, and bTRAIN readmission.

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## Abstract ID: 3165

### Successful Outpatient Lactation Support for High Risk Neonates Born at a Community Hospital

*Srujana Rallabandi, MBBS, MPH, University of California San Francisco, Monterey, CA, United States; Debbie Travaille, RN, Community Hospital of the Monterey Peninsula, Monterey, CA, United States; Kristina Stillwell, MD, University of California San Francisco, Monterey, CA, United States*

**Background:** Establishing exclusive breastfeeding for high risk newborn infants in an inpatient setting has many challenges. These infants often have clinical course complicated by prematurity, hypoglycemia, significant jaundice, respiratory distress and feeding difficulties. Individualized outpatient follow-up for breastfeeding support is crucial for these infants and their families. Through a lactation consultant with nursing experience in the care of high risk newborn infants in Neonatal Intensive Care Unit (NICU), we successfully developed a program to provide outpatient lactation services for these neonates at our community hospital.

**Methods:** After identifying the need to strengthen outpatient support to promote exclusive breastfeeding in high risk neonates, we established High Risk Outpatient Lactation Clinic (HROLC) in 2018. An experienced NICU nurse, who is also an International Board Certified Lactation Consultant (IBCLC), provides primary services at HROLC. A neonatologist/pediatrician identifies eligible infants after birth and refers them to HROLC. Starting January 1, 2019, data was collected on barriers and successful transition to exclusive breastfeeding among patients at HROLC. Families were also asked to complete an anonymous survey evaluating the program.

**Results:** A total of 30 high risk neonates and their families were seen during 54 encounters at HROLC between January 1, 2019 and November 30, 2019. Among these, 40% of infants were born at less than 37 weeks gestational age. Major maternal risk factors leading to difficulty with breastfeeding included advanced maternal age(40%), maternal diabetes(17%) and hypertension(33%). Most common neonatal barriers to exclusive breastfeeding included prematurity(40%), hypoglycemia(50%) and significant jaundice(50%). On an average, 1.8 visits at HROLC were needed to transition to exclusive breastfeeding among patients. Percentage of breastmilk feeds vs formula increased from 50% to 83% after follow up at HROLC. Higher percentage increase was noted for patients with >1 follow up visit (increased from 37% to 94%). Survey results (n=16) showed 100% parental satisfaction and highlighted areas of support (breastfeeding education, high risk newborn care, positive reinforcement).

**Conclusions:** Individualized outpatient lactation services provided through an experienced NICU nurse for families with high risk newborn infants leads to successful breastfeeding while effectively addressing the barriers. Around two outpatient follow up visits at HROL C are needed to effectively accomplish breastfeeding goals.

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# Abstract Round Tables

## Primary Care

**Abstract ID: 3135**

**A clinical survey evaluating the most common factors influencing a parental decision of vaccine refusal, and whether a correlation exists between vaccine refusal and the degree of trust in pediatricians**

*Ali Doroudchi, MD, UCLA Mattel Children's Hospital, Los Angeles, CA, United States; Janet Crow, MD, University of California, San Diego, San Diego, CA, United States; Lindia Willies-Jacobo, MD, Kaiser Permanente School of Medicine, Pasadena, CA, United States; Greg Crow, Ph.D., Point Loma Nazarene University, San Diego, CA, United States*

Abstract

**Objective:** Parental decisions of vaccine delay or refusal for pediatric patients have recently held the attention of the medical community, most notably due to outbreaks of vaccine preventable diseases. Within the field of pediatrics, this practice poses a threat to the physician-patient relationship. This study aimed to cite common reasons for this decision directly from parents/guardians, as well as to examine if there is any significant difference between the degree of trust in pediatricians amongst parents/guardians who refuse or delay vaccines when compared to non-refusing parents/guardians.

**Methods:** Parents/guardians of patients from two Academic General Pediatrics clinics were surveyed. The EMR system, EPIC, was used to identify those parents of patients who had diagnosis codes “unimmunized” or “delayed vaccine” as potential participants for the target group. The control group was open to parents who had not delayed or refused vaccinations. Analysis consisted of averages of numerical scales, standard deviations, standard error of means, and confidence intervals in both groups (target and control). Differences between target and control groups using two-tailed t-test were examined for the three scaled questions (“trust in pediatrician”, “willingness to discuss”, and “consider change”). A  $\chi^2$  test was used to determine if significant differences existed between the proportions calculated in the sources of information and the cited reasons for vaccine decisions. Secondly, the proportion of most common sources for decision making as well as most common reasons for decision were calculated.

**Results:** 75 participants were included in the analysis with 66 in the “accept group” (AG) and 9 in the “non-accept group” (NAG). Leading reasons for vaccine status listed amongst the AG were “make my child sick” at 18.2%, followed by “hurt immune system” at 13.6%. In the NAG these were also the top two reasons cited, with “hurt immune system” at 66.7% and “make my child sick” at 55.6%. Amongst the AG, the most common source for decision making in regard to vaccine status included books (42%) followed by the internet (websites/forums), personal reflection, and other healthcare providers (37.9%, 34.8%, and 30.3%, respectfully). In the NAG, the most common sources included the internet (66.7%), followed by personal reflection,

relatives/friends, and books (all 55.6%). Mean scores of each of the three scaled questions including “trust in pediatrician’s recommendation”, “willingness to discuss with pediatrician”, and “if provided trusted information would consider a change in decision” were all significantly higher in the AG vs NAG.

**Conclusions:** This study found that parents/caregivers at their clinics who delay or refuse to vaccinate their children most often cited “hurt immune system” and “make my child sick” as reasons for their decisions. This group is also less likely to have trust in their pediatrician’s recommendations or to be willing to discuss with their provider or change their decision even if given trusted information by that provider.

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## Abstract ID: 3143

### Parent-Provider Communication Patterns During 2-24 Month Well-Child Care Visits at Federally Qualified Health Centers

*Sharon Adriana Pérez Solorio, BS, Seattle Children's/University of Washington, Seattle, WA, United States; Kendra Liljenquist, PhD, MPH, University of Washington/Seattle Children's, Seattle, WA, United States; Yasmin Guzman, Undergraduate Student, Seattle Children's/University of Washington, Seattle, WA, United States; Jasmine Ngai, Undergraduate Student, Seattle Children's/Brown University, Seattle, WA, United States; Matthew Driver, BS, University of Washington/Seattle Children's, Seattle, WA, United States; Laura Sotelo Guerra, BS, Seattle Children's, Seattle, WA, United States; Lorena Porrás-Javier, MPH, University of California, Los Angeles, CA, United States; Rachel Hurst, BA, Seattle Children's, Seattle, WA, United States; Janette Ortiz, BS, UCLA, Los Angeles, CA, United States; Tumaini Coker, MD, MBA, University of Washington/Seattle Children's, Seattle, WA, United States*

**Background:** Children living in low-income circumstances are at greater risk for poor developmental outcomes across their lifespan. Preventive healthcare, such as Well-Child Care (WCC) visits, present an important opportunity to address unmet needs for families.

**Research Objective:** To assess parent-provider conversation engagement patterns during Well-Child Care (WCC) visits for infants and toddlers 2-24 months old.

**Study Design:** Audio recordings of 87 WCC visits (n= 44 English visits; n= 43 Spanish visits), across ten federally-qualified health clinics, were analyzed using Dedoose software. Recordings were coded for specific topics categorized into one of three WCC domains: Anticipatory Guidance, Development and Behavior, and Psychosocial Needs. Communication engagement patterns of parents in relation to their child's clinician were also coded. Parent engagement codes included parent’s *information giving* (information provided by the parent) and parent’s *data gathering* (questions asked to the clinician by a parent). Specifically, we examined the co-occurrence of WCC domains and topics with parent communication engagement types.

**Results:** Anticipatory Guidance topics and parent information-giving co-occurred 584 times, while parent data-gathering co-occurred 120 times. Development and Behavior topics and parent

information-giving co-occurred 284 times, while parent data-gathering co-occurred 61 times. Topics related to Psychosocial Needs and parent information-giving co-occurred 129 times, while parent data-gathering co-occurred 12 times. Notably, Psychosocial Needs topics were not discussed at all by the parent or physician during 16% (n=14) of WCC visits analyzed.

**Conclusions:** Topics related to Anticipatory Guidance were discussed most frequently between parents and providers, followed by Development and Behavior, and then Psychosocial Needs. The higher number of *Parent Information Giving* occurrences compared with *Parent Data Gathering* suggests that WCC visit conversations are strongly clinician-led. Future directions for this research will examine what factors lead to more sensitive psychosocial topics being discussed during WCC visits, such as financial needs, particularly in populations with low incomes.

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## Abstract ID: 3153

### The Group Well Child Care Study

Joan Jeung, MD, MPH, University of California San Francisco (UCSF) Division of Developmental Medicine, San Francisco, CA, United States

**Significance:** Interventions that support parents in providing nurturing and responsive care to their infants may help promote healthy early development and thus lay the foundations for educational attainment and mental health. Group well child care (GWCC) may be one method of providing such parenting support during infancy. Rather than providing 15 minute individual infant check-ups (the current standard of care), GWCC places 6-8 infants and their adult caregivers together for serial 2-hour long group medical visits, creating the structure for ongoing peer support from other parents and extended discussion on parenting topics with healthcare providers. This study evaluates a GWCC program that was instituted at a federally qualified health center (FQHC) serving mostly Asian immigrants and refugees. Specifically, this study aims to examine the association between GWCC attendance and odds for suspected developmental delay among toddlers from low-income Asian immigrant families.

**Methods:** This is a retrospective cross-sectional study utilizing existing quality improvement (QI) data for secondary analysis. Study subjects consist of all infants from the study site who received structured developmental screening with the Ages and Stages Questionnaire (ASQ-III) at age 18 months between 1/1/14-6/30/16. The intervention group consists of those who underwent screening who participated in GWCC (n=64), and the comparison group consists of infants receiving usual care (n=299).

The primary outcome variable is suspected developmental delay as assessed by the ASQ-III administered at 18 months. “Suspected delay” is defined as scores within the “referral” range (2 standard deviations below the mean) in at least one domain, or within the “monitor” range (1-2 standard deviations below the mean) in at least two domains. The secondary outcome is domain-specific “elevated developmental risk”, defined as screening results falling into either the “monitor” or “referral” ranges within each ASQ domain. Odds ratios (OR) for suspected

developmental delay (incorporating all domains), and for elevated developmental risk (domain-specific), were calculated through logistic regression using *Stata* 14.2 (StataCorp., College Station, TX). In this comparison, an OR < 1 indicates lower odds of suspected delay/risk in GWCC infants compared to usual care. Because the available dataset lacked any identifiers or demographic information, statistical adjustment for developmentally-salient covariates was not possible.

Results: For the primary outcome, the OR for suspected developmental delay was 0.81 (95% confidence interval 0.40-1.62), which did not achieve statistical significance. However, odds for developmental risk were significantly lower for GWCC infants in the problem solving domain (OR= 0.40, 95% confidence interval 0.17-0.92,  $p < 0.05$ ), suggesting lower odds for cognitive delay among intervention infants. For the other domains (communication, gross motor, fine motor, and personal-social), the odds for developmental risk did not differ significantly between the intervention and comparison groups.

Conclusion: Among low-income Asian immigrants, participation in GWCC is associated with lower odds for elevated developmental risk in the problem solving domain of the ASQ-III at age 18 months. These results suggest lower risk for cognitive delay and provide preliminary evidence that GWCC may moderate developmental risk in low-income immigrant infants.

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## **Abstract ID: 3178**

### **Promoting Kindergarten Readiness within Pediatric Primary Care**

*Neeti Doshi, MD MPH; Eleanor Chung, MD, UCSF, San Francisco, CA, United States*

Today, nearly sixty percent of children in the United States start kindergarten unprepared, lagging behind their peers in critical language, reading, and math skills. Building upon an earlier program and partnership with the Too Small to Fail Initiative, the Children's Health Center at Zuckerberg San Francisco General Hospital – the city's safety-net institution – launched an early math initiative in an effort to promote kindergarten readiness. Between September 2017 and August 2018, pediatricians shared educational messages with parents and caregivers of children 24-60 months old about the importance of early math skill-building behaviors during routine well-child visits. Participating parents received a tote bag with a children's book, a t-shirt, a guide to early math activities, and an age appropriate card matching game. Parents were also invited to enroll in Ready4K, a text-based service with tips on early math activities for young children.

Two hundred eighty-five parents participated in the early math initiative. Of these, 222 parents completed three interviews during the duration of the program (table 1). This study contributes to a growing body of evidence that leveraging pediatricians as trusted messengers is an effective strategy to encourage parents to engage in age-appropriate skill-building interactions with their young children.

Among parents who participated, just under half (49%) had heard about the importance of engaging in early math activities with young children, a relatively modest proportion. On the other hand, nearly half of parents in the study (46%) reported that they engaged in daily early math skill-building activities like counting objects and talking about shapes, indicating that many were already engaging in early math skill building, even if they did not perceive it as such. About two-thirds of parents (67%) said they learned something new from their conversation with their doctor, a substantially larger proportion of parents that reported learning something new in an earlier program focused on early literacy skill building at the same clinic (49%). Spanish-speaking parents were particularly likely to report learning something new (73%) than their English-speaking peers (54%), a similar pattern as in the prior program.

When contacted a few months later, 95% of parents reported that they remembered talking with their physician about the importance of age-appropriate math skill-building activities, suggesting the brief interaction was memorable. Moreover, the proportion of parents reporting that they engage in early math activities daily rose to 58% from 46%, a notable increase. Spanish-speaking parents reported the largest change in behavior: the proportion reporting engaging in daily early math activities increased from 41% to 53% (figure 1).

This program evaluation suggests that parents of young children may not yet be aware of the importance of engaging in early math skill-building activities, and are open to learning about the topic from a trusted messenger like a pediatrician. Substantial shifts in self-reported behaviors after participating in the early math initiative are especially encouraging, especially among Spanish-speaking parents.

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# Social Determinants of Health

**Abstract ID: 1042**

## **Differences in the prevalence of childhood adversity among rural, urban and suburban children: An analysis of the 2016-2017 National Survey of Children's Health**

*Lucia Calthorpe, MPhil, University of California, San Francisco, San Francisco, CA, United States; Matthew Pantell, MD, MS, UCSF Benioff Children's Hospital, San Francisco, CA, United States*

**Background:** *Previous efforts to examine differences in adverse childhood experiences (ACEs) exposure by geography have yielded mixed results, and have not distinguished between urban, suburban, and rural areas. Few studies to date have considered the potentially moderating role of geography on the relationship between ACEs and health outcomes.*

**Objective:** *To examine differences in exposure to ACEs by geography in the 2016-17 National Survey of Children's Health (NSCH), and whether geography moderates the relationship between ACE exposure and overall health status.*

**Methods:** *Geography was categorized as urban, suburban, or rural based on the NSCH's measure of urbanization at the county level. A cumulative ACE score was constructed by summing the NSCH's 9 ACE measures for each child. Distributions of individual and cumulative ACEs by geography were compared using chi-squared tests. Logistic regression was used to determine the association between geography and exposure to 4+ ACEs; and to explore whether the relationship between ACEs and health varied by geography. Covariates included: sex, race/ethnicity, age, household income, parent education, special healthcare needs, primary language spoken in the home, and survey respondent's relation to child.*

**Results:** *The distribution of ACEs varied by geography, with the rural group reporting a higher prevalence of ACE exposure, followed by the urban and then the suburban group ( $p < 0.001$ ). This pattern was also observed for the following individual ACEs: economic hardship, divorce, death of a parent/guardian, jail of a parent/guardian, domestic violence, and alcohol/drug problem. Adjusting for covariates, rural residency was associated with 1.28 times increased odds of exposure to 4+ ACEs (95% confidence interval 1.03-1.60). Statistically significant evidence for an interaction between geography and ACE exposure on overall health was not observed.*

**Discussion:** *Overall, this analysis demonstrates differences in the prevalence of ACEs by geography, with children living in rural areas being more likely to experience high ACE burden compared to children living in suburban areas. Our findings also suggest that the association between ACEs and health is not mitigated by geography. These findings underscore the importance of screening for ACEs no matter the geography, and suggest investment of healthcare resources in the historically underserved rural population.*

## Abstract ID: 1058

### Opportunities for Supporting Latino Immigrants in Emergency and Ambulatory Care Settings

*July Lee, MD; Janine Bruce, DrPH, MPH, Department of Pediatrics, Stanford University School of Medicine, Stanford, CA, United States; Ewen Wang, MD, Department of Emergency Medicine, Stanford University School of Medicine, Stanford, CA, United States*

**Background:** Toughened immigration policies, including the public charge rule, will exacerbate barriers to public benefits and health care for vulnerable populations. Unlike ambulatory care settings, the emergency department (ED) is obliged to see everyone who enters, regardless of legal status or ability to pay. This is the first study to examine the impact of the immigration climate on the utilization of pediatric health care services from the perspective of Latino parents in the ED.

**Objective:** To examine the impact of the immigration climate on the utilization of pediatric ED and ambulatory care services and elucidate ways to best support the Latino immigrant population.

**Methods:** This is a mixed-methods study involving surveys (n=45) and interviews (n=40) with Latino parents ( $\geq 18$  years of age) of children who presented to the ED at a suburban Northern California hospital between September 2018 to May 2019. Parents were identified using the child's ethnicity in the electronic medical record. Parents of patients with pending hospital admissions, psychiatric chief complaints, or those deemed too sick by the ED physician were excluded.

**Results:** Forty percent of parents have refrained from applying for public benefits such as Medi-Cal, Women, Infants and Children (WIC), Supplemental Nutrition Assistance Program (SNAP), or free and reduced lunches in the past. Thirty-one percent did not know their basic legal rights regarding immigration (Table 1). There was no relationship between a parent's country of birth (used as a proxy for "immigrant" status) and their child's last well-child check or frequency of primary care and ED visits. Two themes on the utilization of emergency and ambulatory care services were identified: fear of detention and deportation in health care settings, and barriers to primary care. Two themes were identified on how pediatric providers can best support Latino immigrants: information and guidance on immigration policies, and reassurance and safety during visits (Table 2).

**Conclusions:** Despite immigration and deportation fears, parents continue to bring their children to seek medical services. This highlights the unique access that pediatric providers have to a vulnerable population to address fears, immigration issues, and build trust in the health care system. Health care providers are also perceived as trusted figures from whom immigrant families want more information relating to immigration during their medical visits.

## Abstract ID: 3170

### Screening for Financial Well-Being in a Primary Care Pediatric Clinic

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**Introduction:** Financial stress is the root cause of many adverse social determinants of health. Low income, low education, and Medicaid insurance are commonly used as shorthand for financial risk, but each of these groups may contain vast differences in financial stress among individuals within them. In this study we explore the degree of variation in financial stress and well-being in a group of Medicaid-insured, low-income individuals.

**Methods:** We surveyed adult parents/caregivers of patients at an academically-affiliated, safety net pediatrics clinic in Los Angeles County, all Medicaid managed care enrolled. The financial needs assessment survey was designed using the Consumer Financial Protection Bureau's Financial Well-Being Scale (CFPB FWBS) and includes questions about perceptions of financial stress, need for social services, and interest in services. Data was analyzed with descriptive statistics and associations between CFPB FWBS (continuous scale and by score terciles, per published approaches) and interest in financial services, and interest in social needs resources were examined via adjusted logistic regression. Social needs affordability questions were on a 5-point Likert scale (0: not hard at all to 4: extremely hard) and associations with CFPB FWBS were examined via adjusted linear regression.

**Results:** Among the participants 409 (88%) were female, 320 (67%) identified as Hispanic, and 373 (78%) were under 41 years old. The CFPB FWBS scores spanned the full range of the scale (range 19-82). Individuals with lower CFPB FWBS scores (indicating greater financial stress) reported greater difficulty affording overall cost of living, utilities, food, medical care, transportation, and childcare. There was a dose-response relationship between tercile CFPB FWBS score and degree of difficulty affording social needs (Table 1). Individuals in the most financially strained CFPB FWBS tercile were also more likely to show greatest interest in receiving financial and social services (Table 2).

**Discussion:** Our results show a high degree of variation in financial well-being in this safety net clinic population of low-income, Medicaid-insured patients. The lived experience of financial strain appears to be highly dependent on factors beyond traditional measures of socioeconomic status, such as cost of living, debt, and other circumstances. The findings may have implications for how to identify families most likely to benefit from clinical interventions to address poverty-related social needs.

# Hospital Medicine

**Abstract ID: 1039**

## **Time to antibiotic administration differs based on type and location within the Doernbecher Neonatal Intensive Care Unit**

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**Background:** Delayed antibiotic administration has been tied to poor survival in septic patients. Guidelines from the Surviving Sepsis Campaign recommend a 1-hour window between diagnosis and antibiotic administration. Patients in the neonatal intensive care unit (NICU) are especially vulnerable to infections due to their immature immune systems.

**Objective:** To understand the impact of sepsis evaluation location (NICU vs. resuscitation (resus) suite) and type of evaluation (early vs late onset sepsis) on the time to first doses of antibiotics.

**Design/Methods:** We performed a retrospective review of the time to first dose antibiotic administration in the NICU at Doernbecher Children's Hospital over 12 months (N=667) from an ongoing Quality Improvement effort. The level-IV NICU has 46-beds within Oregon Health & Science University, an academic medical center and regional referral center. The NICU is adjacent to labor and delivery. There is a fully equipped resus suite where inborn infants are stabilized prior to admission to the NICU. The data set from the electronic medical records included patient age, antibiotic(s) ordered, time and date of the order, location of evaluation and time to antibiotic administration. Early onset sepsis (EOS) evaluations are done in the first 72 hours of life and typically require a blood culture, while late onset sepsis (LOS) evaluations are performed in neonates older than 72 hours and often require blood, urine, and cerebrospinal fluid (CSF) cultures. EOS evaluations can occur in the NICU or resus suite, while LOS only occurs in the NICU. Median time to antibiotic administration for each month was plotted on a run chart. A two-tailed non-parametric Wilcoxon rank sum test was run between groups.

**Results:** The median time to administer the first doses of antibiotics for the overall population was 74 minutes (IQR 63-68). There was a difference in median time to administration based on type of sepsis workup and location (Figure 1). The median time to administration for EOS in the resus suite was 60 (57-69) minutes, compared to 74 (69-83) minutes for EOS in the NICU (p=0.01). LOS time to administration was 83 (75-95) minutes, which was not statistically different from EOS workup in the NICU (p=0.16).

**Conclusion:** The significant difference in median time to antibiotic administration between sepsis rule out evaluations in the resus suite versus the NICU, and lack of significance between EOS and LOS workup in the NICU, suggests a larger contribution of personnel and environment to time to perform tasks than the actual tasks involved.

## Abstract ID: 2116

### **Does Asthma-Related Emergency Department Use Vary by Day of the Week?**

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**Background:** Asthma is responsible for over 700,000 emergency department (ED) visits for children annually in the US. Differential access to primary care providers on weekdays versus weekends may be a potential driver of asthma-related ED utilization.

**Objective:** To assess variation in asthma-related ED use between weekends and weekdays.

**Methods:** We analyzed claims from 398,537 patients with asthma aged 3-21 years old, from California Medicaid in 2016 and all-payer claims databases from Vermont in 2016 and Massachusetts in 2015. All-payer claims databases include both public and private payors. Our outcome was rate of asthma-related ED visits per 100 child-years, a claims-based measure from the national Pediatric Quality Measurement Program. Day of the week was determined using the date of the ED visit claim. We used negative binomial regression and robust standard errors to assess variation between weekend and weekday ED utilization rates, and assessed variation by age group, season, and state. These methods accommodate for the over-dispersed distribution of the outcome and account for patient-level clustering.

**Results:** The rate of asthma-related ED visits on weekdays and weekends were similar with a slightly higher rate of visits on weekdays (19.6 asthma-related ED visits per 100 child-years vs. 18.7,  $p < 0.001$ ) overall. These findings were similar when stratified by quarter of the year (data not shown). There were minor variations by state, with higher rates on the weekdays in Vermont and California and higher rates on the weekends in Massachusetts (Table 1). When stratifying by age group, 3-5 year-olds had higher rates of asthma-related ED visits on weekends (weekday: 29.8 [95% CI, 29.1-30.5], weekend: 33.7 [95% CI, 32.6-34.7],  $p < .001$ ) and 12-17 year-olds had higher rates of ED visits on weekdays (weekday: 16.3 [95% CI: 15.9-16.7], weekend: 13.0 [95% CI: 12.5-13.4],  $p < .001$ ) (Figure 1).

**Conclusions and Relevance:** In this multi-state analysis of children with asthma, we found limited overall variation in pediatric ED utilization rates on weekends versus weekdays; however, there were differences based on age group. Increasing weekend access to primary care may not decrease asthma-related ED use, except potentially in younger children. Higher

weekday use in 12-17 year-olds suggests further research to explore the relationship between school attendance and asthma exacerbations.

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## **Abstract ID: 3168**

### **Capturing Caregiver Perspectives on Transitions from the Emergency Department to the Inpatient Pediatric Ward**

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**Background:** Ineffective transitions of care, including during admission from the Emergency Department (ED) to the inpatient pediatric ward, often result in errors, poor quality of care delivery, and decreased satisfaction. Patient-and family-centered care models have been successful at addressing these problems in other realms and have been associated with better outcomes. However, there have been limited studies to describe the caregiver experience during the admission process and their preferences in this important transition in the initiation of a hospitalization.

**Objective:** To characterize the caregiver experience surrounding admission from the ED to the inpatient pediatric ward and to identify key actionable factors that contribute to both positive and negative experiences.

**Design/Methods:** We conducted a multi-center IRB-approved qualitative study at a large quaternary children's hospital and a local community hospital. We did purposive sampling with maximal variation to identify patients with various demographic and clinical backgrounds. Interviews were completed by trained individuals with a semi-structured interview guide in both English and Spanish. The interview guide was developed through extensive literature review and expert consensus, and rooted in established person-centered conceptual models. Interview transcripts were coded independently by two reviewers with a third adjudicator to evaluate for any discrepancies. Themes were extracted in an iterative manner with a phenomenological approach.

**Results:** We conducted 20 interviews with caregivers across two different clinical sites (table 1). Five themes emerged for critical elements of an admission transition: 1) clear overview of expectations with transparency around uncertainty, 2) an accessible lead doctor who is knowledgeable about the child's care, 3) caregiver inclusion in all key conversations, 4) support for caregiver and patient practical needs, and 5) availability of pediatric specialists and resources (table 2).

**Conclusion(s):** We identified five domains in which caregivers describe needed elements of care in the transition from the ED to the pediatric inpatient ward. Future studies can utilize these domains to help devise metrics for patient/family-centered care to standardize and improve this critical transition period.

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# Adolescent 1

**Abstract ID: 3152**

**Improving the delivery of sexual and reproductive health to care to foster youth in Los Angeles: A qualitative study of provider perspectives on barriers and facilitators to care.**

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**Background:** The ~600,000 youth in the U.S. foster care system constitute a highly vulnerable population. Compared to their peers, foster youth have significantly higher rates of STIs, pregnancy, and teen-parenthood, with ~50% of females having been pregnant by age 19. Ensuring access to high quality reproductive health services may be critical to addressing these disparities, but there are no studies describing medical provider perspectives on health system barriers and facilitators to sexual and reproductive health care for foster youth. In LA County, most foster youth receive initial health assessments and many continue to have routine health visits in LA Department of Health Services (DHS) Hub clinics, where they see practitioners who specialize in caring for this population.

**Objectives:** To better understand how sexual and reproductive health for foster youth might ultimately be improved, we sought to identify provider perceptions regarding the barriers and facilitators to providing sexual and reproductive care to adolescent foster youth in the Los Angeles DHS Hub clinics.

**Methods:** This is a community-partnered qualitative study of physicians and nurse practitioners working in all six specialized LA DHS Hub Clinics that serve foster youth. A semi-structured interview guide was created with input from Los Angeles Reproductive Health Equity Program (LA RHEP – the primary community partner) and a former foster youth advisory board. The guide explores the current care delivery process, perceived barriers to access and delivery of sexual and reproductive care, and solicits ideas for improvement. Interviews were transcribed and analyzed using a thematic analysis approach in Atlas Ti. Emergent themes will be reviewed with former foster youth contextualize the findings.

**Results:** Providers perceive youth in foster care as being adolescents first, with common themes including the importance of creating a safe space for sexual and reproductive health discussion with all patients. However, youth in foster care were perceived as having more barriers to plan execution, including loss to follow up and changing foster placements, and the complexity of

medical and social problems that need to be addressed during the visit. Privacy, transportation, and follow-up barriers were seen as closely related. Providers envisioned an ideal care delivery system as one that includes trauma-informed care practices, expanded teen-friendly clinic hours, having contraceptives available in clinic to eliminate the need for a separate pharmacy visit, and increased opportunities for the same-day placement of long acting reversible contraceptives (LARC).

**Conclusion:** Multiple potentially modifiable barriers are perceived to limit the quality of sexual and reproductive health care provided to foster youth. The results of the qualitative study can inform interventions to reduce the burden of sexual health morbidity in this vulnerable population.

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## **Abstract ID: 3176**

### **Is Chaos in Schools Contributing to Risky Adolescent Behaviors?**

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#### **Objective**

School environments play an important role in shaping adolescent behaviors, such as substance use and violence. Chaos in schools, characterized by decreased order, predictability, and structure, may be an element of school climate that influences adolescent behaviors and outcomes. We hypothesize that school chaos drives risky adolescent behaviors.

#### **Study Design**

We analyzed cohort data from 1159 students in the RISE-UP study, a natural experimental study designed to explore the effects of high-performing public schools on academic and health outcomes among low-income minority adolescents in Los Angeles. Students completed annual surveys that assessed health behaviors, academic performance, and school chaos. We conducted logistic regressions, adjusting for student, parent, and school-level covariates, to explore the associations between 10th grade levels of school chaos with 11th grade substance use, violent behavior, school cutting, and academic outcome variables.

#### **Results**

615 (53%) students were female and 1084 (90%) were Latino. Higher levels of school chaos were associated with higher odds of engaging in risky behaviors. After adjusting for covariates, students in the highest quartile of school chaos had odds ratios of 2.1 (1.3, 2.4) for alcohol use in the last 30 days, 1.6 (1.002, 2.4) for risky marijuana use, and 2.0 (1.2, 3.4) for cutting school when compared to students in the lowest quartile of school chaos. The odds ratios for marijuana

use in the last 30 days (1.7; 0.98, 2.9), engaging in violent behaviors (1.6; 0.96, 2.7), and  $\text{gpa} \leq 2.5$  (1.7; 0.93, 3.2) approached statistical significance.

## Conclusions

In this cohort, school chaos appears to be an independent element of school climate that predicts risky adolescent.

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## Abstract ID: 3185

### Characteristics of Oral Emergency Contraception Prescribing in an Urban, Academic Adolescent and Young Adult Clinic

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**Background:** Over 75% of pregnancies among 15 to 19 year olds and 69% of pregnancies among 20 to 25 year olds are unintended. Prompt use of emergency contraception (EC) decreases risk of unintended pregnancy. Currently, levonorgestrel and ulipristal acetate are the two FDA approved forms of oral EC. Many barriers to obtaining EC persist that pose a particular challenge to adolescents and young adults including cost (for over the counter medications), transportation, low pharmacy stock, pharmacist refusal to administer, and language barriers. To reduce these barriers, some clinics directly administer oral EC to patients in clinic. This study aims to characterize the prescribing practices for levonorgestrel and ulipristal at an urban, academic clinic for adolescents and young adults in San Francisco between 2016 to 2019, following the 2015 American College of Gynecology recommendation to use ulipristal over levonorgestrel for EC. This clinic can prescribe and directly administer EC to patients who have had unprotected intercourse but prescribes all advanced EC to an offsite pharmacy.

**Methods:** The research team queried the electronic medical record (EMR) for all clinic patients who received prescriptions for levonorgestrel or ulipristal between September 1, 2016 and March 1, 2019. Demographic data gathered included age, gender, race, and ethnicity. Research team members conducted a review of the identified charts including the type of encounter (in office vs over the phone), indication for EC prescription (post-coital contraception vs advanced prescription), (directly administered in clinic vs prescribed to an offsite pharmacy), insurance type at the time of visit (public vs private), and BMI. Research team members called the pharmacies where oral EC prescriptions were transmitted to confirm whether patients filled the prescriptions. This study was approved by the institution's Institutional Review Board.

**Results:** Of the 106 prescriptions identified, 78% (n=83) of prescriptions were generated for levonorgestrel. Among these patients, 80% (n=85) were over 18, 54% (n=58) were publically insured, and 1.9% (n=2) were male. Both male patients were seeking advanced EC for their female sexual partners. 24.5% (n=26) of prescriptions were administered directly in clinic, and 75.5% (n=80) were sent to an offsite pharmacy. Of the 80 prescriptions sent to an offsite

pharmacy, 29% (n=27) were filled, 37% (n=30) were not filled, and 34% (n=23) could not be confirmed as filled or unfilled for reasons including permanent pharmacy closure, refusal to release information without prescriber's signature, or the pharmacy having no record of the prescription. 40% (n=42) of prescriptions were provided as post-coital EC, and 60% (n=64) were prescribed as advanced EC.

Conclusions: Levonorgestrel was prescribed more frequently than ulipristal despite being a less effective form of EC. While further studies are needed to explore the reasons for this prescribing pattern, possible causes include provider and/or patient comfort with prescribing or using levonorgestrel, ease of direct administration of levonorgestrel in the clinic compared to ulipristal, which was added to the clinic formulary for direct administration in July 2017, and patient preference. Further work is needed to investigate whether prescribing practices and patient uptake change at clinical sites with direct administration of all types of EC. Most EC was prescribed as advanced EC, and therefore, these prescriptions likely contributed to the number of prescriptions to offsite pharmacies.

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## Adolescent 2

### Abstract ID: 3112

#### **Gender Stigma Awareness is Associated with Adolescent Risky Health Behaviors**

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**Background:** Gender stigma awareness (GSA), one's chronic self-consciousness of gender stigma, is associated with poor academic outcomes. How GSA relates to risky adolescent health behaviors is unknown.

**Objective:** We examined associations among GSA and risky adolescent health behaviors (delinquency, fighting, and substance use) as well as potential moderating factors (gender, race, and grade point average (GPA)) and mediating factors (school engagement, perceived teacher support, cutting school, and breaking school rules) among low-income, minority adolescents attending 5 public high schools in Los Angeles.

**Design/Methods:** We performed a secondary analysis of data from 473 9<sup>th</sup> and 10<sup>th</sup> grade students (189 males and 284 females), who participated in a randomized trial of the Advancement Via Individual Determination college preparatory program in the Los Angeles Unified School District. Self-administered computerized surveys collected at the end of the school year from 2017 to 2019 asked about risky health behaviors, GSA, and demographics. Multi-level logistic regressions accounting for clustering within schools tested whether GSA was

associated with risky health behaviors, controlling for demographic covariates, baseline health behaviors, and baseline GPA. Interaction terms were included in the models to test for moderation. We conducted a mediation analysis using the KHB method.

**Results:** In this sample of mostly Latinx adolescents (83%), greater GSA was associated with higher odds of engaging in delinquency (AOR=1.47,  $P<0.001$ ) and fighting (AOR=1.15,  $P<0.001$ ). GSA and substance use were not significantly associated (AOR=1.20,  $P=0.09$ ). Gender did not moderate any associations, but the association between GSA and substance use was greater for non-Latinx versus Latinx students (interaction term  $P=0.04$ ) and for low-GPA versus high-GPA students (interaction term  $P=0.007$ ). Together, school engagement, perceived teacher support, breaking school rules, and cutting classes mediated 42.7% and 65.4% of the associations between GSA and delinquency and GSA and fighting, respectively.

**Conclusion:** This is the first study to show GSA is associated with risky adolescent health behaviors. The association between GSA and substance use was moderated by race/ethnicity and GPA, suggesting that the experience of GSA can be intersectional and influenced by one's racial and academic identity. School engagement might mitigate negative associations between GSA and health. Creating school environments that value and accept all students and their diverse identities are key to achieving adolescent health equity.

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## **Abstract ID: 3142**

### **High Risk Behavior Screening of Adolescent Inpatients**

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#### **Background:**

Risky behaviors are the main threats to adolescents' health. Consequently, evidence-based guidelines recommend that adolescents be screened for high-risk behaviors during every healthcare encounter. Limited studies indicate that rates of screening are low in the hospital setting, and few describe rates of risk behavior-related healthcare interventions (e.g., mental health referrals).

#### **Objectives:**

Our objectives were to: 1) determine rates of risk behavior screening among hospitalized adolescents at a tertiary children's hospital, 2) determine rates of positive/high-risk screens, and 3) evaluate for associations between risk behavior screening and provision of risk behavior-related healthcare interventions.

#### **Methods:**

This was a cross-sectional study of patients ages 12-24 years-old admitted to the pediatric hospital medicine service at an urban tertiary children's hospital from Jan-Dec 2018. Exclusion criteria were transfer to a different service, non-verbal status, or altered mental status. A random sample of 20 charts per month were reviewed (orders, history and physical note, first 2 progress notes [chronologically], and discharge summary). Outcomes included: 1) documentation of risk behavior screening (domains: mood, sexual activity, substance use, abuse/violence, suicidal ideation), and 2) risk behavior-related healthcare interventions (e.g., inpatient/outpatient referrals, diagnostic testing for sexually transmitted infections). Associations between screening and provision of risk behavior-related healthcare interventions were analyzed using Chi-square tests.

### **Results:**

A total of 240 admissions were reviewed. Only 35% (n=85) had documentation of any risk behavior screening and 11% (n=25) had documentation of screening in all five domains (guideline recommended). Mood was the most commonly screened domain and rates of positive screens ranged from 20-75% by domain (Table 1). Adolescents that were screened, regardless of whether they screened positive, were significantly more likely to receive a risk behavior-related healthcare intervention than those who were not screened (Table 2).

### **Conclusions:**

We found rates of adherence to recommended risk behavior screening among hospitalized adolescents were low. There was a high rate of positive screens and those who were screened were significantly more likely to receive risk behavior-related healthcare interventions.

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## **Abstract ID: 3180**

### **Screening Adolescents for Firearm Access in a Pediatric Resident Clinic**

*Maura Olcese, MD/MPH, Kaiser Permanente Oakland Medical Center Pediatric Residency, Oakland, CA, United States; Abhay Dandekar, MD, Kaiser Permanente Oakland Medical Center Residency Program, Oakland, CA, United States*

### **Background:**

With over 20,000 children presenting to Emergency Departments for firearm-related injuries annually, curbing youth violence has become a public health focus. The AAP recommends firearm screening for children during well visits and adolescents with mental health concerns. Well visits at Kaiser Permanente Oakland (KPO) Pediatric Clinic involve the completion of a questionnaire prior to their visit, which includes firearm access screening for some ages. An internal assessment in May 2019 revealed that 47% of children ages 1-12 years were screened. There was no documentation of firearm screening among adolescent patients or those with mental health concerns. Among 23 (77%) KPO pediatric residents and 11 (65%) preceptors who completed an anonymous survey on firearm screening, 6% reported routinely screening at well

visits, and 18% reported screening during adolescent mental health-focused visits. Primary barriers reported were forgetting and insufficient time.

**Objective:**

This quality improvement project aims to increase rates of firearm access screening for adolescent well and mental health visits in the resident clinic by 25% by 02/2020 using a multidisciplinary approach to address the primary barriers identified in our baseline assessment.

**Design/Methods:**

Four sequential interventions were implemented in 4-week intervals from 10/2019 to 02/2020. 1) A simple reminder to screen, involving placing a recognizable symbol at workstations. 2) Medical assistants reviewing pre-visit questionnaires for unanswered questions. 3) An EMR documentation tool to improve efficiency. 4) Expanding provider knowledge on the importance of screening via a journal club. Chart review assessed the frequency of firearm screening—(1) 1-12 years seen during well visits, (2) adolescents during well visits, and (3) adolescents for mental health-related visits—after each intervention.

**Results:**

All groups showed an increase in screening after the first intervention. Children aged 1-12 showed a 10% increase in screening with the pre-existing questionnaire. Based on EHR documentation, screening in adolescent well visits and mental health visits increased by 10% and 8%, respectively.

**Conclusions:**

The removal of barriers to screen for firearm access among adolescents during well and mental health-related visits may improve patient care and contribute to efforts to reduce intentional and unintentional firearm injuries. Opportunities exist to include firearm access screening on all patients' pre-visit questionnaires.

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# Medical Education

**Abstract ID: 1066**

## **Revisiting the National Nighttime Curriculum: How do residents really want to learn at night?**

*Rebecca Ivancie, MD; Anna Lin, MD, Stanford School of Medicine, Palo Alto, CA, United States; H. Barrett Fromme, MD, MHPE, University of Chicago, Pritzker School of Medicine, Chicago, IL, United States; Nicole Paradise Black, MD, MEd, University of Florida, Gainesville, FL, United States; Christine Skurkis, MD, University of Connecticut School of Medicine, Hartford, CT, United States; Jessica M. Allan, MD, Palo Alto Medical Foundation, Palo Alto, CA, United States; Jennifer Maniscalco, MD, MPH, MAcM, Johns Hopkins University School of Medicine, St. Petersburg, FL, United States; Rebecca Blankenburg, MD, MPH, Stanford School of Medicine, Palo Alto, CA, United States*

**Background:** Following the implementation of 2011 ACGME duty hour restrictions, the “National Nighttime Curriculum” (NNC), an online series of case-based PowerPoint® talks, was developed and implemented. No needs assessment has been done since its creation to assess how pediatric trainees prefer to learn at night, within the context of an ever-increasing emphasis on e-learning as a curricular modality.

**Objective:** To identify the current state of the National Nighttime Curriculum (NNC) modules’ use and perceived utility by residents, and to better understand how pediatric resident trainees prefer to learn at night.

**Design/Methods:** This is an IRB- and APPD-approved mixed methods study using anonymous online surveys distributed nationally in 2019 to one chief resident from each program via email. Chief residents were chosen for their knowledge of program curricula, and their perspective served as a proxy for resident opinion. Quantitative data was analyzed with descriptive statistics. Qualitative data were coded by 2 trained reviewers using an iterative approach, reconciling any differences, and then organized into themes.

**Results:** One chief resident from 66 of 204 individual U.S. pediatric residency programs responded to the survey. Of the total respondents, only 22% (14) report having a formal nighttime curriculum in place at their program, and only 5% (3) of chief residents reported having used the NNC. Chief residents preferred in-person education at night with a facilitator (either resident-led, 35% (22), or attending led, 34% (21)) rather than self-led curricular modules (6%, 5) (Figure 1). The majority (56%, 35) of chief residents felt that online modules are not engaging, though 73% (45) admitted that “online modules are easily accessible.” Chief residents reported wanting brief, patient-case-centered teaching at night (Table 1).

**Conclusion:** Chief residents prefer brief, patient-case-centered teaching during night shift rotations. Though computer modules are easily accessible, they are not perceived as engaging. Nighttime curricula should be modified to support brief, patient-case-centered teaching that can be facilitated through small groups.

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**Abstract ID: 3129****Musculoskeletal Basics: A Pediatric Musculoskeletal Workshop for Primary Care Residents.**

*Melissa Bent, MD, CHLA, Los Angeles, CA, United States*

**INTRODUCTION:**

Musculoskeletal complaints make up 20% of pediatric primary care practice<sup>1</sup>. However, a 2011 survey of graduating pediatric residents identified orthopaedics as one of three major training gaps in curriculum.<sup>2</sup> In addition to highlighting an oversight in pediatric residency training, the study emphasized the need for an innovative curriculum to address the educational gap.

**OBJECTIVE:**

The goal of our study is to determine if a dedicated half-day workshop including a hands-on physical exam and board style questions can strengthen residents' musculoskeletal competence and knowledge.

**METHODS:**

Pre and post workshop surveys were administered to trainees who attended a standalone half-day Pediatric and Family Medicine Resident musculoskeletal workshop. The pre-workshop survey was administered prior to the workshop and consisted of 12 demographic questions, 8 level of comfort questions, and 12 knowledge-based questions. The post-workshop survey was administered included 5 workshop assessment questions, 6 level of comfort questions, and 12 knowledge-based questions. The data was analyzed using a paired t-test to determine significant differences. The level of confidence was set at  $p < 0.05$ .

The workshop was delivered by fellowship trained Non-Operative Pediatric Orthopaedics pediatricians. The workshop involved 6 interactive, case-based stations demonstrating joint exams and common pathology, and concluded in a full group review and discussion of board style questions. Multimodal education materials on common orthopaedic complaints were also provided.

**RESULTS:**

Of the 12 attendees, 9 participated in both the pre and post workshop surveys. For knowledge-based questions, the average pre-workshop score was 59.3% and the average post-workshop score was 98.6%. A paired t-test between pre and post workshop scores showed a significant increase of 2.56 points ( $p < 0.001$ ) with a 95% CI [-3.58, -1.53]. Lastly, 9/9 (100%) of the attendees who evaluated the workshop either agreed or strongly agreed that the experience improved their pediatric musculoskeletal knowledge and would be useful in their future practice.

## **DISCUSSION:**

The dedicated half-day workshop positively enhanced residents' perceptions and short-term knowledge of pediatric musculoskeletal medicine and their ability to perform pediatric musculoskeletal physical exams.

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## **Abstract ID: 3163**

### **Intern Handbook: A Tool to Help Pediatric Interns Transition into Residency**

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#### **Background:**

The transition from medical school to residency can be stressful as new physicians learn to take greater responsibility for patients. Our pediatrics residency has a robust intern orientation, but lacked an intern handbook to provide practical information and resources to aid interns during their first months of residency.

#### **Objectives:**

1. To create a rotation-based intern handbook.
2. Evaluate interns' perceptions of the handbook's helpfulness and its impact on stress and confidence.

#### **Methods:**

Tool design: Handbook developed in collaboration with resident rotation liaisons and volunteer residents. 18 rotation-based sections were created, each including a logistical overview of the service, relevant EMR dot phrases/templates, a pre rounding check list and other common diagnosis. Each section was reviewed by the rotation director.

#### **Study design:**

IRB-exempt mixed methods study of Stanford pediatrics interns between June – Nov 2019. We distributed an 18-item survey to all interns 4 months after handbooks were distributed during

intern orientation. Survey assessed: frequency of use, perceived utility, and impact of the handbook on interns' confidence and stress. We also solicited intern volunteers to participate in a semi-structured interview to explore utility of the handbook and its impact on the transition into residency. Interviews were audio recorded, transcribed verbatim and analyzed using traditional content analysis. Interviews continued until thematic saturation was achieved.

### **Results:**

30/34 interns (88%) completed the survey, and 10 participated in semi-structured interviews. Interns reported using the handbook often/very often to: prepare for the first day of a rotation (66.7 %), know commonly encountered topics (36.6%), and know how to preround (43.3%). Interns agreed/strongly agreed that, for each rotation, the handbook was helpful in knowing about: the flow of the day (82.7%), key history-taking questions (58.6%), what information to present on rounds (65.5%), note templates and order sets (53.5%), and common topics on a rotation (89.6%). Interns agreed/strongly agreed that the handbook increased their confidence in: starting the first day on a new rotation (65.6%), pre-rounding effectively (62%), and addressing commonly received pages (51.8%). Qualitative analysis demonstrated 4 themes (See table).

### **Conclusions:**

Our intern handbook serves as a concise clinical resource that helps interns transition into residency by providing rotation-specific resources and expectations. Interns report reassurance and decreased stress as a result of the handbook.

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## **Abstract ID: 3173**

### **Improving General Pediatrics Daily Progress Notes**

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**Background:** The transition to electronic health records (EHRs) in the US has resulted in a shift toward more time spent by physicians on documentation and yet poorer quality notes. Documentation quality has suffered due to copy forward, awkward formatting and “note bloat” caused by in part by overly detailed EHR generated fields. In addition, the increasing percentage of time resident providers spend on the computer may be contributing to burnout.

**Objective:** For our general pediatrics teams at our tertiary care children's hospital, we aimed to improve inpatient general pediatrics progress note quality, decrease note length, and decrease percentage of notes signed by residents after end-of-shift at 5pm.

**Methods:** Using lean methodology and A3 thinking, we analyzed the process of inpatient progress note documentation, including resident observations, baseline chart review and resident survey. We then designed and implemented a new EHR template, with iterative improvements to

the template (PDSA cycles) over 4 months. Our primary outcome metrics were assessed at baseline and throughout our PDSA cycles and included note length (character count), note quality via two physician review using a previously published note quality assessment tool, and time signed by resident.

**Results:** Randomly selected samples of notes from the year prior to implementation of template improvements were examined to establish a baseline (n=38), as well as samples following each large iteration change of the note template at 2 time points (n=24 and 21). The baseline mean note character length was 6667 characters, baseline quality score was 0.82 (out of 1), and baseline percentage signed after 5pm was 42%. The mean character length decreased by 20% during PDSA cycles 1 and 2, and by 17% during PDSA cycle 3 as compared to the baseline note sample (figure 1). The average note quality score increased by 19% during PDSA cycles 1 and 2, and by 15% during PDSA cycle 3 as compared to the baseline note sample. Percentage of notes signed after 5pm increased by 9% during PDSA cycles 1 and 2, and decreased by 10% during PDSA cycle 3 as compared to the baseline note sample (figure 2).

**Conclusion:** Our improvement intervention involving EHR note templates was associated with modest improvements in note length and quality. Improvement in note sign time was achieved during PDSA cycle 3.

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# Post Partum Care

**Abstract ID: 2111**

## **Interconception Care as a Method to Increase Long Acting Reversible Contraception (LARC) Use in Adolescent Mothers**

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### **Background.**

The birth of a second child to an adolescent mother worsens the adverse medical, educational, socioeconomic and parenting outcomes associated with teen pregnancy. Initiation of LARC significantly decreases repeat pregnancies among adolescents, improving outcomes for mother and child. Interconception Care (ICC) is defined as maternal care provided between pregnancies to improve health outcomes for women, newborns, and children. Although ICC has been shown to be an effective intervention during the interconception period, it has not been widely implemented, especially within the vulnerable population of adolescent mothers.

### **Objective.**

Implement an ICC model within a dyadic adolescent-mother baby medical home and define the characteristics of teen mothers who initiate LARC during the interconception period.

### **Design/Methods.**

The Young Mother's Clinic (YMC) is a dyadic medical home focused on improving the health of adolescent mothers and their children. In YMC, mothers are seen with their children during recommended well child visits (WCV). During the 12 month study period, medical providers completed ICC surveys at 1,254 WCVs for children aged birth to 24 months. Surveys included questions regarding mothers' demographics factors (race/ethnicity, education, age), contraception use, and WCV number/type. Through this period, 728 dyads were screened an average of 2 times. We assessed the impact of demographic and clinical factors on LARC initiation. Data was analyzed using SPSS Statistics 26 Version.

### **Results.**

A one-way ANOVA demonstrated significance between group differences for race/ethnicity ( $p = .017$ ), with post hoc testing showing Black women were significantly less likely to initiate LARC than Caucasian or Hispanic women. An independent samples t-test demonstrated that women who had more than one visit were more likely to initiate LARC than those who only attended one visit ( $p < .001$ ). No other demographic variables were significantly related to initiation.

### **Conclusions.**

Among demographic factors assessed, only race/ethnicity was found to be statistically significant. This is consistent with the literature on LARC initiation among ethnic minority teens who are not mothers. More frequent visits were associated with an increase in LARC initiation.

By framing ICC within a pediatric medical home, providers have the opportunity for more frequent visits with mothers, which may lead to increased LARC initiation in this high-risk population.

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## **Abstract ID: 3119**

### **Assessing an Intervention for Postpartum Contraception at a Pediatric Primary Care Clinic**

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#### *Background*

Reducing unintended and closely spaced pregnancies may prevent adverse maternal and child health outcomes. Postpartum obstetric visits, when contraceptive counseling typically occurs, are inconsistently attended. Pediatricians frequently interface with postpartum women at well child checks, presenting an opportunity to identify unmet contraceptive needs and to provide family planning resources. However most pediatricians do not currently discuss family planning with women.

#### *Objective*

To explore women's and providers' perspectives on a pilot intervention to screen postpartum women for unmet contraceptive needs at infant appointments.

#### *Methods*

At a resident-run, pediatric FQHC, we implemented a pilot intervention to screen women at 2-6 month visits for unmet contraceptive needs and to offer resources on contraceptive methods and local family planning services. We invited women who screened positive for unmet need to participate in semi-structured phone interviews post-intervention to discuss barriers to obtaining postpartum contraception and experiences with our intervention. Data were analyzed using transcript-based coding and theme analysis. To assess provider feasibility and acceptability, we administered online surveys to participating pediatric residents.

## Results

*Women:* 24 women screened positive for unmet need, and 18 completed phone interviews. Two primary themes emerged: (1) There is value in discussing postpartum contraception with a pediatric provider, although discussing with an Ob/gyn was still seen as important; (2) While all women had contact with an Ob/gyn provider postpartum, women identified barriers to meeting postpartum contraceptive needs, including lack of health insurance and child care (Table 1)

*Providers:* All 18 providers reported that the intervention was very easy or somewhat easy to administer, and 88% of providers were very comfortable or somewhat comfortable discussing postpartum contraception with women (Table 2)

## Conclusion

We successfully implemented a brief pilot intervention to screen women for unmet contraceptive needs and offer family planning resources during well child visits. Screening for postpartum contraceptive needs was feasible in this pediatric clinic and was accepted by both mothers and providers. To complement routine postpartum care, a pediatric clinic-based screening and referral may aid in connecting postpartum women with accessible family planning services.

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## Abstract ID: 3177

### **A Pediatric Clinic Survey of Women's Postpartum Contraceptive Needs and Preferences**

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## Background

With half of pregnancies in the U.S. mistimed or unwanted, improving contraceptive access is an opportunity to meet women's needs and prevent adverse maternal and child outcomes, such as preterm birth. Infant preventive care visits are untapped opportunities to identify and address unmet postpartum contraceptive needs. Women's perspectives on such an approach are needed to inform the development of patient-centered interventions.

## Objectives

To examine barriers and facilitators to meeting postpartum contraceptive needs and to describe contraceptive services preferences among women in the pediatric clinic.

## Methods

We surveyed 130 women attending 2, 4, or 6 month infant preventive care visits at an academic general pediatrics practice. We examined unmet contraceptive need by assessing desire for contraception, current contraception use, and satisfaction with their current method. Using chi-square, t-tests, and multivariable logistic regression, we analyzed associations between unmet need and facilitators and barriers to obtaining postpartum contraception. We queried the acceptability of addressing contraception during an infant visit and preferred mode of receiving contraceptive information. We assessed differences in acceptability by presence or absence of unmet contraceptive need using one-way ANOVA.

## Results

The sample was predominantly primiparous, privately insured, and college educated; most women attended a postpartum visit (Table 1). 24% of women reported unmet contraceptive need, and 27% identified postpartum barriers to obtaining contraception. In a multivariable model, unmet contraceptive need was higher for women who delivered preterm, had worse depression screen scores, or identified  $\geq 1$  social or structural barrier to obtaining contraception (Table 2). Overall, women deemed the following acceptable in the pediatric clinic: discussing family planning, receiving family planning information, and/or getting a contraceptive method. Acceptability did not differ by status of contraceptive need. The preferred method of receiving family planning information was face-to-face, though paper or electronic methods were also rated highly.

## Conclusion

Among our sample of mothers in the pediatric clinic, nearly a quarter of women had unmet contraceptive needs. Women largely considered the pediatric clinic an acceptable place to address their contraceptive needs, suggesting that pediatric providers could have a role in preventing unwanted pregnancies and their sequelae.

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# Advocacy

## Abstract ID: 2113

### **When Health and Nature Combine: A Park Rx Community Collaborative**

*Hannah Valino, MD, MPH; Alyssa Honda, MD, Stanford Children's Hospital, Palo Alto, CA, United States; Laurie Cammon, MD, Pediatric Healthy Lifestyle Clinic, San Jose, CA, United States; Michelle Wexler, MA, Santa Clara Department of Public Health, San Jose, CA, United States; Coraal Cohen, MS, Stanford University, Palo Alto, CA, United States; Lauren Bruguera, BS, University of California, Davis School of Medicine Stanford, CA, United States; Jesus Pineda-Ramirez, BS, BA; Janine Bruce, DrPH, MPH, Stanford University School of Medicine, Stanford, CA, United States*

**Background:** Nature has been shown to provide numerous physical and mental health benefits. Communities of color experience disparities in rates of obesity, chronic disease, and mental health issues. The Latinx community faces inequalities in access and exposure to nature, affecting access to nature's benefits. The Park Rx program is a collaborative between clinic, public health, and parks departments to prescribe nature to children and families through bimonthly walks at local parks.

**Objective:** A mixed-methods assessment of the impact of the Santa Clara County Park Rx program on participating children and adult caregivers.

**Methods:** Overweight, obese, and children at risk for lifestyle-related illnesses receive Park Rx prescriptions from providers at a Healthy Lifestyle Clinic. From March to May 2019, we recruited caregivers and children attending Park Rx walks. We conducted surveys and focus groups with caregivers and children. Surveys assessed program satisfaction, nature experiences, and social connectedness. Caregivers completed a phone follow up survey at 3 months assessing similar items. Both caregiver and child focus groups assessed similar domains covered in the survey with additional questions regarding mental health.

**Results:** We recruited 48 survey participants. Of the 20 caregivers, 89% were Latinx, and 89% were female. Ninety-three percent strongly agreed to enjoying going to park walks, 71% strongly agreed to valuing nature's benefits, and 78% strongly agreed/agreed to connecting with others at walks. Seventy-four percent completed a follow up survey with similar findings at 3 months. The average child age was 10.4yrs (range 7-16yrs). Of the 28 children, 85% strongly agreed/agreed to liking seeing people from clinic at walks, 75% strongly agreed to liking nature, and 79% strongly agreed to enjoying meeting others at walks. Focus groups with caregivers (n=11) and children (n=15) consistently showed themes of increase social connectedness, opportunity for unique nature experiences, and increase stress reduction at walks. Walks provided increase time for family and a chance to meet new people. Families interacted with nature in new ways. Nature was universally viewed as a way to relax.

**Conclusion:** Increasing access to nature for Latinx communities can be a strategy to build social connectedness, address mental health, and reduce health disparities. Partnerships between clinics

and community organizations through a collaborative and targeted park prescription program is a promising approach to promote healthy lifestyles for at risk communities.

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## **Abstract ID: 3146**

### **Impact of Mindfulness Training on Resilience for Urban Youth: An Exploratory Mixed-Methods Pilot Study**

*Veronica Renov, MD; Erin Lee, MD; Lily Chattopadhyay, MD; Sharon Hudson, PhD; Amanda Daigle, MPH, CHLA, Los Angeles, CA, United States; Madison Jones, BA; Evan Locke, BS, USC Keck School of Medicine, Los Angeles, CA, United States; Mona Patel, MD, CHLA, Los Angeles, CA, United States*

Children today are exposed to a variety of stressors, ranging from the inherent hurdles of daily life to traumatic adverse childhood experiences (ACEs). There is a disproportionate exposure of low-income youth to ACEs, which are known to have a cumulative detrimental effect on long-term health outcomes. Mindfulness training is a promising tool shown to promote resilience in such a population by improving cognitive and emotional control, empathy and stress physiology with a marked decrease in symptoms of depression and peer-rated aggression.

Through collaboration between a public elementary school, non-profit organization Tools for Peace, and Children's Hospital Los Angeles, we have implemented a mindfulness curriculum to help kindergarten through 5th-grade students learn healthy coping mechanisms and resilience. We aim to evaluate the effectiveness of such a program at the elementary school level.

Our intervention consists of a monthly assembly for each grade during which a certified mindfulness instructor teaches students skills including how to stop, think and breathe before reacting. Teachers completed the Kinder Associates Behavioral Rubric (a validated measure for children over age seven) at 0, 3 and 6 months to evaluate changes in students' mental, emotional, physical and social behaviors, and the combined behavioral scores were analyzed. Focus groups were held for students under seven to assess these measures by discussing topics including identification and management of stress.

Teachers completed the survey for 185 children at baseline, 169 at 3-month follow-up, and 101 at 6-month follow-up. Mean scores increased significantly from baseline to 3-month follow-up, (12.7 to 13.0,  $p=.0058$ ) and from 3-month to 6-month (13.0 to 13.7,  $P<.0001$ ). In focus groups, children used substantially more feeling words (e.g. "happy," "mad") during each successive wave of data collection. Initially many described coping strategies that were externally-reliant whereas in follow-up conversations children were more likely to describe using strategies consistent with mindfulness practice.

This data, along with teacher interviews, suggests that students experienced a positive change in behavior after receiving mindfulness training. This study is limited by lack of a control population, though we expect to demonstrate progressive improvement in classroom behaviors and self-regulation in this at-risk population as interventions continue. We anticipate this data

will support the continued implementation of structured mindfulness programs at the elementary school level.

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## **Abstract ID: 3175**

### **Community-Academic partnership to address health disparities: Using the Implementation Framework to examine the social screening process in an early childhood education setting**

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#### Introduction

Community-academic partnerships can address health disparities in the community setting by building interdisciplinary collaborations necessary for tackling difficult problems. Implementation science can support collaborative efforts by promoting the adoption of evidence-based practices and interventions using behavioral change frameworks.

#### Objective

To utilize an implementation framework to examine the process for conducting social screening among low-income parents with children at an early childhood education center (ECEC).

#### Methods

We utilized an implementation science behavioral framework (COM-B model) to identify barriers for both staff and families regarding the ECEC's social screening process. Our study involved a multi-phase study design including longitudinal interviews with organizational leadership as well as focus groups with both staff and families.

#### Results

Organizational participants included program administrators (n=2); staff members (n=10) and parent participants (n=10). Staff members were all women and identified as Latina. Parent participants included nine women and one male; 90% identified as hispanic and 10% identified as caucasian. The initial study was designed to evaluate the fidelity of the strengths and needs assessment (SNA), a comprehensive survey used to identify strengths and challenges of families with the goal of connecting families with community resources. The SNA is developed based on

needs identified in the Support Information Checklist, a brief initial social screener. Over the course of the project, the ECEC realized a shift in the project was necessary to optimize the social screening process. As a result, the project changed its focus to evaluation and improvement of the Support Information Checklist (SIC). Focus group questions were designed utilizing the COM-B framework and key themes emerged regarding the content and process of the checklist as well as environmental limitations. A brief thematic analysis was conducted and focus group data was presented back to the ECEC leadership to provide feedback on how to modify the current Support Information Checklist.

## Conclusion

The field of implementation science can provide important frameworks that can serve as starting points for both researchers and community partners to evaluate and improve internal processes. However, it is important to build flexibility into the community-academic partnership given that project priorities may shift given funding limitations, programmatic timelines, and personnel changes.

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# Clinical Research

**Abstract ID: 1053**

**Outcomes for community-acquired extended-spectrum beta-lactamase (ESBL) *Escherichia coli* urinary tract infections (UTI's) in children treated with empiric non-carbapenem antibiotic therapy**

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**Background:** Empiric therapy with a cephalosporin antibiotic is the current standard of care for children with UTI. However, as the rate of UTI due to ESBL-producing organisms rises, there is concern that treatment failures may increase. Carbapenems are the most reliable antimicrobials for treating ESBL organisms, but empiric coverage with carbapenems necessitates hospitalization for intravenous therapy. We evaluated whether empiric non-carbapenem therapy in patients with ESBL *E. coli* UTI is associated with poorer outcomes.

**Methods:** We conducted a case-control study of patients with UTI treated with empiric penicillin- or cephalosporin-based antibiotics from 1/1/2017 to 12/31/2018, comparing outcomes in cases with ESBL *E. coli* UTI against age-matched controls with a cephalosporin-susceptible *E. coli* UTI. Logistic regression was used to compare the odds of clinical failure (persistent symptoms and/or fever) at 48-72 hours. We further evaluated the odds of hospitalization and UTI recurrence between groups.

**Results:** Of the 228 enrolled patients, 51 were cases and 177 controls. Cases were more likely to have underlying medical conditions (45% vs 21%). The odds of clinical failure at 48-72 hours for cases as compared to controls was 4.83 (95% CI: 0.94, 24.92,  $p = 0.06$ ). This was not influenced by age, presence of an underlying medical condition, or fever. The overall adjusted odds of hospitalization for cases compared to controls was 12.09 (95% CI: 0.995, 4.38,  $p = 0.052$ ). The majority of patients admitted at presentation had an underlying medical condition (30/64, 47%) and/or fever (54/64, 84%). Among 30 cases initially managed as outpatients, only 2 (7%) were later admitted due to clinical failure. There was no difference in the likelihood of UTI recurrence within 60 days for the two groups (adjusted OR 1.34, 95% CI: 0.47, 3.78,  $p = 0.58$ ).

**Conclusions:** At 48-72 hours, there was no significant difference in the odds of clinical failure for patients with ESBL *E. coli* UTI compared to patients with non-ESBL *E. coli* UTI receiving empiric non-carbapenem therapy. Although there was a trend towards a higher odds of hospitalization among cases, this was largely due to a higher clinical complexity among cases at baseline. Only 2 cases required admission for failure of outpatient therapy. There was no increased risk of UTI recurrence among cases. This study suggests that initial discordant antibiotic therapy may not increase the risk of a poor outcome in children with ESBL *E. coli* UTI.

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**Abstract ID: 3161****Redefining normal pediatric temperature values in well children**

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**Background:**

Temperature measurement is essential in pediatrics, as infectious diseases are among the most common diagnoses. However, routine temperature measurement at well-child checks add time to an already constrained visit and may agitate children, fuel fever phobia and drive overdiagnosis. Furthermore, current temperature norms established in the 1800s may be outdated. Using a national survey dataset, we previously found that temperature was measured in half of well-child encounters. However, because of the potential inaccuracies in identifying the cohort of interest and the lack of thermometer route documentation, this current study seeks to update pediatric temperature norms and validate our findings with more granularity by using progress note review for well-child visit definition.

**Objectives:**

For children being seen at well-child visits, our aims were to:

Aim 1: Describe normal temperature percentiles and variation by patient and temporal factors as well as thermometer route

Aim 2: Describe the frequency of and characteristics associated with temperature measurement

**Design/Methods:**

We performed a cross-sectional study of well-child visits in children <18 years old occurring within a network of Stanford-affiliated clinics from 2014-2019. Extreme temperature values unlikely to be in the range of normal ( $\leq 96^{\circ}\text{F}$  or  $\geq 103^{\circ}\text{F}$ ) were excluded. For Aim 1, we conducted descriptive analysis of temperature values and performed mixed-effects linear regression to identify predictors of temperature values ( $^{\circ}\text{F}$ ). For Aim 2, we describe the frequency of temperature measurement and performed multivariable logistic regression to determine patient, provider, and practice characteristics associated with the practice.

**Results:**

Temperature was measured in 161,639 visits (58.9% of all well-child visits). Median temperature by thermometer route was:  $98.1^{\circ}\text{F}$  (axillary),  $98.2^{\circ}\text{F}$  (oral, tympanic, and temporal), and  $99^{\circ}\text{F}$

(rectal). In multivariable analysis, temperature values were lower in black patients and at higher BMI z-scores. Temperature was higher in the morning than in the afternoon. Temperature measurement was more likely in Hispanic and black patients, and less likely in the privately insured (Table 1).

### **Conclusion:**

Temperature values vary by route, with rectal measurement yielding the highest values. Understanding normal temperature values is central to clinical decision making, and thermometer route, time of measurement, patient race, and BMI should be considered when interpreting a child's temperature. Future research will investigate the downstream impacts of the practice of temperature measurement at well-child visits.

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### **Abstract ID: 3181**

#### **Reasons for Declining Enrollment into a Clinical Trial Among English and Spanish Preferred Language Parents**

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#### **BACKGROUND:**

To effectively engage a more representative population in research, it is important to understand why individuals decline participation into clinical trials. Our study objective was to examine how reasons for declining to enroll in a clinical trial varies among individuals by preferred language (English or Spanish), in a racially and economically diverse sample of parents of young children seeking well-child care (WCC).

#### **METHODS:**

This study represents a secondary analysis of data collected from parents/guardians upon refusal of enrollment into a cluster randomized controlled trial conducted across 10 Federally Qualified Health Centers. PARENT is a parent coach-based clinical practice intervention aimed at improving receipt of WCC services and parent experiences of care. Parent/guardian preferred language (English or Spanish) was documented by research assistants responsible for study enrollment. Parents were asked their reason for declining study enrollment; responses were coded into several categories. Using descriptive statistics, we examine how parent preferred language (English vs. Spanish) is related to reasons for refusal.

#### **RESULTS:**

Fifty-nine out of 415 parents/guardians who were approached, declined enrollment. Reasons for refusal included didn't have enough time (22% English vs. 17% Spanish), not interested (54% vs 17%), didn't want to give out personal information (7% vs. 39%), already approached (3% vs 6%), and other reasons (15% vs. 22%). Reasons selected by Spanish vs. English preferred language individuals were significantly different ( $p=.008$ ).

## **CONCLUSIONS:**

Reasons for declining participation in a clinical trial differed significantly among English and Spanish speaking individuals. Notably, preferred Spanish language individuals who declined participation were more likely to report "*didn't want to give out personal information*" compared to preferred English language individuals. Further research should include race/ethnicity and other demographic information to inform whether and how these reasons relate to trust in health-related research and institutions. This is particularly important to promote equitable research participation for immigrant and racial/ethnic minority populations that are impacted by historical trauma in biomedical research as well as the current sociopolitical climate of anti-immigrant sentiment and policies.

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