PECARN

Pediatric Emergency Care Applied Research Network

Fall '24

Featured Article: Diversity Supplements: A Funding Mechanism to Enrich the Diversity of our Research Workforce

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Diversity Supplements: A Funding Mechanism to Enrich the Diversity of our Research Workforce

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Promoting diversity, equity, and inclusion, while addressing healthcare and research inequities, is a core priority for the HOMERUN node. Since 2021, our node has funded an Equity Champion who ensures that all HOMERUN grants undergo review through an equity lens. Within this realm, HOMERUN has focused on increasing diversity supplement awardees during this grant cycle. We are thrilled to announce our newest PECARN NIH diversity supplement recipient, Dr. Victoria Hartwell.

We recognize that diversity supplements may not be widely understood so we asked a couple of mentees and mentors to share their experiences and lessons learned in 1) preparing for submission; 2) submission; and 3) post-award. We hope this article will provide guidance on submitting supplements. In addition, we detail an exciting new PECARN project that will help us describe our network diversity.

Step 1: Preparing for Submission

Diversity supplements are a funding mechanism aimed at enhancing the diversity of the research workforce. These supplements consist of two parts, a career development plan and a research plan. Before you start the submission process, determine the applicant's eligibility (see criteria below on page 3). While many characteristics are straightforward, some (including the rural area or low income/health professional shortage area) might require entering your home zip code to determine eligibility. You or the applicant might be surprised to discover their eligibility!

Once eligibility is established, it's time to find a great mentor (or a strong mentee, if you are a mentor)! When we asked a few mentees who had been through this process, they all echoed the same response; "I didn't know this was an option for me until my mentor reached out!" Thus, we encourage mentors to provide this guidance to their node's mentees. Mentees have found this mechanism invaluable to help build their research skills and establish a clear career plan. These supplements truly are a win-win across the board as mentors expressed that these mechanisms offer "the opportunity to extend the reach and impact of the parent study". The mentors surveyed estimated the time required from concept development to submission to be around 30 hours of their time. Meeting with the mentee frequently will ensure the concept, protocol, and grant are all submitted on time.

As you navigate the submission process, it's a good idea to keep your nodal PI and nodal administrator up to date on progress. These mechanisms fall under a similar pathway to ancillary reviews. First a 2-page concept must be submitted, then presented and approved by the Steering Committee. Once approved by the Steering Committee, the protocol, budget, budget justification, and completed RCAC form undergo subcommittee reviews before the final executive committee approval. Ensure you allow sufficient time for these review processes!!

"It's time to find a great mentor!"

During the preparation time, it is best to begin discussions with the Program Officer of the mechanism of choice. One mentee commented, "That helped me to shape the project in a way that would be favorably reviewed and helped to determine budgetary considerations that would also be favorable…" For example, one of our HOMERUN mentees discovered that the mechanism would not support the research activities (i.e. EDC) effort, only travel and salary. Luckily this was identified early in the process, but it did cause the mentorship team and EDC to get creative with how the mentee's team would fund research activities.

Step 2: Submission

Submitting the diversity supplement is very similar to a career development award. The main difference is that the award must be submitted by the parent grant holder's institution. For example, although Dr. Hartwell is in Cincinnati and is the applicant, the PediDOSE ancillary award had to be submitted through Stanford because that is the prime site for the parent award. This can cause some confusion as you are trying to meet both institution's sponsored programs deadlines. Planning is key!

Step 3: Post Award
Post-award, mentees should plan on meeting with their mentors regularly. Most mentors met with their mentees 1-2 times per month throughout the award period. Since the main focus of these supplements are to support career development, ensuring the mentor's team is engaged and invested in the work is critical to success.

"Planning is key!"

Other Words of Advice
There were so many great tidbits of information from both mentors and mentees, we wanted to make sure to share them all! Here are some additional tips as you consider this mechanism:

- **Start Early:** As soon as you know your parent grant is going to be awarded, begin the official process of concept development and include the diversity supplement in the process as you design your data collection forms with the EDC, to ensure all the needed data will be there.
- **Seek Advice Early:** Contact prior diversity supplement awardees and mentors for advice, early!
- **Leverage Resources:** Utilize as many of the existing resources of the parent study as possible to support the supplement.
- **Go for it!:** This is an underutilized funding opportunity for young scientists—don't hesitate to take advantage of it!

Next Steps for the Network
HOMERUN was the first node to create a Demographics Reporting Workspace to not only identify eligible mentees for the Diversity Supplement mechanism but also highlight the diverse makeup of our node. We had 58 responses between all three HEDAs and identified two faculty who might be eligible for a diversity supplement. The survey was well received across our node.

We are thrilled to announce the launch of the PECARN Demographics Survey! The survey, which launches in early September, has been reviewed by the Disparities Working Group, the Executive Committee, our program officers, and others. The purpose of the Demographics Survey is to describe the demographics of our PECARN nodes and network. We ask the HEDA PIs to circulate the link within their HEDAs for faculty, staff, and research coordinators to complete. Be on the lookout for a link to be sent to your inbox in early September, along with a process document that outlines the steps for securing data from this project.

We hope this article provided you with valuable insights into Diversity Supplements. If you have any questions, please reach out! We are happy to continue the conversation with anyone who might be interested.

PECARN
Pediatric Emergency Care Applied Research Network
HOMERUN
HOSPITALS OF THE MIDWEST EMERGENCY RESEARCH NODE

You may be eligible to apply for a diversity supplement! Below is a summary of the requirements:

You could be eligibile!

- ☐ Individuals from racial and ethnic groups that have been shown by the NSF to be underrepresented in health related sciences
- ☐ Individuals with disabilities, as defined as those with a physical or mental impairment that substantially limits one or major life activity
- ☐ Individuals from disadvantaged backgrounds, defined as those who meet specific criteria

Click the link to see if you qualify!

Study Updates

HIKO STEC

Hyperhydration to Improve Kidney Outcomes in Children with Shiga Toxin-producing E. coli Infection (HIKO STEC): A Multinational Cluster Randomized Crossover Trial is in its 3rd year of recruitment. HIKO STEC is a 26-site phase III, embedded, cluster-randomized, crossover trial comparing hyperhydration (e.g. early aggressive intravenous treatment) with conservative fluid management as treatment for STEC-infected children. This study aims to discover which treatment method most effectively mitigates the renal and extrarenal complications of hemolytic uremic syndrome (HUS) and improves health outcomes in STEC-infected children. To date, HIKO STEC enrolled 504 participants with the ultimate goal of enrolling a total of 1040 over 4 years. The fluid allocation crossover is planned for November 4, 2024.

Biosignatures I & II

The Biosignature I/II studies are evaluating the ability of "RNA Biosignatures" to distinguish febrile infants <= 60 days-old with viral versus serious bacterial infections (UTIs, bacterial meningitis and bacteremia). This technology has the potential for rapid and accurate diagnosis of febrile infants. Biosignatures II study is assessing the stability of the RNA biosignature via sequential sampling. We enrolled 2,612 infants, with 306 sequential samples. We have published more than a dozen manuscripts on Biosigs I and II, and are working on others, including the main Biosignatures 1 and 2 transcriptomics manuscripts. Since the last newsletter, we published an article describing the interaction between leukopenia, neutropenia and procalcitonin levels on the risk of serious bacterial infections. We are planning an implementation study of the PECARN SBI Prediction Rule which will involve computerized decision support and shared decision-making.

HEADACHE

The Headache Assessment in Children for Emergent Intracranial Abnormalities (HEADACHE) study aims to create the first decision-making algorithm that will allow physicians to determine the precise risk of emergent intracranial abnormalities in children with headaches, and accurately identify those who require emergent neuroimaging and those who do not. We have finished patient enrollment and are completing follow-up procedures. Over the past 3.5 years, we have enrolled over 13,200 children and completed over 870 interrater assessments. Emergent intracranial abnormalities have been identified in approximately 1.4% of children. Approximately 37% of children received ED neuroimaging, with over 60% of them undergoing CT scans.

SCREEN SMART

The SCREEN SMART Study leverages the foundational work of the Sexually Transmitted Infections Study and seeks to adapt this previous intervention for STI screening to a broad-scale opt-out HIV screening. Specifically, SCREEN SMART wants to address the diagnosis and prevention goals from the national End the HIV Epidemic (EHE). The study aims to increase HIV screening rates in the pediatric EDs using computer-facilitated collection of patient-reported outcomes to confidentially and efficiently assess PrEP eligibility, and leverage mHealth to improve linkage to care for HIV prevention and treatment. We are currently working with sites on survey build and testing data extraction and submission. We anticipate go-live to be Fall 2024.

T-RECS

The T-RECS trial is a pilot trial evaluating the implementation of a treatment bundle including ipratropium and dexamethasone for children with life-threatening asthma. The overall goals of the trial are to evaluate the feasibility of collecting specific patient outcomes and assess the performance of the inclusion criteria. T-RECS has enrolled 6 subjects thus far.

AZ-SWED

The Azithromycin Therapy in Preschoolers with a Severe Wheezing Episode Diagnosed at the Emergency Department (AZ-SWED) trial launched in September 2021 with the goal of testing the hypotheses that azithromycin, given for 5 days to preschool children with severe acute wheezing, will decrease the severity of the acute episode in those who do and/or do not harbor pathogenic bacteria in their nasopharynx. Expected enrollment is 1476; a sub-group (n=370) will be tested for the development of antibiotic resistance. As of 8/23/2024, we have randomized 697 participants. If successful, AZ-SWED could greatly impact preschoolers with acute wheezing illnesses by decreasing the severity of symptoms and reducing the length of hospital admissions.

PediDOSE

The Pediatric Dose Optimization for Seizures in Emergency Medical Services (PediDOSE) study aims to measure the effectiveness and safety of a standardized pediatric seizure protocol with age-based midazolam dosing. Approximately 3000 subjects have been enrolled across the 20 sites, and enrollment will continue through July 2026 for this Exception from Informed Consent (EFIC) study. If the intervention is more effective than current practice (calculation-based dosing), the potential impact is a paradigm shift in EMS pediatric seizure treatment that can be implemented across the country.

PEACH

The PEACH study aims to determine the association between race/ethnicity, insurance type and rate of post emergency department follow-up for children with headache. In addition, this study aims to understand the lived experience of caregivers seeking follow-up for their children with headache as it relates to race/ethnicity and insurance type. PEACH completed enrollment in February 2024. Questionnaire distribution and qualitative interviewing at 4 sites concluded in August 2024. Total consented was 347 and 289 were eligible.

STI

The STI study aims to determine the most clinically efficient and cost-effective ED STI screening method among adolescents who would otherwise not receive preventive healthcare and has the potential to improve diagnosis of asymptomatic STIs and decrease the time interval to treatment, consequently decreasing reinfection rates as well as healthcare costs for youth. All sites have ended enrollment and data collection. Four manuscripts have been published: one in JAMA Pediatrics, comparing the cost-effectiveness of these two screening strategies based on literature estimates; a second manuscript describing the results of the workflow analysis; a third in Pediatrics describing racial, ethnic and gender discordance between the EHR and self-identification; and a fourth in JAMA Network Open describing pregnancy risk and contraception use. There are several more manuscripts currently under review and others in development.

Ped SCREEN

PED SCREEN addresses the critical need to improve pediatric sepsis outcomes by developing methods to accurately identify at-risk children presenting for emergency care. The project captures electronic health record (EHR) data to create a multi-center registry with the ultimate goal of improving the detection and treatment of pediatric sepsis in the emergency department (ED) setting. To accomplish this, we are automating the determination of organ dysfunction in children with sepsis directly from structured and narrative data in an expanded multicenter EHR patient registry. That data are being used to derive and validate prediction models of pediatric sepsis that predict subsequent organ dysfunction within 48 hours using ED EHR data from the first 4 hours of care. Innovative deliverables from this project include the existence of a broad and rich EHR registry, an automated process of outcome determination, and prediction models of risk of sepsis. Data transmissions are complete for all centers and there are 3 manuscripts in progress.

PECARN Registry

The PECARN Registry is an emergency care visit registry with automated transmission from the electronic health record data for pediatric patients at participating sites. The Registry currently contains data from all ED visits from ten healthcare systems including seventeen EDs with data spanning calendar years 2012 through 2024. Each site transmits data to the EDC monthly. Comprehensive data quality assurance rules have been automated to assess data quality and validation of the transmitted data. The Registry has just upgraded its data collection system and is currently onboarding three new sites. Data are also used for health services research, comparative effectiveness research, hypothesis generation and grant planning for the network and is utilized in many other funded PECARN grants. Please plan to join us for the bi-monthly PECARN Registry Study Development Working Group meetings. The next two meetings are scheduled for Monday, November 11 and Monday, January 13. Please notify Cara Elsholz at the EDC if you'd like an invitation sent to you.

C-SPINE

The CSPINE Study aimed to develop and validate a clinical decision rule to determine who warrants screening for CSIs to mitigate unnecessary use of CT scans. Conducted across 18 PECARN emergency departments, the study involved over 22,000 children with blunt trauma. Four high-risk factors for CSI were identified—Unconscious, Glasgow Coma Scale 3-8, abnormal airway, breathing or circulation, and focal neurological deficits—and five additional factors to further assess risk. The rule demonstrated greater than 92% sensitivity and a nearly perfect negative predictive value. The investigators project use of CT could be cut in half with implementation of this rule.

FAST

In the evaluation of hemodynamically stable children who have experienced blunt torso trauma the benefits of using the Focused Assessment with Sonography in Trauma (FAST) examination is unclear and therefore is variably used. This NICHD-funded RCT of the FAST examination in 6 PECARN centers aims to definitively determine its utility in hemodynamically stable pediatric trauma patients. The study aims to make sure injured children are given the right diagnosis and avoid unnecessary CT scans. Across all 6 PECARN sites, 1,677 patients have been enrolled to date.

PRoMPT BOLUS

PRoMPT BOLUS is a large pragmatic clinical trial comparing normal saline to balanced fluids for resuscitation in pediatric sepsis. The primary outcome is MAKE30: a composite outcome that includes persistent kidney injury, dialysis, and death. PRoMPT will be the largest pediatric acute care trial in history, and aims to enroll 8800 children at 46 sites across 3 international networks. This effort is led by PECARN and includes our sister networks PERC in Canada and PREDICT in Australia/New Zealand. We are now enrolling at 45 sites around the world: 21 PECARN sites , 1 PALISI site, and 23 international sites, and have over 6100 enrollments! PROMPT also continues work on two NIH funded ancillary studies: one investigating blood biomarkers of endothelial dysfunction and the other studying long term kidney outcomes by linking with PEDS NET data at several sites. We also are in the process of completing our first biomarker analysis for a third ancillary study supported by the state of Pennsylvania. The DSMB met in July 2023 and determined that both arms are safe and that the study should continue without modification and will meet again at the end of August 2024. We anticipate enrollment to be completed on schedule in August 2025!

SCIENCE II

The investigators on the SCIENCE trial have successfully enrolled 4,874 patients and moved all 7 sites to study implementation. In August we had our DSMB meeting and both the DSMB and central IRB approved the continuation of the study. We are excited to continue our work improving the emergency department pain treatment for children with sickle cell disease.

Study Updates Cont...

IMPROVE

IMPROVE is a multi-center, longitudinal comparative effectiveness study combining Registry and texted outcomes after discharge. IMPROVE aims to inform optimal pain treatment for children with a long bone fracture. 7,462 English and Spanish-speaking subjects were enrolled July 2019 - August 2023. Analyses of the primary aims are ongoing. The first 1800 participants were analyzed for manuscripts evaluating: 1) the reliability of electronic health record race/ethnicity, 2) nonpharmacologic intervention use, 3) disparities in recruitment/retention, concordance of pain outcome reporting between 4) parent and child and 5) electronic health record, and 6) validity of the parent post-operative pain measure in children with a long bone fracture.

PediPART

The Pediatric Prehospital Airway Resuscitation Trial or Pedi-PART will help determine the best strategy for prehospital airway management in critically ill children. The study was funded in September 2023 and the first patient was enrolled in May 2024 following a series of Community Consultation and Public Disclosure activities. All 10 sites are activated and enrollment is at 113 as of September 10.

All images in this publication are resources of freepik.com and pexels.com

PedCAPS

The Derivation and Validation of the Pediatric Community-Acquired Pneumonia Severity (PedCAPS) Score study has enrolled 1981/2000 children (245% ahead of enrollment goals) and collected 156 biospecimens. The PedCAPS study has been active for one calendar year and leadership is encouraged by the enthusiasm and professionalism of the seven participating sites. The Derivation portion will continue enrolling children through the Fall of 2025 and the Validation portion will begin shortly after the Derivation portion ends and will enroll through the summer of 2027. We will begin reviewing manuscripts in the next few months with the lead authors and the leadership team.

PediDOSE Diversity Supplement

Dr. Victoria Hartwell's Diversity Supplement grant for the PediDOSE study has been funded! In children transported to an emergency department (ED) by emergency medical services (EMS), Dr. Hartwell will evaluate the association between both patient-level risk factors and social determinants of health with the frequency of seizure activity on ED arrival, aspects of prehospital and ED care, ongoing participation in research, and overall patient outcomes. If the investigators identify inequities in care, these data can be used to implement targeted interventions to ensure that children with prehospital status epilepticus receive equitable and efficient care regardless of patient-level or community-level demographics.

STArT

The STArT study investigates the benefits and safety of arginine for the treatment of patients with Sickle Cell Disease and pain. With 10 enrolling sites, over 2,600 patients have been screened and a total of 271 participants enrolled, making it one of the largest pediatric studies of acute pain in SCD performed! The study is now closed to enrollment and data clean up and monitoring is ongoing with a goal for data lock in October 2024. While there were no safety issues identified with arginine therapy, futility towards achieving a difference in time-to-crisis-resolution was identified, leading to early closure. Manuscript analysis plans are being finalized, with an anticipation of 10+ manuscripts.

BEEPER

BEdside Exclusion of Pulmonary Embolism in children without Radiation (BEEPER) is a large multi-center prospective, observational cohort study of children ages 4 to 17 years old who have symptoms that cause the physician to order a diagnostic test for pulmonary embolism (PE). The goal is to measure the diagnostic accuracy of a prediction rule for exclusion of PE (the PERC-Peds rule) and the D-dimer. BEEPER continues to be ahead of our enrollment goals with 4018 enrolled this August. Based on the current projections, we anticipate completion of enrollment (N= 4030) next month and data lock later in the Fall of 2024.

FEDERAL CORNER

News from the White House

A Proclamation on National Preparedness Month, 2024

During National Preparedness Month, we recommit to ensuring that our Nation is ready for any challenge that comes our way. We support efforts to keep Americans safe, and we encourage optimism and preparation for our shared future.

News from CDC

Oropouche Virus Disease Among U.S. Travelers — United States, 2024

Because of the risk for possible vertical transmission providers should inform persons who are pregnant and considering travel to areas with reported Oropouche virus transmission of the possible risks to the fetus. Pregnant travelers should prevent insect bites during travel and consider deferring travel to areas experiencing outbreaks of Oropouche virus disease.

Increase in Human Parvovirus B19 Activity in the United States

Among plasma donors, the prevalence of pooled samples with parvovirus B19 DNA >104 IU/mL increased from 1.5% in December 2023 to 19.9% in June 2024. CDC has also received anecdotal reports from clinicians who have observed more than the expected number of cases of parvovirus B19 infections among pregnant people, including cases resulting in severe fetal anemia requiring fetal transfusions or pregnancy loss, and increases in aplastic anemia among people with sickle cell disease.

Grant Opportunities

Grants to Support New Investigators in Conducting Research Related to Preventing Interpersonal Violence Impacting Children and Youth

This Centers for Disease Control and Prevention (CDC), National Center for Injury Prevention and Control (NCIPC) Mentored Research Scientist Development Award (K01) supports an intensive, supervised (mentored) career development experience in violence prevention research leading to research independence. NCIPC supports K01 grants to help ensure the availability of an adequate number of trained scientists to address critical public health research questions to prevent violence and injury.

Clinical and Translational Science Award (UM1 Clinical Trial Optional)

This Notice of Funding Opportunity announcement (NOFO) invites applications for the Clinical and Translational Science Award (CTSA) Program hubs that will be part of a national, collaborative consortium focused on brining more treatments for all people more quickly through advancing clinical and translational science.

HRSA Health Resources & Services Administration

EMSC Emergency Medical Services for Children

RECENT PUBLICATIONS

Management of Suicidal Risk in the Emergency Department: A Clinical Pathway using the Computerized Adaptive Screen for Suicidal Youth

The past decade has seen an alarming rise in pediatric mental health crises, with suicide now the second leading cause of death among youth aged 12-17 years. Emergency Departments (EDs) are increasingly the front line for these crises, yet clinicians often struggle to accurately assess suicide risk, particularly in patients presenting with non-psychiatric complaints. There is a critical need for efficient, accurate tools to screen for suicide risk and guide appropriate interventions.

The Computerized Adaptive Screen for Suicidal Youth (CASSY) addresses this need by reporting a validated method to objectively stratify youth into four levels of predicted suicide risk: minimal (≤1%), low (>1% to ≤5%), moderate (>5% to ≤10%), and high (>10%) likelihood of a suicide attempt within 3 months. The CASSY tool correlates well with established clinical indicators and future suicide attempts. Importantly, hidden suicide risk may be uncovered even in youth presenting with medical rather than psychiatric complaints.

The study proposes a clinical pathway for using CASSY scores to guide interventions based on risk level. This screening tool can play a key role in tailoring approaches for at-risk youths, better allocating limited mental health resources in EDs, and ultimately contributing to youth suicide prevention efforts.

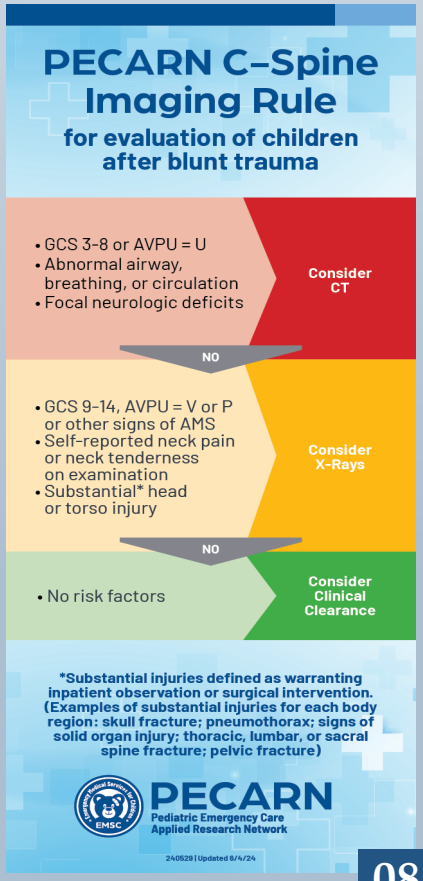
Link to Publication

PECARN Prediction Rule for Cervical Spine Imaging of Children Presenting to the Emergency Department with Blunt Trauma: A Multicentre Prospective Observational Study

Cervical spine injuries (CSIs) in children can have significant consequences. Each year, over 8 million U.S. children undergo emergency department evaluations following blunt trauma, yet fewer than 1% are diagnosed with CSIs. While computed tomography (CT) scans are commonly used to detect CSIs, uniformly screening all children undergoing trauma evaluation with CT scans results in significant radiation exposure to young patients. To mitigate unnecessary radiation, a reliable clinical decision rule is needed to identify those at high risk for CSI more accurately.

A recent study led by Dr. Julie Leonard aimed to develop and validate a clinical decision rule to determine who warrants screening for CSIs. Conducted across 18 emergency departments affiliated with the Pediatric Emergency Care Applied Research Network (PECARN), the study involved over 22,000 children who experienced blunt trauma. The investigative team identified four high-risk factors for CSI—Unconscious, Glasgow Coma Scale 3-8, abnormal airway breathing or circulation, and focal neurological deficits—and five additional factors to further assess risk. Combining these factors, the rule demonstrated greater than 92% sensitivity and a nearly perfect negative predictive value. The investigators project that the use of CT could be cut in half with implementation of the PECARN CSI predication rule. This new rule, based on clinical assessment, is practical for use in emergency settings and could minimize unnecessary radiation exposure while ensuring safe and effective care for children experiencing blunt trauma.

Link to Publication



Public support for and concerns regarding Pediatric Dose Optimization for Seizures in Emergency Medical Services (PediDOSE): An exception from informed consent (EFIC) trial

Limited information exists about the public's view of exception from informed consent (EFIC) trials in children, but EFIC studies are necessary to study emergent conditions to improve care. In preparation for the Pediatric Dose Optimization for Seizures in Emergency Medical Services (PediDOSE) trial, the investigators conducted at least 100 surveys in all 20 communities where the study was planned. The objectives of this study were to determine public support for and concerns about the PediDOSE EFIC trial and to assess how support for PediDOSE varied by demographics. Of 2450 respondents, 96% of participants supported PediDOSE being conducted, with 70% approval of children being enrolled without prior consent. Non-Hispanic Black respondents were less likely than non-Hispanic White respondents to support PediDOSE with an adjusted odd ratio (aOR) of 0.57 (95% CI 0.42-0.75). Common concerns about PediDOSE included adverse effects, legal and ethical concerns about enrolling without consent, and potential racial bias. Further research is needed to determine optimal ways to address the concerns of specific racial and ethnic groups when conducting EFIC trials.

Link to Publication

Social Connectedness and Adolescent Suicide Risk

Suicide is a leading cause of death among adolescents, with rates increasing over the past two decades. This study examined the protective role of social connectedness against suicide attempts in a large, diverse sample of over 2,800 adolescents recruited from emergency departments across the U.S.

The researchers found that overall connectedness and school connectedness specifically were associated with a lower likelihood of suicide attempts over a 6-month period, even when controlling for other risk factors. Interestingly, the protective effect of connectedness was lower for youth with recent suicidal thoughts or past suicide attempts.

Notably, certain groups reported lower levels of connectedness, including sexual and gender minority youth, Black adolescents, and those from lower socioeconomic backgrounds. The study also found that connectedness did not buffer against the impact of peer victimization on suicide risk.

These findings highlight the critical importance of fostering social connections, particularly in school settings, as a suicide prevention strategy. They also underscore the need for targeted efforts to enhance connectedness among vulnerable youth populations. As we navigate the aftermath of COVID-19's impact on youth social worlds, this research provides timely insights for developing effective interventions to protect adolescent mental health.

Link to Publication

Pediatric Mental Health Emergency Department Visits from 2017-2022: A Multicenter Study

A PECARN Registry study published in Academic Emergency Medicine found that, during the COVID-19 pandemic, pediatric emergency departments (EDs) saw more children and adolescents who needed psychiatric admission, as well as more children with certain conditions, such as bipolar disorder, schizophrenia, and substance use disorders. Over 12-hour stays in the ED occurred for nearly 20 percent of children with mental health emergencies in 2022, up from 7 percent before the pandemic.

"The dramatic increase in prolonged ED stays attests to the strain on the system and difficulties finding appropriate psychiatric care for children, whether they need ongoing care in the hospital or in the community," said lead author Jennifer Hoffmann, MD, MS, emergency medicine physician at Ann & Robert H. Lurie Children's Hospital of Chicago and Assistant Professor of Pediatrics at Northwestern University Feinberg School of Medicine.

Dr. Hoffmann and colleagues retrospectively studied mental health ED visits by children aged 5 to less than 18 years at nine U.S. hospitals participating in the PECARN Registry from 2017 to 2022. They described these visits by period: pre-pandemic (January 2017-February 2020), early pandemic (March 2020-December 2020), mid pandemic (2021) and late pandemic (2022). In addition to increased admission rates, they found that during the mid and late pandemic, mental health ED visits increased beyond expected rates among girls, but not among boys.

"We observed a unique vulnerability for girls during the pandemic, which indicates that girls' mental health requires more attention," said Dr. Hoffmann. The study findings were covered by ABC News Good Morning America, MSN.com, Yahoo! News, and PBS, with a total of 134 media placements, an estimated reach of 354,917,922, and an ad value equivalency of $3,282,991. Findings were also highlighted in the Association of Schools and Programs of Public Health newsletter.

Link to Publication

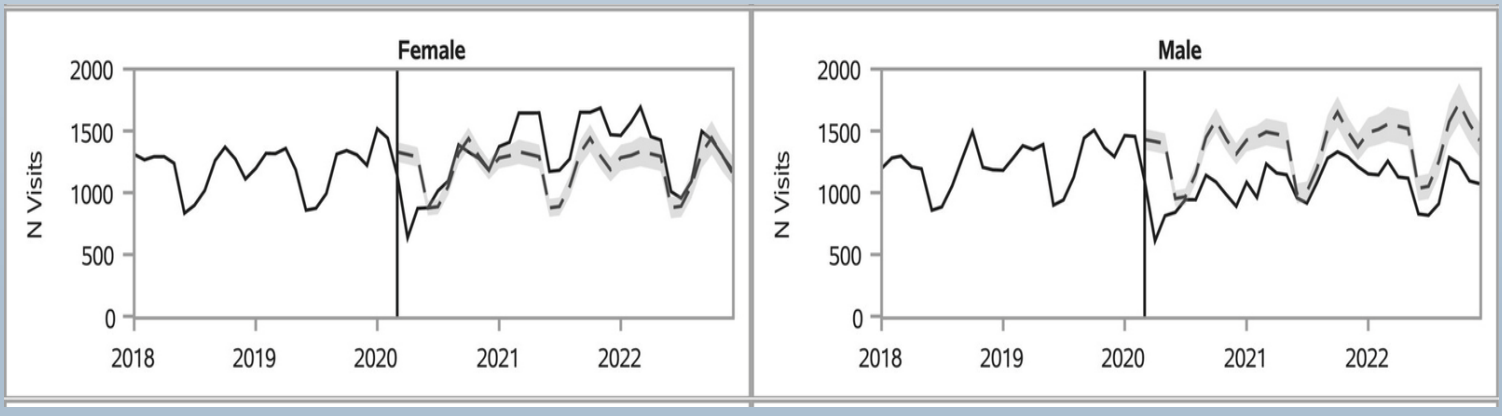


Figure. During the mid and late COVID-19 pandemic, pediatric mental health ED visits for girls were elevated beyond expected visit rates based on pre-pandemic trends.

Agreement of Electronic Health Record-Documented Race and Ethnicity with Parental Report

"Agreement of Electronic Health Record (EHR) Documented Race and Ethnicity with Parental Report" by Goyal et al. investigates the alignment of race and ethnicity data in EHRs with parental reports in a pediatric emergency setting. The study, conducted across six emergency departments, involved 768 children for race data and 800 for ethnicity data. Results showed substantial agreement, with an overall concordance of 87.3% for race and 95.0% for ethnicity, indicated by kappa values of 0.71 and 0.82, respectively.

Despite the high agreement rates, discrepancies were observed in less represented racial and ethnic groups. For example, 11% of Black and 24% of Hispanic patients were incorrectly categorized in the EHR. Misclassification rates were higher among Native Hawaiian/Pacific Islander and American Indian/Alaska Native groups, often due to reliance on visual assessment rather than self-identification.

Multivariable analysis revealed significantly lower odds of agreement for Black, multiple races, and other racial groups compared to White patients, and for Hispanic compared to non-Hispanic ethnicity. These findings emphasize the need for better methods to capture accurate race and ethnicity data, particularly for minoritized populations. The study suggests that allowing patients to self-report race and ethnicity directly into the EHR could improve data accuracy and help address healthcare disparities. Limitations include the reliance on parental reporting and language constraints, but the findings underscore the critical role of accurate demographic data in promoting health equity. Academic Emergency Medicine, 31(6), 613-616.

Link to Publication

Leukopenia, Neutropenia and Procalcitonin Levels in Young Febrile Infants with Invasive Bacterial Infections

The PECARN febrile infant working group previously derived and validated a highly accurate clinical prediction rule to identify febrile infants at low risk for serious bacterial infections (SBI) [1]. In the current secondary analysis of 7,407 non-critically-ill febrile infants 60 days and younger, the investigators asked: What is the relationship between leukopenia and varying levels of absolute neutrophil count (ANC) with the risk of invasive bacterial infections (IBIs), and serious bacterial infections (SBIs) especially when analyzed with and without the inclusion of PCT levels?

Leukopenia: Low WBC counts (<2500 cells/μL) was associated with significantly increased odds of IBIs and SBIs, with additional risk factors including higher body temperature, positive urine analysis and elevated ANC. However, there were no cases of IBIs in patients with low WBC counts or low ANC but normal PCT levels (≤0.5 ng/mL).
Procalcitonin and ANC: Elevated PCT levels (>0.5 ng/mL) and ANC >4000 cells/μL were strongly associated with higher risks of IBIs and SBIs.

Bottom line: There were no cases of IBI or SBI in non-critically-ill febrile infants 60 days and younger with leukopenia or neutropenia if PCT levels were normal. If available, incorporate PCT into your risk stratification of febrile infants for IBI and SBI, using the PECARN Febrile Infant Prediction Rule.

Link to Publication

NODAL NEWS & NEW FACES

PRIME

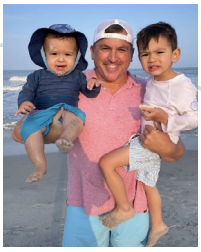
Congratulations to Nate Kuppermann who is moving to Washington DC to serve as the Executive Vice President, Chief Academic Officer and chair of Pediatrics at Children's National Hospital. He will be Emeritus faculty at UC Davis and continue his role in PRIME Node as the Nodal Co-PI. With this transition, Daniel Nishijima will expand his role to Nodal Co-PI to share responsibilities and provide continuity at UC Davis for PRIME. We also welcome Caroline Wang, who is joining UC Davis as PEM faculty on September 1 and will be participating as site PI on several upcoming PECARN studies.

SPARC

Nodal PI Claudia Morris spending time in Stockholm with Lou Ignarro, Nobel Laureate for 1998 Nobel prize in physiology for his work on Nitric Oxide.

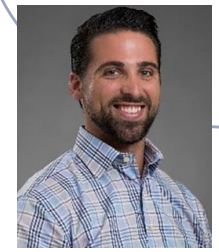
Children's Healthcare of Atlanta is opening the new Arthur M. Blank Hospital on September 29th. Its state-of-the-art ED will be 3-times the size of our current hospital.

Nick Glomb's son, Liem born 6/20/23 (shown left) Khai, age 3 (shown right).



HOMERUN

Congratulations are in order for the HOMERUN Team! The Cincinnati HEDA was awarded the Top Research Team award earlier this summer. Congrats to Dr. Joe Finney (WashU), who was awarded the St. Louis University High School "15 Alumni under 40". Dr. Kim Quayle was awarded the Dean's Impact Award from the WashU School of Medicine. Lastly, a shoutout to the MCW research team who visited with the US Senate Appropriations Committee during their visit to campus in June. They discussed the importance of pediatric studies, the complexities of EFIC studies, pediatric readiness, funding, and much more. Way to go,Team!



CHaMP

The CHaMP node is excited to announce that we have a new Nodal Administrator, Bella Triolo, MPH! Bella recently graduated with a Master of Public Health in Epidemiology from Emory University in Atlanta, where she had the opportunity to work in the School of Medicine's Division of Infectious Diseases, participating in research focused on healthcare-associated infections. She is excited to join the PECARN as CHaMP's Nodal Administrator to contribute to high-quality research dedicated to children's care, and she looks forward to learning more about the intersection of healthcare and research. Lastly, a fun fact about her is she has done multiple cross country road trips (and many more half-country road trips)!

GLACiER

The GLACiER node is excited to welcome the PECARN Steering Committee to Columbus, Ohio! We are ecstatic that so many of you can join us and experience one of GLACiER's great cities. If you have any questions or concerns during the September conference please do not hesitate to reach out!

Keegan Rengel joined Nationwide Children's as a Research Assistant in 2023 and has since become the NCH HEDA RC! Keegan has experience working with all of the active NCH PECARN projects. The September 2024 meeting is his first PECARN conference. Please join us in welcoming Keegan to PECARN!

Alexis Santor joined Nationwide Children's in March 2024 as a Research Coordinator in the NCH EMS/ Trauma lab. Alexis has experience working on PediDOSE, PediPART and FAST. The September 2024 meeting is her first PECARN conference. Please join us in welcoming Alexis to PECARN!

EDC

The EDC welcomes 3 new Biostatisticians:

Elizabeth Patterson, July '24

Derek Meyer May '24

Seth Otto, June '24

PECARN is supported by the Health Resources and Services Administration (HRSA) of the U.S. Department of Health and Human Services (HHS), in the Maternal and Child Health Bureau (MCHB), under the Emergency Medical Services for Children (EMSC) program through the following cooperative agreements: EMSC Data Center (EDC)-University of Utah, GLACiER-Nationwide Children's Hospital, HOMERUN-Cincinnati Children's Hospital Medical Center, PEM-NEWS-Columbia University Medical Center, PRIME-University of California at Davis Medical Center, CHaMP node- State University of New York at Buffalo, STELAR- Seattle Children's Hospital, and SPARC- Emory University. This information or content and conclusions are those of the author and should not be construed as the official position or policy of, nor should any endorsements be inferred by HRSA, HHS or the U.S. Government. HRSA/EMSC Contact: Ellis Perez: EPerez@hrsa.gov.