PolicyLab

Pediatric Academic Societies Meeting 2017

May 6 – May 9

Saturday, May 6

8– 10 AM
Platform

Jim Guevara: A Social-Media Based Parent Coaching Program for Mothers with Postpartum Depressive Symptoms
Location: SFC-3002-3004 (Moscone Center West)

- **Background:** Postpartum depression (PPD) is common and can impact a mother's ability to care for her child. While in-person parent coaching programs are available, they are expensive to administer, do not permit asynchronous participation, and have not been adapted for women experiencing PPD symptoms.
- **Objective:** To assess the effectiveness of a novel social media-based parent-coaching program for women with PPD symptoms.
- **Design/Methods:** We developed and adapted Parents Interacting with Infants, a validated parent-coaching program, for women with PPD symptoms using traditional in-person and Facebook platforms. Women were eligible if they were >15 years old, screened positive on the Edinburgh Postnatal Depression Scale (score>9) at their child's 2-month well child visit, and had internet access. Eligible women were randomized to participate in an 8-week in-person parenting group or an 8-week Facebook Secret User group. Content for the parenting program was similar in both groups and included depression and stress, infant sleep, feeding, play, temperament, safety, parent-child interaction, and reading. Outcome measures were assessed pre- and post-intervention and included the Beck Depression Inventory-II (BDI-II) and the Parenting Sense of Competence (PSOC). Attendance was measured as attendance at an in-person group, or virtual attendance in the online group.
- **Results:** Twenty-four women from 3 urban practices in Philadelphia enrolled in the study and 20 completed both outcome assessments. Women in both groups were similar with respect to age, race/ethnicity, and marital status, but women in the in-person groups had a greater proportion with reported family income <$15,000. In addition, women in the social media groups had lower PSOC scores but similar BDI-II scores at baseline. Average attendance at the in-person groups was low (5%), while online attendance was high (89%). Women in the social media groups had greater decreases in average BDI-II scores (-9.3 vs. -0.8 respectively; $p=0.02$) and greater increases in average PSOC scores (+8.5 vs. -5.5 respectively; $p<0.001$) than women in the in-person groups.
- **Conclusion:** A social media-based parent-coaching program targeted to women with PPD symptoms was feasible. Results suggest that the social media-based program was associated with greater improvements in depressive symptoms and parenting competence compared to an in-person group. Future study should assess the implementation and scale-up of the program in other at-risk populations.

8:30 – 11:30 AM
SIG Panel

Alexander Fiks: Pediatric Clinic Research Network (PCRN) SIG
Location: Sierra Suite I (Marriott Marquis)

- **Special Interest Group Panel:** The PCRN SIG is a forum for PAS members who either are involved in or are planning to establish clinical research networks (defined as enduring multi-site clinical research collaborations). Representatives of a diverse group of primary care (practice-based research networks or PBRNs), specialist, and disease-specific networks meet to discuss common challenges and potential solutions to those challenges and offer consultation to those planning or launching new networks.

10:30 – 12 PM
Platform

Stephanie Doupnik: The Relationship Between Comorbid Mental Health Conditions and Unplanned Hospital Readmissions in Children

Location: SFC-2008 (Moscone Center West)

- **Background:** Comorbid mental health conditions are known to influence the physical health of children. Little is known about how comorbid mental health conditions affect the health and safety of hospitalized children after discharge.
- **Objective:** To assess the relationship between comorbid mental health conditions (CMHC) and 30-day readmission for the 10 index medical and surgical admissions that account for the most pediatric readmissions.
- **Design/Methods:** This is a nationally representative, retrospective cross-sectional study of 512,997 hospitalizations for the 10 medical and 10 surgical conditions with the highest number of 30-day readmissions for patients aged 3 to 21 years using the 2013 Nationwide Readmissions Database. We identified hospitalizations where the patient had a CMHC, including anxiety disorders, attention-deficit hyperactivity disorder (ADHD), autism, depression, and substance abuse, using International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) codes. We derived logistic regression models to assess associations between CMHC and 30-day, all-cause, unplanned readmission, adjusting for demographic, clinical, and hospital characteristics.
- **Results:** A CMHC was present in 17.5% and 13.2% of the medical and surgical index hospitalizations, respectively. Readmission rates were 16.2% and 5.2% for the medical and surgical index admissions, respectively. In multivariable analysis, CMHCs were associated with higher odds of readmission for medical admissions [Adjusted Odds Ratio (AOR) 1.23, 95% Confidence Interval (CI): 1.27-1.34] and for surgical admissions (AOR 1.23, 95%CI: 1.15-1.32). Odds of readmission varied across types of CMHC. For medical index admissions, odds of readmission were highest with comorbid depression (AOR 1.61, 95%CI: 1.49-1.75) and lowest for comorbid ADHD (AOR 0.82, 95%CI: 0.76-0.89). For surgical index admissions, odds of readmission were highest with comorbid autism (AOR 1.68, 95%CI: 1.37-2.05) and lowest for anxiety (AOR 0.89, 95%CI 0.72-1.10).
- **Conclusion(s):** CMHC are associated with higher likelihood of hospital readmission in children admitted for medical treatments and surgical procedures. Understanding the influence of mental health conditions on pediatric readmissions may help guide strategic planning on how to reduce unplanned hospital readmissions for children with co-occurring physical and mental health conditions.

10:30- 12:30 PM
Platform

Chén Kenyon: Home Smoke Exposure and Health Related Quality of Life in Children Hospitalized with Respiratory Illness

Location: SFC-2008 (Moscone Center West)

- **Background:** Regular second-hand smoke (SHS) exposure is associated with more frequent and severe respiratory illnesses in children.
- **Objective:** To determine if SHS exposure at home is associated with differences in health-related quality of life (HRQOL) scores in children hospitalized with acute respiratory illness.
- **Methods:** We surveyed caregivers of children 2 weeks-16 years of age hospitalized between 7/1/14-6/30/16 with asthma, bronchiolitis, croup, or pneumonia at five U.S. children's hospitals. Children with chronic comorbidities other than asthma were excluded. Surveys were administered on admission and following discharge and collected sociodemographics (age, race/ethnicity, caregiver education level, and insurance type), SHS exposure (0 or ≥1 smoker in

home), health care office visits in preceding 6 months, and baseline (1 month prior to admission), admission, and post-discharge (2-6 weeks following discharge) HRQOL scores (PedsQL 4.0 Generic Core or Infant Physical Functioning Sub-Scales). For each diagnosis, multivariate linear regression models examined associations between home SHS exposure and HRQOL scores at baseline, admission, and post-discharge, controlling for sociodemographic characteristics, health care utilization, and hospital. Admission and post-discharge models were adjusted for baseline and admission HRQOL scores, respectively.

- **Results:** Caregivers of 2247 hospitalized children (median age 1.9 years) completed the admission survey (63% of those approached). Of these, 555 (25%) reported SHS exposure in the home, including 28% of those with asthma, 27% with bronchiolitis, 19% with croup, and 21% with pneumonia. Of those who completed the admission survey, 1759 (78%) completed the post-discharge survey. In the adjusted models, SHS-exposed children had significantly lower baseline HRQOL scores for bronchiolitis (adjusted difference -2.48 [standard deviation 1.15], p=.03) and pneumonia (-4.52 [1.56], p<.01), and significantly lower admission scores for croup (-5.31 [2.70], p=.05).
- **Conclusion:** Home SHS exposure is associated with important differences in HRQOL physical functioning scores for children hospitalized with acute respiratory illness. The impact of SHS exposure at baseline was greatest for children with pneumonia and on admission for those with croup.

10:45 – 11 AM
Platform

Alexander Fiks: Disparities in Parent Attitudes Toward and Use of Mobile Health Tools in Pediatric Care
Location: SFC-2006 (Moscone Center West)

- **Background:** Mobile health (mHealth), the use of increasingly ubiquitious mobile phones and other wireless technology to promote health, may improve health care access and outcomes. Little is known regarding how to best tailor mHealth implementation in pediatric practice to foster use by diverse populations.
- **Objective:** To assess racial and economic differences in parent use of and attitudes toward mobile health applications (apps) to track or manage their children’s health.
- **Design/Methods:** We distributed a 20-item survey, adapted from validated instruments to parents/guardians in 3 primary care (urban, rural, suburban) and 3 specialty (healthy weight, dermatology, endocrinology) practices affiliated with an academic medical center. Parents were asked about their use of and attitudes toward mobile devices for gathering health information and tracking their child’s health. Demographic characteristics and self-reported patterns of mHealth use were described and logistic regression assessed the association of race, income and education with app use and attitudes.
- **Results:** We enrolled a convenience sample of 310 parents (80% female, 42% black, 23% household income <$20,000) with 54% from specialty clinics. Nearly half (44%) had previously used a mobile device to look up information about their child’s health and 28% had previously downloaded an app to help manage their child’s health. Parents’ greatest concern was security/privacy of health information (70% very concerned) and did not differ by race, income or education (all p>0.1). In multivariable models, Black respondents were significantly less likely to have used a mobile phone to look up information/track their child’s health [OR .43, (95%CI .24, .79)] and were more likely to be very concerned about the cost to purchase mobile health apps [2.5 (1.1, 5.4)] and of smartphone data [2.4 (1.1, 5.3)] versus White respondents.

Lower income (<$75,000 versus > $75,000) significantly predicted concern about app [(3.0 (1.1, 8.6)], but not data, costs. Education was not a significant predictor in these models. Parents at primary care sites (38%) were more likely than those at specialty sites (26%) to consider doctor approval of apps “extremely important” (p=.02), and results did not differ by race, income or education.

- **Conclusions:** Families commonly use mobile devices and download apps to promote child health. To broaden implementation in practice, doctors should consider recommending apps and addressing privacy concerns. Our results suggest that cost should be minimized for Black/low-income families.

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1 – 4 PM
Poster Session

Jennifer Walter: “If I Could Just Chime in Here”: Communication Patterns of Interprofessional Teams in the Pediatric Cardiac Intensive Care Unit
Location: Poster & Exhibit Hall (Moscone Center West), Board 736

- **Background:** The Institute of Medicine, National Consensus Project and the American Academy of Pediatrics encourages interprofessional teamwork in pateints' care plan development and execution to provide highly reliable care that meets safety standards and parental satisfaction. Little is known about how interprofessional teams communicate with each other about care plan development in the pediatric cardiac intensive care unit (CICU).
- **Objective:** To describe the communication of interprofessional teams in a pediatric CICU when developing care plans and preparing for family meetings.
- **Design/Methods:** Audio recordings were made of weekly CICU team meetings including representatives from all interprofessional care providers prior to meeting with a patient's family. Quantitative assessment described percentage of time each type of provider spoke in the meeting and qualitative coding was performed to determine major themes relevant to team function.
- **Results:** Meetings were 31-51 minutes and discussed one patient each. Total sample over 10 meetings included 50 clinicians with 16 cardiac physicians, 7 sub-specialist physicians, 9 nurse practitioners, 7 registered nurses, 4 social workers, 2 physical therapists, 2 occupational therapists, 1 dietician, and 1 child life specialist. Physicians spoke for an average of 86% of each meeting (SD 8.2). Non-physician team members spoke for an average of 10% of each meeting (SD 5.3); when present, nurse practitioners averaged 5% (SD 3.3), registered nurses 3% (SD 1.7), social workers 3% (SD 3), and all other team members 4% (SD 6.9). Qualitative coding revealed several themes: (1) explicit request for input from members of different disciplines: "Are there any nursing concerns?" (2) Use of a "devil's advocate" question to challenge the group consensus: "What would make us stop support?" (3) Incorporation of other team members' contributions of new information: "So where we are currently is, he's severely malnourished, based on [dietician's] assessment." (4) Interruptions to offer new information: "If I could just chime in here" (5) Planning for communication with the patient's family: "We can try to prepare them that these are the things that are coming up."
- **Conclusion(s):** Physicians spoke during a majority of interprofessional meeting time but requested input from their colleagues of different disciplines. Future research can determine if different meeting processes will impact who communicates and what is communicated in team meetings.

Sunday, May 7

9:45– 10 AM
Platform

Cynthia Mollen, Nadia Dowshen: Sexually transmitted infection screening practices in adolescents presenting to the pediatric emergency department with extragenital complaints
Location: SFC-3001 (Moscone Center West)

- **Background:** Sexually transmitted infections (STIs) may present with oropharyngeal and anorectal symptoms. Little is known about the evaluation of adolescents with these complaints in the pediatric emergency department (PED).
- **Objective:** To determine the frequency of STI consideration and appropriate testing practices among PED providers.
- **Design/Methods:** Retrospective chart review of patients aged 13-18 years who presented to a single urban PED with oropharyngeal or anorectal chief complaints between June 2014 and May 2015. Patient demographics, visit characteristics, and outcome measures related to STI consideration were abstracted from medical records. Provider consideration of STI was defined as any one of the following: documentation of sexual history, documentation of STI consideration in medical decision-making, or diagnostic testing. Multivariate logistic regression models were used to identify factors associated with STI consideration.
- **Results:** Of 715 subjects, the majority were female (64%), non-Hispanic (96%), non-white (80%), and publicly insured (60%). Of 767 visits for oropharyngeal (n=686), anorectal (n=80), or both oropharyngeal and anorectal (n=1) chief complaints, 153 (20%) had STI consideration. 37 (5%) had any STI testing. HIV testing was ordered in 1.3% of visits. Of visits for anorectal and oropharyngeal complaints, 7.4% and 4.2% of visits respectively included gonorrhea (GC) or chlamydia (CT) testing. Of 35 patients tested for GC or CT, 12 (34%) received testing at the anatomic site corresponding to their complaint. Of those 12 tests at appropriate anatomic sites, 50% were the incorrect test (culture rather than nucleic acid amplification test). Older (adjusted odds ratio (aOR) 1.5, 95% confidence interval (CI) 1.3-1.7), female (aOR 1.6, 95% CI 1.03-2.5) patients with anorectal complaints (aOR 2.4, 95% CI 1.3-4.3) were more likely to have STI consideration.
- **Conclusion(s):** In this study from a single urban PED, only 20% of visits for adolescents with extragenital symptoms included provider STI consideration. Testing was performed infrequently and often at an inappropriate anatomic site or with the incorrect test. Visits with older, female patients and anorectal chief complaints were more likely to have STI consideration. Interventions aimed at increasing awareness of appropriate STI screening for patients presenting with extragenital complaints may contribute to reducing adolescent STI infection.

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10 – 11:30 AM
Club

Jennifer Walter: Bioethics Interest Group - Reject or Retain? A Debate on Non-medical Exemptions in Childhood Vaccine Policy
Location: SFC-2012 (Moscone Center West)

- The American Academy of Pediatrics recently joined other professional medical organizations (including AMA and IDSA) in recommending that non-medical exemptions (NMEs) be eliminated from school immunization requirements. There is considerable debate, however, about the best public policy approach to increasing vaccination coverage and ensuring the public's health. Given the complexity of the issues concerning immunization requirements, including protecting public health, respecting individual rights, need for enforcement, and ensuring sustainability, there is a need for dialogue on the best policy strategy going forward.
- Target Audience: All pediatric health care professionals or others interested in ethical issues in pediatrics and in ethics in general This will be a debate with an initial brief outline of the issue followed by arguments on either side. There will be

ample time afterwards for audience participation and discussion.

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12 – 3 PM
SIG Panel

Marsha Gerdes: Culture, Ethnicity & Health Care SIG
Location: Pacific Suite J (Marriott Marquis)

- **Special Interest Group Panel:** This session will explore best practices and challenges related to inclusion of under-represented and marginalized populations in research, including individuals from low-income, limited English proficient, minority, and immigrant populations. We will feature a key note speaker who will address best practices for inclusion and retention of marginalized populations in research, QI, and program development work. A panel comprised of researchers with in-depth experience working with minority, limited English proficient, and immigrant populations (Jean Raphael, MD, MPH; Marsha Gerdes, PhD; Casey Lion, MD, MPH) will share some of their practical tips and engage in a discussion with the audience. Attendees are encouraged to bring challenges encountered related to inclusiveness and equity in research or programmatic work for discussion and problem-solving with the panel. Finally, the session will spend time on SIG business, including discussing steps necessary to set up a disparities and health equity research network.

Workshop

James Guevara: Beyond ‘thumbs up’ or ‘thumbs down’: Provide meaningful manuscript reviews and mentor trainees to do the same!
Location: Sierra Suite K (Marriott Marquis)

- **Workshop:** Reviewing manuscripts is a critical endeavor for enhancing knowledge and practice, improving one’s writing skills and enhancing the publication of quality science. Completing high quality reviews is an important component of professional development for faculty members and fellows; thus, mentoring trainees and junior faculty is crucial. If you are interested in advancing your skills in reviewing manuscripts or mentor another through the review process, this workshop is for you! During this highly interactive workshop, led by the Academic Pediatrics editors, participants will discover the most important elements in reviewing the big picture, depth of the literature review, clarity of the methods and results, integration of the discussion and tips on reviewer etiquette. The presenters will also demystify the decision codes. Facilitators will share tips on mentoring others through the review process and apply these lessons through simulated case studies. By recognizing key constructs and pitfalls in reviewing, participants will not only improve their reviews and those of their trainees but also improve the quality of their manuscript submissions. By the conclusion of this workshop, participants will be equipped with a toolkit to assist them to effectively review manuscripts and mentor others to complete high quality manuscript reviews.

1:30 – 1:45 PM
Platform

Alexander Fiks: Direct-to-Consumer Pediatric Teledermatology
Location: SFC-3001 (Moscone Center West)

- **Background:** Pediatric dermatology appointment wait times often exceed 6 months. Teledermatology may expedite care, yet has not been formally evaluated in practice.
- **Objective:** To evaluate the feasibility/usability, acceptability and clinical impact of a store-and- forward teledermatology mobile application (app) linking families with pediatric dermatologists.
- **Design/Methods:** This single-group, prospective study, conducted from May-July 2016, invited (by email) parents of children age 6 weeks to 17 years or individuals 18-21 years old to use the app. Dermatology appointment schedulers and primary care staff made additional referrals with a goal of 200 participants. App users

photographed their child's condition, answered questions and forwarded information all within the app. One pediatric dermatologist viewed cases, diagnosed the conditions via the app and provided instructions and prescriptions, when indicated. User surveys immediately following app use and one week later, supplemented by electronic logs, assessed feasibility/usability, acceptability, and impact.

- **Results:** 195 parents and 2 adolescents (24% Black, 44% female, 14% non-college graduates) submitted cases within 39 days of email invitation. App users were more likely to be white than those in the population invited (67% vs. 52%, p<.001) and their children were slightly younger (mean 7.3 years vs. 8.2, p=.05) but did not differ by gender/ethnicity (p>.2). 83% found the app easy to use, 97% felt that submitting a case took "the right amount of time," 86% were satisfied, and 93% would use the app again. The most common diagnoses were eczema, acne, molluscum contagioisum and insect bites (together 33% of cases). 48% of users received a prescription. The median user received a response in 2.8 (IQR 1.1-6.4) hours. Had the app been unavailable, 43% reported that they would have waited for primary care, 32% for a dermatology appointment and 7% would have gone to an urgent care clinic (18% other). User comments emphasized the app's ease of use and convenience compared to an in-person appointment and the helpfulness of information provided.
- **Conclusion:** We found that a mobile health app that allowed families to directly consult a pediatric dermatologist was feasible, acceptable, and expedited care. Such approaches may help improve access to care for families, though attention is needed to ensure these strategies do not exacerbate disparities.

4:15 – 7:30 PM
Poster Session

Chén Kenyon: Text Message Adherence Reminders for High Risk Children with Asthma following Severe Exacerbation
Location: Poster & Exhibit Hall (Moscone Center West), Board 634

- **Background:** Urban minority children have high rates of asthma morbidity. Regular use of inhaled corticosteroids (ICS) decreases exacerbation rates, however, adherence to ICSs in urban minority children is low and little is known about adherence patterns immediately following severe exacerbations.
- **Objective:** This study assessed feasibility of an automated text message reminder intervention and adherence trajectories of high risk children immediately following asthma hospitalization or ED visit.
- **Design/Methods:** We conducted a pilot randomized controlled trial to assess the feasibility and limited efficacy of daily text message medication reminders for ICS for families of children ages 2-13 with persistent asthma in the month following asthma hospitalization or ED visit. Participants were block randomized to intervention or control arms based on enrollment location. Participants in the intervention group received daily text message reminders for 30-days following hospitalization, and both arms received Propeller Health electronic sensors to measure daily ICS use. The primary outcomes were feasibility and acceptability, percent adherence to prescribed ICS regimen, and 30-day adherence trajectories. Group-based trajectory modeling was used to examine post-hospitalization adherence trends.
- **Results:** Between January and July of 2016, we randomized 41 participants (mean age 5.9) to intervention (n=21) or control (n=20). Overall, 85% were Black, 88% had public insurance, and 51% of the caregivers had a high school education or less. Thirty-two participant families (78%) transmitted medication adherence data in the month following hospitalization. Of the 26 caregivers (63%) who completed a follow up survey, all found daily text messages to be helpful reminders and wished to continue receiving texts beyond one month. One-month average adherence was 37%

in the intervention group, compared with 43% in the control group (p = 0.56) and average daily adherence trends were similar between intervention and control group.

- **Conclusion(s):** Average adherence in the month following severe exacerbation was suboptimal in both groups. Although automated text message reminders appeared feasible and acceptable, we did not observe any signal for better adherence, on average. Average adherence patterns, however, did not reflect the actual adherence trajectories. Future work should account for these differences.

Poster Session

Chén Kenyon: The Effect of a Population Health-oriented Care Bundle on 30-day Readmission for the Highest Risk Children with Asthma
Location: Poster & Exhibit Hall (Moscone Center West), Board 32A

- **Background:** Population health strategies targeting the highest utilizers of inpatient care have become popular despite a paucity of evidence supporting their effectiveness in children and concerns about generalizability across health care systems. We set out to develop and evaluate a replicable high utilizer initiative for pediatric asthma patients using quality improvement methodology.
- **Objective:** To improve the consistency and coordination of care for children with 3 or more hospitalizations for asthma in the last year using a bundle of care enhancements.
- **Design/Methods:** We assembled a multidisciplinary team of nurses, respiratory therapists, community health workers, QI specialists, and physicians from five different disciplines to enhance the receipt of a bundle of evidence-based services for children with the highest rates of hospital utilization for asthma across 3 affiliated inner city practices. The bundle included: (1) standardized risk screening and tailored inpatient education, (2) directed filling of discharge prescriptions, (3) referral to a specialty clinic, and (4) referral to a community health worker-centered care navigation program coordinated across care locations. We used statistical process control (SPC) charts to analyze the impact of bundle implementation on our two primary outcomes: 30-day readmission rate across eligible children and monthly hospitalization rate among enrolled children. Special cause variation was defined as 8 process cycles (months) with mean values below a 16-month historical baseline (1/2015-4/2016).
- **Results:** Over 9 months (5/2016-1/2017), we enrolled 76 of 92 (83%) eligible children in at least one component of the bundle. Average age was 7.3 years (range 1.5-19.7), 59% were male, 92% were black, and baseline 30-day readmission rate was 25%. SPC charts demonstrated consistent improvements in receipt of individual bundle components, as well as criteria for special cause variation with respect to 30-day readmission, with a new baseline readmission rate of 13.3% for eligible participants. [Figure 1] Compared to their historical average, enrolled participants have experienced lower monthly hospitalization rates for asthma for each month since bundle initiation. [Figure 2]
- **Conclusion(s):** Using quality improvement methodology, a bundle of evidence-based services coordinated across care locations led to consistent and sustained reduction in 30-day readmission and monthly hospitalization rates for the highest risk children with asthma.

Poster Session

Tiffani Johnson: Racial/Ethnic Diversity in the Pediatric Emergency Medicine Physician Workforce
Location: Poster & Exhibit Hall (Moscone Center West), Board 551

- **Background:** The pediatric emergency department (PED) has the important responsibility of providing care to all children irrespective of their insurance status, income, or race and ethnicity. Yet, the racial and ethnic diversity of the pediatric emergency medicine (PEM) workforce in comparison to the patient population that it serves has not previously been characterized.

- **Objective**: To describe the racial and ethnic composition of PEM fellowship trainees in comparison with the US population, medical students, pediatric residents, and other pediatric subspecialties.
- **Design/Methods:** A cross sectional analysis of data from the US census (2010), the American Medical Association (2013-2014), and the Association of American Medical Colleges (2013-2014). We examined groups that are underrepresented in medicine (URM) compared to the general population; which includes Blacks, Hispanics, Native Americans, Alaskan Natives, and Pacific Islanders. We calculated the proportion of URMs in medical school, pediatric residency, and pediatric subspecialty training programs. Chi squared analysis was used to compare differences in diversity for PEM fellowship compared to other pediatric training programs.
- **Results:** URMs comprise 30% of the US population, but only 15.8% of matriculating medical students. Among pediatric trainees, 15.4% of general pediatric residents are from URM groups. Only 12.5% of PEM fellows are URM. Diversity in PEM fellowship did not differ significantly from all other pediatric subspecialty training programs (14.2%, p=0.31), including pediatric critical care fellows (14.1%, p=0.50) and neonatal-perinatal medicine (14.6%, p=0.35).
- **Conclusion(s):** Certain racial and ethnic groups remain underrepresented in pediatric general and subspecialty training programs, including PEM. Data on diversity among PEM faculty is currently unavailable, and remains an important gap in the literature. Given the diversity of the patient population served in PEDs, and the known benefits of workforce diversity, efforts to recruit and retain URMs in PEM are urgently needed.

Poster Session

Nellie Lazar: Using Chart-Simulated Recall to Identify Barriers and Facilitators to Routine HIV Testing Among Pediatric Primary Care Providers
Location: Poster & Exhibit Hall (Moscone Center West), Board 524

- **Background:** Adolescents and young adults account for approximately 1 in 4 new HIV infections in the US and early diagnosis and treatment are critical to reducing morbidity and mortality and preventing transmission. Despite routine HIV testing recommendations by the CDC, AAP, and USPSTF, HIV testing rates have not improved from 2005-2103 and remain as low as 25% among sexually active adolescents.
- **Objective:** This study aimed to explore provider practices of HIV screening and prevention services and identify barriers and facilitators to routine HIV testing in the pediatric primary care setting.
- **Design/Methods:** Adolescent HIV testing rates were calculated at primary care sites in a large pediatric hospital network to identify high and low-performing sites. Pediatric providers were purposively sampled and invited to participate in a 45-minute interview in-person or via FaceTime. We used Chart Stimulated Recall, using semi-structured interviews to explore testing practices based on actual clinic encounters. Providers accessed three recent adolescent visits and were reviewed in reverse sequential order. The interview guide based on the theory of planned behavior aided the research staff to probe for more detailed information. Interviews were audio-recorded and transcribed. Qualitative analysis was performed using a modified grounded theory approach.
- **Results:** Thirty-one pediatric providers, MD = 18 (58%) and CRNP = 13 (42%), were interviewed. 52% of participants were from 5 high-performing sites and 48% from 7 low-performing HIV testing sites. Mean years of experience was 16.9 (SD 10.8). We identified the following key barriers: 1) poor knowledge of guidelines and

intent to perform risk-based rather than routine recommended screening 2) low comfort with sexual health and assumptions made about sexual activity 3) misperceptions about adolescent confidentiality and consent 4) limited time and competing priorities and 5) lack of resources for onsite testing and follow-up. Key facilitators were 1) motivation for practice improvement 2) knowledge of guidelines and risk 3) availability of on-site resources such as family planning services and lab. Providers at high performing sites were more likely to know the HIV testing guidelines and have more on-site resources

- **Conclusion(s):** Identifying barriers and facilitators to adolescent HIV screening using real patient encounters provides important information for developing interventions to improve HIV testing rates among pediatric primary care providers.

Monday, May 8

8:30 – 11:30 AM
Workshop

Chén Kenyon: Grant Writing for Young Investigators: Designing, Funding and Implementing One-year Research Projects and Having Fun Doing it!
Location: Pacific Suite J (Marriot Marquis)

- For many investigators, an initial 1 year grant jump starts their academic careers. However, the daunting challenges of translating compelling scientific questions into feasible and fundable projects prevent some from obtaining funding and using an early grant as a springboard for future projects. In this workshop, APA faculty are joined by past and current Young Investigators to examine what constitutes a successful and fundable 1 year project and the steps needed to secure an award. The session includes a brief introduction to the nuts and bolts of 1 year projects, available funding sources for Young Investigators, grant review criteria, and winning strategies to writing successful 1 year grants. In breakout groups of 6-8, participants individually review and score letters of intent and full proposals with follow up discussion co-facilitated by recent Young Investigators and senior faculty. Group exercises will identify common pitfalls in the development and implementation of 1 year research grants and offer tips for success related to scope of effort, feasibility, and mentoring. Proposals will be chosen from those submitted to PAS and include a range of topics and study designs. The workshop will highlight how small projects can lead to larger scale research activities.

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9 – 11 AM
Presidential Plenary

Aletha Akers: Effect of Weight and Social Context on Romantic Relationships and Sexual Behavior During the Adolescent-to-Adult Transition
Location: SFC – 2014-2018 (Moscone Center West), 10 AM

- SPR Presidential Scientific Plenary: New Members Outstanding Science Lectures

Focus Group

David Rubin, Ahaviah Glaser, Doug Strane: Emerging Issues of Healthcare Coverage and Access for Children in Low and Moderate Income Families in the United States
Location: SFC-3003 (Moscone Center West)

- With a new administration and looming issues in children's health policy related to insurance coverage and access in the future for children in low and moderate income families, this plenary will invite both recent research on public and employer-sponsored insurance for children and families, as well as invite policymakers and health advocates who are stewarding a debate about the future of CHIP, Medicaid, the insurance exchange marketplace, and employer-sponsored plans. After a presentation of emerging data, keynote speakers will update the audience on forseeable challenges during the next 5 years.

10:30 - 12:30 AM
Platform

Emily Gregory: Low Adherence to Universal Cholesterol Screening Guidelines
Location: SFC – 2001-2003 (Moscone Center West)

- **Background:** In 2011 NHLBI and the AAP recommended universal cholesterol screening at ages 9 - 11. Though links between childhood cholesterol and adult cardiovascular health were discussed in this recommendation, the primary stated purpose was to identify children with familial hypercholesterolemia.
- **Objective:** Determine whether patient cardiovascular risk factors are associated with adherence to universal screening guidelines.
- **Design/Methods:** In an urban/suburban practice network serving > 200,000 children, we identified 28,256 children from 27 practice sites with a 9 - 11 year well visit in 2014. We developed a multilevel logistic regression model accounting for clustering by practice. Cholesterol screening was the dependent variable. Key independent variables were cardiovascular risk factors: body mass index (BMI) and systolic blood pressure (SBP), both measured at the time of the visit. Family history was not included due to poor reliability. Other covariates included demographics (age, sex, race/ethnicity, and insurance status) and factors related to ongoing care (other labs ordered, history of well care within the last 18 months). Marginal standardization was used to estimate adjusted screening rates for BMI and SBP categories from the regression model.
- **Results:** Overall, 750 children (2.6% of eligible) were screened. Six sites, accounting for 20.0% of total children, conducted no screening at all. Race/ethnicity of the sample was: 25.7% non-Hispanic Black, 56.5% non-Hispanic White, 5.4% Hispanic, 3.1% Asian and 9.4% other (primarily reporting mixed-race). 24.6% of children were Medicaid insured. Elevated BMI was associated with increased screening, however elevated SBP was not (BMI 85th% - 95th%: OR 1.87, 95% CI 1.38 - 2.54; BMI > 95th%: OR 5.78, 95% CI 4.56 - 7.33; SBP >= 90th%: OR 0.92, 95% CI 0.67 - 1.27). Our model predicted an adjusted probability of screening of 3.3% for those in the highest BMI category. Black race and Hispanic ethnicity were associated with increased screening, as was ordering other labs at the same visit. Medicaid insurance was negatively associated with screening. Age was not associated with screening.
- **Conclusion(s):** Three years after a recommendation for universal cholesterol screening, overall screening rates were poor. Rates were slightly higher among those with an elevated BMI. This suggests that, despite the intent of the guideline to provide universal screening for familial hypercholesterolemia, cardiovascular risk factors may drive screening decisions.

11:10 - 11:20 AM
Poster Symposia

Kristen Feemster: Variation in College Immunization Requirements in the United States
Location: SFC-3001 (Moscone Center West), Board 5

- **Background:** Vaccine recommendations for older adolescents have expanded in recent years to include new vaccines, address the changing epidemiology of vaccine-preventable diseases and respond to outbreaks. College-bound teens are often required to receive several vaccines prior to enrollment to address increased transmission risks on college / university campuses. While multiple challenges to implementation of the adolescent vaccine platform for younger adolescents have been described, less is known about requirements for entering a post-secondary educational setting.
- **Objective:** To measure variability in immunization requirements and enforcement policies for college students at U.S. colleges and universities.
- **Design/Methods:** Cross-sectional study of a sample of U.S. colleges and universities (2 public and 2 private per state). Published immunization recommendations, available vaccines and requirements for enrollment were

abstracted from college and university websites. Additional covariates included school type and size, membership in ACHA, state immunization requirements and history of vaccine-preventable disease outbreaks. We performed descriptive statistics and compared requirements and enforcement practices by university characteristics.

- **Results:** Among 216 schools, 51.9% were private and 70.8% had >5,000 students. Almost all (91.7%) required at least one vaccine for enrollment while 61.2% required 3 or more. The majority of schools required the MMR vaccine (82.4%) while approximately one-third of schools required hepatitis B and/or the quadrivalent (ACWY) meningitis vaccine (30.6%; 37.0%, respectively). Only two schools required the new meningococcal B vaccine but 22 schools recommended it for entering students (Figure 1). A higher proportion of public than private schools provided vaccines to students on campus (91.3% vs 75.9%, respectively). Several schools followed state immunization requirements, but also required additional institution specific vaccinations for college students. The majority (67.1%) enforced compliance by limiting ability to register for classes.
- **Conclusion(s):** Vaccine requirements and availability differed substantially by school, suggesting that vaccine uptake among college students may be inconsistent. Future work will evaluate associations between college vaccine policy and actual vaccine rates as well as facilitators and barriers to implementation of immunization programs among school health administrators and college students.

11:30 - 1:00 PM
Presidential Plenary

Brian Jenssen: Young Investigator Award

1:30 – 1:40 PM
Presidential Plenary

Alexander Fiks: Comparative Effectiveness of Broad vs Narrow Spectrum Antibiotics for Acute Respiratory Tract Infections in Children
Location: Yerba Buena Salon 8 (Marriott Marquis)

- American Pediatric Association Presidential Plenary

3:30 – 5:30 PM
Platform

Chén Kenyon: Access to Timely Outpatient Care and Repeat Emergency Care Utilization for Acute Pediatric Respiratory Conditions
Location: SFC-3006 (Moscone Center West)

- **Background:** Existing efforts to decrease hospital and emergency department (ED) readmission rates often focus on improving rates of primary care follow-up.
- **Objective:** To assess the relationship between timely access to outpatient care and subsequent 30-day repeat ED visits and hospital readmissions for four common causes of pediatric respiratory hospitalization. We hypothesized that more timely access to outpatient care would be associated with a lower odds of 30-day repeat ED visits, readmission, and either ED revisit or readmission.
- **Design/Methods:** This is a secondary analysis of a prospective cohort study of children age 2 weeks-16 years admitted to 5 children's hospitals in the United States for asthma, bronchiolitis, croup, or pneumonia. We assessed caregivers' perception of timely access to outpatient services using the Consumer Assessments of Healthcare Providers and Systems (CAHPS®) Health Plan Survey 4.0 Child Questionnaire 6-item Getting Care Quickly composite measure (range 0-100) completed by parents at the time of index hospitalization. We linked survey data from the index hospitalization with thirty-day ED revisits and hospital readmission data from the Pediatric Health Information System (PHIS). We used multivariable logistic regression to assess the relationship between access to timely care and the 3 revisit outcomes, adjusting for child age, race/ethnicity, parental education, condition, number of office visits in the last 6 months, and site of enrollment.

- **Results:** Of the 2438 enrolled children, mean age was 3.5 years, 22% were black, 24% Hispanic, 35% of caregivers had a high school education or less, and 10% had not been seen in their doctor's office in the last 6 months. Thirty-two percent of the patients had bronchiolitis, 28% asthma, 25% pneumonia, and 14% croup. The average length of stay was 2.2 days and 7% required care in the intensive care unit care. Average access composite score was 52.01 (SD 36.31). In the multivariable models, increase in the access score was associated with a higher odds of repeat ED visit and the combined revisit outcome, but not readmission alone.
- **Conclusion(s):** Counter to our hypotheses, higher perceived access to timely outpatient care was associated with a slight increase in the odds of repeat ED visit and combined ED/hospital revisit for four common pediatric respiratory illnesses. Timely access to primary care may not lead to improved rates of repeat ED and hospital revisits.

Platform

Doug Strane: Migration to Pediatric Public Insurance among Working Families in the Private Sector
Location: SFC-3006 (Moscone Center West)

- **Background:** In recent years, an increasing proportion of working parents with employer-sponsored insurance have chosen to cover their children with public insurance such as the Children's Health Insurance Program or Medicaid. At the same time, employers' insurance offerings have changed, with large increases in premiums and deductibles. These changes in cost sharing, and the insurance coverage decisions families make for their children in response, may differ by employment sector or size of the employer.
- **Objective:** We examined low- and moderate-income working families to determine the changing association between uptake of pediatric public insurance and employer sector and size over time.
- **Design/Methods:** We conducted a repeat cross-sectional analysis of children in low-to-moderate-income households (100%-400% of federal poverty level [FPL]) with at least one employed parent from 2008-2014 in the Medical Expenditure Panel Survey. The outcome was uptake of public insurance coverage (i.e. CHIP or Medicaid) for children in these households. Logistic regression models evaluated temporal trends in coverage, stratified by employer characteristics and household income level, and yielded survey-weighted national estimates of children's public insurance uptake, standardized by family demographics.
- **Results:** In adjusted models, among families earning 100-199% of FPL with private sector employment, the proportion of children with public insurance increased from 42.7% in 2008 to 55.6% in 2014 ($p<0.001$), as compared to an increase from 32.9% in 2008 to 50.5% by 2014 ($p=0.002$) among families with public sector employment. Within the private sector, 61.4% of low-income families at small employers (≤50 employees) covered their children with public insurance by 2014, compared to 47.6% at large employers (≥250 employees) ($p<0.001$). (no table selected)
- **Conclusion(s):** During a time in which employer-sponsored insurance changed substantially, low-income families employed in the private sector were more likely than those in the public sector to cover their children with public insurance. Bargaining opportunities among employees in the public sector or at large employers may have safeguarded the availability of more robust health plan benefit packages; conversely, the financial pressures of small private sector employers may have contributed to increased cost sharing that led low-income employees to seek pediatric public health insurance. With the uncertain future of CHIP and Medicaid, these findings demonstrate the important role that public insurance plays for working families.

1:30 – 3 PM
Platform

Doug Strane: Family characteristics associated with child maltreatment across the deployment cycle of U.S. Army soldiers
Location: SFC-3001 (Moscone Center West)

- **Background:** Soldier deployment can be stressful for US Army families with young children. Prior research has identified elevated rates of child maltreatment in the six months immediately following a soldier's return home from deployment. Family characteristics such as mental health status of parents, gender of soldier-parent, and infants with special needs may also influence the risk of maltreatment.
- **Objective:** We examine how child and family characteristics influence the relationship of deployment to risk of maltreatment for dependent children ages 0-24 months of US Army soldiers.
- **Design/Methods:** We conducted a person-time analysis of substantiated reports and medical diagnoses of maltreatment among the 73,404 children of 56,087 US Army soldiers with a single deployment between 2001 and 2007. Cox proportional hazard models estimated hazard rates of maltreatment across time periods relative to deployment, simultaneously considering main effects for other child- and family-level characteristics across time periods. Child characteristics included neonatal chronic conditions, gender, and number of siblings at birth. Parentlevel characteristics included mental health status prior to birth of child, rank, education, gender, and race/ethnicity.
- **Results:** In adjusted models, maltreatment hazard was highest in the 6 months following deployment (HR = 1.63, $p<0.001$). Children born prematurely or with a complex chronic condition independently had an increased risk for maltreatment across all periods (HR = 2.02, $p<0.001$), as well as those children whose soldier-parent had been previously diagnosed with a mental illness (HR = 1.68, $p<0.001$). In models testing for effect modification, during the 6 months prior to deployment, children of female soldiers (HR = 2.22, $p=0.006$), as well as children of soldiers with a mental health diagnosis (HR = 2.78, $p=0.001$) were more likely to experience maltreatment, exceeding the risk at all other time periods.
- **Conclusion(s):** Infants and children are at increased risk for maltreatment in the six months following a parent's deployment, even after accounting for other known family- and child-level risk factors. However, the risk does not appear to be the same for all soldiers and their families, particularly for female soldiers and those who had previously diagnosed mental health issues. Accounting for the unique needs of high-risk families at different stages of a soldier's deployment cycle may allow the US Army to better direct resources that prevent and address child maltreatment.

4:15 – 7:30 PM
Poster Session

Scott Lorch: Maternal adverse childhood experiences and adverse birth outcomes
Location: Poster & Exhibit Hall (Moscone Center West), Board 367

- **Background:** Adverse childhood experiences (ACEs), including abuse, neglect, and household dysfunction prior to the age of 18 have been associated with many risky adult behaviors and poor health outcomes, including premature death. Few studies have investigated the association between maternal ACE exposure and its effect on later pregnancy and birth outcomes.
- **Objective:** To investigate whether maternal ACE exposure is associated with an increased odds of having an adverse birth outcome (ABO), such as infants born small for gestational age (SGA), infants with a birthweight less than 2.5kg, preterm birth prior to 37 weeks' gestation, and death during the birth hospitalization.
- **Design/Methods:** We constructed a retrospective cohort of female adolescents surveyed in grades 7-12 as part of The National Longitudinal Study of Adolescent to

Adult Health (Add Health) who were followed for 15 years and reported a live birth during the follow-up period (N=2957). A woman's ACE exposure was determined using responses to questions about childhood abuse, neglect, or household dysfunction (exposure to a household member with mental illness, incarceration of a household member, or parental separation). Univariable and logistic multivariable analysis determined the association of each ACE category and ABO after controlling for race/ethnicity, health insurance, income and level of education.

- **Results:** 79% of the woman in the cohort reported exposure to at least 1 category of ACE and 18% reported exposure to 4 or more categories of ACE. 32% of the cohort had an ABO for at least one pregnancy. In univariate analysis, parental separation and sexual abuse were associated with an increased odds of having an ABO with an OR of 1.3 (95% CI 1.1 -1.5) and 1.3 (95% CI 1.0 - 1.6), respectively. However, when controlling for race and other sociodemographic factors, these ACE categories were no longer associated with an increased odds of having an ABO. In multivariable analysis, total ACE score (0-9) was also not found to have a significant correlation with ABOs (Adjusted OR 0.97, 95% CI 0.9-1.03).
- **Conclusion(s):** ACE exposure by itself is not a risk factor for ABOs in this cohort of US women. Instead, ACE exposure seems to be another marker of poor socioeconomic status, with a strong correlation seen between ACEs and women with black race, less education and lower incomes.

Poster Session

Scott Lorch: The Impact of Paternal Childhood Adversity on Offspring Health
Location: Poster & Exhibit Hall (Moscone Center West), Board 383

- **Background:** Adverse Childhood Experiences (ACEs) such as abuse, neglect, and household stressors have been associated with a number of childhood health conditions including developmental delay and physiologic problems. Animal models support the role for transgenerational transmission of ACEs to offspring. However, most human studies focus on maternal stress and ACEs.
- **Objective:** To determine the impact of paternal ACE exposure on adverse birth outcomes such as low birth weight and adverse childhood outcomes including fair to poor health, neurocognitive impairment, and physiologic dysregulation.
- **Methods:** We constructed a longitudinal cohort of males with at least 1 liveborn child who were recruited as adolescents in the National Longitudinal Study of Adolescent to Adult Health and followed for 15 years (N=1865 males with 3130 children). Univariable and multivariable logistic regression analyses of paternal childhood adversity and pregnancy/offspring outcomes was conducted controlling for socioeconomic factors, mental health; history of incarceration; smoking, alcohol, and drug use (pregnancy and child outcomes); and offspring sex, age and respondent offspring relationship (child outcomes).
- **Results:** Nearly 15% of the respondents experienced 4+ ACEs. Childhood incarcerated care providers, physical and sexual abuse (prevalence 13.3%, 26.7%, and 6.8%, respectively) had the highest proportion of low birth weight children (incarcerated care providers (11.2%), physical abuse (10.3%), and sexual abuse (16.0%)) Children born to respondents endorsing childhood sexual abuse had the highest prevalence of fair or poor rated health (39.5%) while children born to respondents endorsing childhood physical abuse had the highest proportion of neurocognitive impairment (7.6%). Low birth weight remained associated with paternal childhood incarcerated care providers (OR 1.8, 95% CI 1.0-3.3). In multivariable analyses, children born to men endorsing childhood incarcerated care providers exhibited a significantly increased risk for fair to poor rated health (OR 4.3, 95% CI 1.2-15.7) while offspring of men citing childhood physical abuse demonstrated an increased risk for developmental, behavioral, learning problems, and ADHD (OR 1.8, 95% CI 1.1-2.8).

- **Conclusion**: Paternal early life stress demonstrated a significant association with adverse offspring outcomes. Future work is necessary to understand the underlying mechanisms through which these childhood experiences negatively impact the well being of offspring.

Poster Session

Cynthia Mollen: Novel clinical decision support system to improve adolescent sexual health care
Location: Poster & Exhibit Hall (Moscone Center West), Board 367

- **Background**: Clinical decision support (CDS) systems use patient characteristics to generate tailored recommendations and can improve care. No established system exists to support the wide range of sexual health needs among adolescents seeking care in the emergency department (ED).
- **Objective**: To develop a novel CDS system that is acceptable and easy to use in the ED.
- **Design/Methods:** An expert, multidisciplinary team assessed evidence and recommendations around adolescent sexual health services using Cochrane Collaborative software packages and the Appraisal of Guidelines, Research and Evaluation instrument. After achieving consensus, we created a computerized branching-logic questionnaire utilizing patient-entered responses to generate tailored recommendations (Figure 1). The system was evaluated using mixed methodology to assess acceptability and usability among adolescents and ED providers. Adolescents were recruited at one pediatric ED via convenience sampling. Providers at two general and two pediatric EDs were recruited by email and word of mouth. Participants observed a demonstration, then interacted directly with the CDS system. Participants completed a computerized survey to assess interest and system usability, barriers and benefits to system use (providers), and ease of use and assessment preferences (adolescents). Responses to open-ended questions were independently coded by two investigators.
- **Results:** A total of 43 ED staff (17 physicians, 17 nurses, 9 NPs; 53% female) and 57 adolescents (mean age 16.2 years; 75% female; 56% sexually experienced) were enrolled. Most reported favorable views (Table 1). Adolescents (68%) would prefer using a computer for future assessments. Providers identified barriers including time constraints, limited scope of practice or comfort, technology or equipment problems, and challenges in ensuring privacy. To overcome barriers, providers suggested integration with the electronic medical record and additional training and staff. Potential benefits included improved efficiency, better outcomes, and perceived adolescent preference for computerized assessments. Several felt the system could "address issues without relying on a physician." Providers supported this process of "personalized" care and felt it encouraged opportunities that "would otherwise be missed."
- **Conclusion(s):** This novel CDS system was deemed acceptable and useful by adolescents and ED providers. Studies to assess system impact on improved care delivery and health outcomes are warranted.

Poster Session

Deepak Palakshappa: Food Insecure Families Access to Local Food Resources
Location: Poster & Exhibit Hall (Moscone Center West), Board 91

- **Background:** The AAP recommends all pediatricians screen and address food insecurity (FI). One strategy to address FI is to provide families with information about local food resources (food pantries), but transportation may be a barrier to families accessing these resources.
- **Objective:** To evaluate the association of FI with transportation access and

distance to local food pantries. Design/Methods: We conducted a cross-sectional study combining data from 3 sources. We extracted electronic health record (EHR) data from 9 pediatric primary care practices (3 urban and 6 suburban) located in Philadelphia and surrounding counties. These practices screened all patients presenting for a 2, 15, or 36 month well child visit for FI. Results of the screen were extracted from the EHR, and the addresses of all families screened were geocoded to the address level. We combined this with census-tract level data regarding the percent of households with access to a vehicle and public transportation use from the American Community Survey. We obtained the location of local food pantries from the department of public health and determined the distance between food insecure households and the nearest food pantry. We used multivariable regression models to evaluate the association between FI and distance to the nearest food pantry, FI and access to a vehicle, and distance to food pantry based on vehicle access, controlling for demographics and median household income. Models were clustered by census tract.

- **Results:** Of the 20,703 households screened, 1,573 (7.6%) screened positive for FI. Food insecure children were more likely to be African American, live in urban neighborhoods, and neighborhoods with lower median household income (all p<0.001). We identified 258 food pantries (109 urban and 149 suburban). The median distance between food insecure household and nearest food pantry was 0.44 miles (IQR: 0.01, 0.87). In multivariable models, food insecure households were more likely to live in neighborhoods that did not have access to a vehicle (OR: 1.14, 95% CI: 1.02, 1.30), but we did not find a significant association between FI and public transportation use. Among food insecure households with limited access to a vehicle, 24% of urban and 28% of suburban families lived greater than half a mile from the nearest food pantry (Table).
- **Conclusion(s):** Even in an area with many resources, transportation and distance may be barriers to accessing local food resources for many food insecure families that should be addressed when pediatricians counsel both urban and suburban families.

4:30 – 4:45 PM
Platform

Scott Lorch: Access to Children's Hospitals (CH) in the ACA Marketplace, 2015 to 2016
Location: SFC-3006 (Moscone Center West)

- **Background:** As ACA marketplace plans mature, there have been increases in plans that limit access to high-cost, but potentially higher quality providers of services not available at other facilities. Data on access to Children's Hospitals (CH) through these marketplace plans in 2015 and 2016 are not known, nor the degree of geographic variation or factors association with changes in access.
- **Objective:** (1) describe the percentage of plans in 231 urban and rural US areas that provide access to at least 1 CH in their 2016 network of facilities; (2) how this percentage changed between 2015 and 2016; and (3) factors associated with a greater percentage of plans providing routine CH access via their network.
- **Methods:** We constructed a cohort of all facilities within the network of each Silver ACA plan in the 2015 and 2016 ACA marketplace. For each plan, access to a CH was defined as having at least 1 member hospital of the Children's Hospital Association excluding Shriner's hospitals (N=189) included in the network of that plan. We then separately determined the percentage of plans in 231 urban and rural US areas that provided access to at least 1 CH in their 2015 or 2016 network, providing 3 outcome variables: % 2015 plans with access, % 2016 plans with access, and absolute change in percentage. Areas included the 3 largest metropolitan areas for each state, as well as additional urban and rural areas to provide a complete geographic coverage of the state. Univariable and linear multivariable regression models determined the association between each of the 3 outcome variables and specific predictive factors,

including the presence of a CH in that geographic area; insurance competition; median household income; population size; and # plans in the ACA marketplace.

- **Results:** There was an average 8.9% absolute increase in the # plans including at least 1 CH from 2015 to 2016 (2015: 32.5% ± 36% v. 2016: 41.5% ± 42.6%). 95 areas in 2016 offered no access to CH through their ACA marketplace plans, down from 105 areas in 2015. The presence of a CH, higher median household income, higher insurance competition, and higher population size were all associated with a larger percentage of plans offering routine access to CH, although the greater changes in this percentage from 2015 to 2016 were seen in areas with higher income and higher insurance competition. In multivariable models, the presence of a CH (33.6% increase, 95% CI 22.7%-44.7%) and high income (20.6% increase over the lowest income quartile, 95% CI 9.8%-31.5%) were associated with greater routine access to CH in 2016. However, the greatest increases in CH access between 2015 and 2016 were seen in the high-income areas (16.2% increase, 95% CI 6.5%-25.9%) and highest areas of insurance competition (10.1% increase, 95% CI 0.6%-19.6%).
- **Conclusion:** There was an increase in access to CH via ACA marketplace plans in 2016 compared to 2015, although these changes were preferentially seen in areas of high income and highest insurance competition. Access remains poor for many participants in ACA plans, especially those in low-income areas that may rely on such plans to a greater degree than higher income areas.

Tuesday, May 9

7 – 10 AM
Poster Session

Kristen Feemster: Prevention of anogenital warts among males in a publicly-funded sexually-transmitted infection (STI) clinic after introduction of Human papillomavirus (HPV) vaccines
Location: Poster & Exhibit Hall (Moscone Center West), Board 729

- **Background:** Recent studies demonstrate significant reductions in HPV-associated anogenital disease since HPV vaccine introduction. However, disparities in HPV infection risk and subsequent morbidity persist. HPV vaccines can potentially reduce disparities, yet vaccination rates lag behind those for other adolescent vaccines, especially among males, and less is known about HPV vaccine impact within high-risk populations.
- **Objective:** To measure the impact of HPV vaccine introduction on genital warts incidence among males presenting to a publicly-funded STI clinic.
- **Design/Methods:** This retrospective cohort study evaluated visits for all males 14-26 years old presenting to 1 of 2 public STI clinics from 2003-2016 in Philadelphia County. The clinic serves a diverse population: median age 22 years, 66% male, and 75% Black. The primary outcome was first diagnosis of anogenital warts (GW) pre-HPV recommendation for males (2003-2009), during transition from permissive to routine recommendation (2010-2011), and after established routine recommendation (2012-16). HPV vaccination status was obtained by matching clinic patients to the city's immunization registry on name and date of birth. We measured trends in incidence of first time genital warts across the three time periods and calculated the relative risk (RR) of GW between vaccinated (?1 HPV) vs unvaccinated males presenting 2010-16.
- **Results:** Among 27,442 males, 16% reported sex with males, 14% reported ?2 male partners and 49% reported ?2 female partners. There were 2,017 cases of first-time anogenital warts. HPV vaccination (?1 HPV) in the clinic population increased from 4.6% in 2006 to 30% in 2016 (year to date). Prevalence of GW decreased

significantly from 8% to 3% as the cumulative number of citywide HPV vaccine doses rose from 411 to 570,000 (Z-test for trend=14.3, p=<0.01). The RR for GW among vaccinated vs unvaccinated males was 0.93 (0.79,1.14).
- **Conclusion(s):** There has been a significant reduction in anogenital warts diagnoses among males at high risk of HPV infection as clinic HPV immunization rates and city-wide HPV vaccine distribution increased. However, GW risk among vaccinated and unvaccinated males is equivalent, likely reflecting exposure to HPV prior to vaccination in this population. This emphasizes the importance of early vaccination and supports current evidence of population-level impact of HPV immunization programs.

Poster Session

Tiffani Johnson: A Decade of Studying Implicit Racial/Ethnic Bias in Healthcare Providers Using the Implicit Association Test
Location: Poster & Exhibit Hall (Moscone Center West), Board 668

- **Background:** Disparities in the care and outcomes of racial/ethnic minorities are well documented in multiple settings, including pediatrics. Research suggests that provider bias plays a role in these disparities. The implicit association test enables measurement of implicit bias via tests of automatic associations between concepts.
- **Objective:** To synthesize current knowledge on the role of implicit bias in healthcare disparities.
- **Design/Methods:** We searched 4 databases for key words related to healthcare providers, implicit bias, and race/ethnicity.
- **Results:** Of 38 qualifying studies identified, 32 found pro-White or light-skin/anti-Black, Hispanic, American Indian or dark-skin bias among a variety of healthcare providers across multiple levels of training and disciplines. 14 studies examined the association between implicit bias and healthcare outcomes using clinical vignettes or simulated patients. 8 found no statistically significant association between implicit bias and patient care while 6 studies found higher implicit bias was associated with disparities in treatment recommendations, expectations of therapeutic bonds, pain management, and empathy. Seven of 9 studies that examined the impact of implicit provider bias on real-world patient care found that providers with stronger implicit bias demonstrated poorer patient-provider communication. Of two studies examining the effect of implicit bias on real-world clinical outcomes, 1 found an association and the other did not. Five studies were conducted in the pediatric setting revealing an association between implicit bias and disparities in pain management, increased implicit provider bias associated with higher patient load and overcrowding, and similar levels of bias 19gainst children as adults. Only three studies tested interventions aimed at reducing bias, and 1 found a post-intervention reduction in implicit bias.
- **Conclusion(s):** Research suggests that most healthcare providers across multiple levels of training and disciplines have implicit racial bias. However, research on the effect of implicit bias on healthcare outcomes has found mixed results. Few studies have attempted to reduce implicit racial bias in healthcare providers, and only 1 study was able to show bias reduction. This review reveals a need for more research exploring implicit bias in real-world patient care, potential modifiers and confounders of the effect of implicit bias on care, and strategies aimed at reducing implicit bias and improving patient-provider communication.

7 – 11 AM
Poster Session

Scott Lorch: Racial/Ethnic Differences in Potentially Preventable Fetal Death Among Hispanic- and White-Serving Hospitals
Location: Poster & Exhibit Hall (Moscone Center West), Board 197

- **Background:** Prior studies have suggested that the hospitals at which minority infants are delivered contribute to disparities in pregnancy outcomes. Less is known about the role of hospitals on Latino pregnancy outcomes, particularly disparities in fetal death.

- **Objective:** To evaluate whether differences in delivery hospitals at which Hispanic/Latino and White infants are born contribute to disparities in potentially preventable fetal death.
- **Methods:** We constructed a retrospective cohort study of 7,343,756 infants of Hispanic/Latino and non-Hispanic White mothers with a gestational age between 23 and 44 weeks delivered in California and Pennsylvania between 1995 and 2009 using birth certificates linked to fetal death and hospital administrative records. Potentially preventable fetal deaths were defined as fetal deaths occurring in hospital with evidence of measures to deliver the infant as a live birth, such as operative delivery and fetal monitoring. We divided delivery hospitals into quartiles according to the proportion of Hispanic infants delivered. Univariate and multivariate logistic regression models were used to calculate the odds of fetal death for Hispanic/Latino and White infants after controlling for maternal/infant factors, hospital characteristics, and quality indices.
- **Results:** Hispanic/Latino women had higher rates of preventable fetal death compared to non-Hispanic white women (7.9 v. 5.9 per 10,000 deliveries, P<0.001). In multivariate models adjusting for patient factors, Hispanic/Latino women had risk-adjusted fetal death rates (odds ratio [OR] 1.37, 95% confidence interval [CI] 1.28-1.47) compared with White women. The odds of fetal death were highest at hospitals that served larger proportions of Hispanic/Latino mothers (2-25% volume: OR 2.01, CI 1.78-2.29; 25-52% volume: OR 3.72, CI 3.26-4.23; >52% volume: OR 4.35, CI 3.80-4.99) compared with hospitals in the lowest quartile (<2% Hispanic patients), even for White mothers (OR 4.85, CI 4.16-5.66). The relationship between delivery hospital and fetal death rates was explained by hospital characteristics, including teaching status (OR 0.78, CI 0.70-0.86), NICU level, and volume (OR 0.99, CI 0.99-0.99). Also, measures of hospital quality, such as having lower cesarean section rates (OR 0.89, CI 0.86-0.93), were independently associated with lower odds of fetal death.
- **Conclusions:** Both Hispanic/Latino and White infants delivered at hospitals that serve a larger proportion of Hispanic mothers may have a higher risk of preventable fetal death. This relationship seemed to be explained by several hospital characteristics including quality of care.

Poster Session

Senbagam Virudachalam: Empirical Assessment of Theoretical Models of Learning and Health Behavior Change in the Home Plate Intervention
Location: Poster & Exhibit Hall (Moscone Center West), Board 699

- **Background:** Though parents' ability to prepare healthy food at home is a critical health promotion skill, few interventions aim to improve parents' cooking skills and behaviors. Home Plate is an intervention designed to empower parents of toddlers to implement healthy home food preparation practices. Home Plate is grounded in experiential learning theory and social cognitive theory, using a small group structure and peer mentors to facilitate active participant engagement in cooking, as well as discussion of healthy food-related behaviors.
- **Objective:** Assess how the theories underlying Home Plate are borne out when the intervention is implemented in the context of a community-engaged research study.
- **Design/Methods:** Study participants were 24 caregivers of 1-3 year old children recruited from pediatric primary care clinics, Early Head Start, WIC offices, and other community sites. Trained observers conducted direct observations of two series of Home Plate classes (n=11), which were recorded as field notes. A coding scheme was developed based on the literature (to establish face validity) and included key strategies integral to experiential learning (e.g. concrete experiences)

and social cognitive theory (e.g. social support and peer discussion). Multiple coders analyzed field notes using the coding scheme, looking for consistency with theoretical constructs. Inter-rater reliability was assessed, as was the distribution of codes across the two class series to account for potential clustering of observations.
- **Results:** In accordance with experiential learning theory concrete experiences were observed frequently, one fifth of which were followed by immediate reflection. Observers also noted multiple examples of interactive behaviors predicted by social cognitive theory, with 42% of the concrete experiences consisting of interactions and collaborative actions among attendees. Approximately one fourth of class discussions demonstrated social support, and one fifth included peer-to-peer knowledge sharing regarding healthy cooking and eating, such as the detrimental effects of high sodium intake or where to buy affordable produce. Codes pertaining to each theory were distributed between the two series of classes.
- **Conclusion(s):** Direct observations of Home Plate demonstrated specific behaviors, events, and interactions through which experiential learning and social cognitive theory may facilitate peer interactions, discussion, and engagement around healthy home food preparation practices among parents of toddlers.

9:30 – 12:30 PM
SIG Panel

Sophia Jan: Health Care Transitions and Disease Self-Management SIG
Location: Sierra Suite B (Marriot Marquis)
- **Special Interest Group Panel:** Quality Initiatives in Health Care Transition Recommendations for quality care during the transition to adult health care were described by the AAP, ACP, and AAFP in the July 2011 Clinical Report: *Supporting the Health Care Transition from Adolescence to Adulthood in the Medical Home*. Many children's hospitals, academic institutions, governmental and other organizations, and community providers have since developed programs and interventions to improve the quality of the transition from pediatric to adult-oriented health care for youth with special health care needs. This yearGÇÖs Health Care Transition Disease Self-Management SIG Meeting will provide a forum for discussion of a variety of quality initiatives and research studies that have informed best practices in health care transition.

1:35 – 1:45 PM
Poster Symposia

Sophia Jan: A Tiered Approach to Transitioning Young Adults with Medical Complexity or Intellectual Disability to Adult Care
Location: SFC-3003 (Moscone Center West), Board 9
- **Background:** Young adults are the fastest growing patient cohort in children's hospitals (CH). Few free-standing CH have implemented a population health approach to transitioning young adults with chronic care needs to adult care. For those with medical complexity and/or intellectual disability (ID), few care models exist to coordinate the transition of primary and specialty care, home health, medical supply, and medical decision-making needs.
- **Objective:** To increase the safety and coordination of pediatric to adult healthcare transfers of complex adult patients through a tiered and multi-model population-based intervention.
- **Design/Methods:** Between Oct 2015 and Dec 2016, we partnered with 7 medical and surgical divisions to identify a transition champions; pilot EPIC-based clinical decision supports (CDS); develop transition guidelines; identify adult providers; and run psychoeducational workshops for patients and families. Adult patients with 2 or more specialists or ID could be referred to MINT, a multidisciplinary clinical team consisting of Med-Peds trained MD, adult NP, SW, and youth community health worker (Figure 1).
- **Results:** We identified transition champions in all partner divisions and 6

additional divisons who meet quarterly. We developed an EPIC-based CDS consisting of a Best Practice Alert and Smartset that could include transition coordination in the problem list, transition information in after visit summaries, link to medical record release & transition readiness assessments, consult social work and MINT if eligible. Six of the 7 original divisions are using the CDS; 4 new divisions are testing the CDS. Two divisions have final transition policies; 4 have drafted policies. Seven psychoeducational events were held. Identified adult primary and specialty providers increased from 20 to 40. All faculty and trainees working on transition QI could receive MOC credit. MINT received 63 consults who had a mean age of 21 years (range 17-43), median of 3 specialists (range 1-8), 70% with ID. In the 2 years prior to the MINT consult, referred patients totaled 745 ambulatory visits, 116 ED visits, and 344 hospital days. Time to consult completion ranged from 2 to 30 hours over a course of 2 weeks to 12 months.

- **Conclusion(s):** A tiered and multi-model population-based intervention is both feasible and acceptable to patients, families, and providers in a large free-standing CH. However, transition of medically complex patients is time-consuming and requires significant infrastructure and personnal investments.

1:55 – 2:05 PM
Poster Symposia

Sophia Jan: Future Planning and Long-Term Care for People with Intellectual Disabilities
Location: SFC-3003 (Moscone Center West), Board 11

- **Background:** Most children with intellectual disabilities (ID) survive into adulthood; most adults with ID live with aging parental caregivers in family homes. Yet long-term care supports, which help adults with ID to continue living in family homes or community settings after leaving the school system, are limited. Few families complete future plans for when aging parental caregivers are no longer able to provide care, leading to crisis, emotional trauma, dilemmas for other family members, and/or costly and unwanted institutional placement. Drivers of future planning are largely unknown.
- **Design/Methods:** We conducted interviews with parents and adult siblings of adults with ID, who completed surveys describing demograhics, adaptive functioning and problem behaviors of the ID dependent, caregiver burden and general health. Caregivers were recruited from community listservs, a children's hospital and adult hospital system, and a city social services agency. Interviews were recorded, transcribed, and analyzed using modifed grounded theory.
- **Results:** Participants were 16 parents and 10 adult siblings. Caregivers were primarily female, Caucasian, with a mean age of 60 years (parents) and 29 years (siblings). ID dependents had a mean age of 28.5 years (range 18 to 41), low scores on adaptive functioning, with some enrolled in Medicaid long-term care programs. Future planning domains identified include housing, legal and financial management, transportation, medical management, oversight of caregivers/staff to manage activities of daily living. Most caregivers lacked concrete plans in one or more domains. Drivers of future planning were caregiver access to information, "systems literacy", trust and acceptance of external supports, perceived urgency of future planning, and ability to let go/accept caregiving responsibilities. Mediators were caregiving needs of ID dependent, family structure and supports, and non-family/paid supports, which changed with time, transition out of school system, and experiences with crisis. Few caregivers discussed their plans with other family members, and none discussed with the ID dependent. Contrasts between parents and siblings included perceived urgency, ideal caregiving arrangements, and expectations for future caregivers.
- **Conclusion(s):** This study identifies drivers and inhibitors of future planning behavior mong family caregivers, potential intervention targets, and also suggests that long-term care planning should be incorporated into transition planning out of

	the school system and pediatric care.

2:00 – 2:15 PM
Platform

Scott Lorch: Higher socioeconomic status and adverse birth outcomes for black women
Location: SFC-3005 (Moscone Center West)

- **Background:** Black infants born in the US are almost twice as likely to have a low birthweight and 1.5 times more likely to be born preterm when compared to white infants born in the US. This disparity is frequently attributed to the socioeconomic (SE) disadvantage associated with the black race, but less data exists on adverse birth outcomes amongst black women of higher SE status.
- **Objective:** To examine the relationship between maternal race/ethnicity and adverse birth outcomes (ABOs), including small for gestational age (SGA), low birthweight < 2.5kg (LBW), preterm birth, and death during the birth hospitalization, and to determine if higher education or income status reduced any observed racial/ethnic disparities in ABOs.
- **Design/Methods:** We constructed a retrospective cohort of female adolescents surveyed in grades 7-12 as part of The National Longitudinal Study of Adolescent to Adult Health (Add Health), who were followed for 15 years with at least 1 follow-up survey, and reported a live birth during the final wave of interviews (N=4652 women with 9211 livebirths). Univariable and logistic multivariable regression models determined the association between race/ethnicity and each ABO after controlling for maternal medical comorbidities, both for the entire cohort and then stratified by maternal education level, household income, insurance status, and employment.
- **Results:** 53% of the cohort was white and 25% was black. Overall, in univariable analyses black women had consistently greater odds of all ABOs (Table 1). While increasing education and income status was associated with improvements in outcomes for both black and white women, disparities persisted such that black women with more than a high school education and higher incomes had similar rates of each ABO as white women with less than a high-school education and lower incomes. Such differences persisted in multivariable models (Table 2). As shown, black women in the highest education and SE groups had a similar increased odds of having ABOs as white women with less than high school education or lower SE status.
- **Conclusions:** While adverse birth outcomes are more frequently associated with lower SE status, we observed that for black women, having higher education, improved income, health insurance and employment does not eliminate the added risk of having infants born SGA or extremely preterm, as is seen with white women. Further data on the life course events that result in higher risk of ABO, including experiences with racism, chronic stress, and discrimination, are needed.