PECARN
Pediatric Emergency Care Applied Research Network

Winter 2022

PECARN
in a nutshell

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Research Intern Program:
Expanding Research Infrastructure with the Integration of Pre-Health Professional Students in the Emergency Department

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The conduct of clinical research in the emergency department (ED) poses many challenges. A key to the success of developing a robust emergency medicine research program is maintaining a consistent infrastructure to enroll patients in this chaotic environment. In recent years, our ED has experienced exponential growth in funded clinical research. This growth necessitates maximizing patient enrollment in clinical research studies in an already strained system.

ED research programs across the country have developed methods to enhance enrollment and support research. One such resource that we have developed is a voluntary Emergency Medicine Research Intern Program (EMRIP). This program aims to provide a unique opportunity for post-baccalaureate students to participate in clinical and translational research, observe Emergency Department (ED) systems, and interact with ED clinicians. We view the EMRIP program as an educational opportunity that also supports our research mission. Importantly, the EMRIP provides students opportunities to fulfill postbaccalaureate requirements.

The success of the program also hinges on providing opportunities for RIs to increase their clinical and research knowledge, which include:

- Monthly educational lectures on medical topics related to Emergency Medicine;
- One-on-one shadowing experiences with attendings, fellows, and residents in the ED;
- Remote telehealth screening opportunities with attendings
- Q&A sessions, with our Emergency Medicine residents and medical students;
- Attendance at weekly pediatric emergency medicine morning mock codes;
- Opportunities to become more involved with specific research projects and manuscripts; and
- Group training sessions to review the study science, protocols and work-flow.

The research interns (RIs) provide support in implementing clinical investigations by assisting with the collection and processing of research data. Primary duties include:

- Recruitment, identification, and consent of potentially eligible patients;
- Preparation of materials for staff and participant use;
- Collection and verification of research data; and
- Ensuring integrity and consistency with study protocols.

As we are a Department of Emergency Medicine with separate adult and pediatric EDs, we have RIs in both EDs. Our goal is to have consistent ED coverage with RIs. In our current coverage model each RI is expected to volunteer at least 8 hours per week, with a commitment of one year. This volunteer staffing pattern provides ~23 hours of RI coverage, 7 days a week. Each ED is responsible for 35 RIs, with a total group size of 70 RIs.

EMRIP Leadership and Administration

The backbone of the EMRIP program is the team of enthusiastic and dedicated faculty and staff who coordinate the recruitment, training, and oversight of participating RIs. Key personnel include a Program Director (PD), administrative support , and several Research Coordinators (RCs). The **Program Director** is a research faculty physician who is ultimately responsible for the quality of the student experiences. The PD coordinates didactic activities for participants and works very closely with department PIs to ensure that studies are running efficiently. Additionally, the PD fosters collaborative relationships with outside departments and evaluates whether potential studies are appropriate for RI participation. The position of PD is provided with protected time (approximately one shift per month). The **Administrative Coordinator** (AC) provides support to the PD, and assists with program-related administrative operations. The AC helps to schedule EMRIP applicant interviews, ensure that on-boarding requirements are met, and coordinates didactic activities. RIs are assigned to a pod, each containing 4-5 research interns and 1 **Research Coordinator**. The pod structure facilitates communication and serves to better support and provide oversight for the RIs. The individual pods meet monthly with large group meetings quarterly, or as needed.

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Research Intern Badge System

Interns are able to track milestones and achievements using a badge system. Some badges are mandatory and others are optional and are awarded for exceptional performance. Badges are used as an additional tool to assess performance and facilitate evaluation for the purposes of a letter of recommendation. See Figure 1.

Figure 1. Badges available for RIs

MANDATORY

RI Training & Onboarding

Awarded to an RI once onboarding and all online trainings are complete. The onboarding items include: HIPAA, Good Clinical Practice (CITI), and Human Subjects Research (CITI) trainings; a confirmed negative TB test; Epic (EHR) access; and security badge clearance.

RC/RI Shadow Shift - *Prerequisite: RI Training & Onboarding*

This badge is earned once an RI has completed one virtual Zoom training with a Research Coordinator to review the Epic platform, screening process, and answer any questions about a study or the program.

Screening Proficiency - *Prerequisites: RI Training & Onboarding, RC/RI Shadow Shift*

Awarded to an RI after demonstrated proficiency in patient screening. Once the RI is comfortable sending screening questions to Attending Physicians in Haiku, they may apply for this badge. Note: Research Coordinators should always be included in any chats about patients (PEM or GEM).

Study Proficiency - *Prerequisites: RI Training & Onboarding, RC/RI Shadow Shift badge, Screening Proficiency*

Awarded to RIs who demonstrate a clear grasp of each study and its respective inclusion and exclusion criteria. RIs are encouraged to apply for this badge when they feel confident in their knowledge of the studies. Upon applying, an RI will receive a link to complete a quiz and badges will be awarded to those who earn a score of 80% or higher.

STRONGLY ENCOURAGED

RIs Helping RIs

Awarded to RIs who demonstrate initiative at guiding, educating, or assisting fellow RIs with patient screening or our research studies. Badge awarded at the discretion of research staff.

Attending Tele-Screening / Shadow Shift

Awarded to RIs who complete (1) one virtual shadow shift with an Attending on shift in the Emergency Department. Documentation or sign-off from Attending physician required.

Research Lecture Series - Beginner

Awarded to RIs who attend (1) one event hosted by a member of our Emergency Medicine Research Team (PEM or GEM). Documentation of attendance required.

ENCOURAGED

Research Lecture Series - Intermediate

Awarded to RIs who attend (3) three events hosted by members of our Emergency Medicine Research Team (PEM or GEM). Documentation of attendance required.

Research Lecture Series - Expert

Awarded to RIs who attend all events hosted by members of our Emergency Medicine Research Team (PEM or GEM). Attendance verification required.

Perfect Attendance

Awarded to RIs at the end of (1) one year with the RI Program. In addition to having perfect attendance, recipients must have clocked-in and clocked-out in the WhenIWork portal according to their scheduled shift, and have stayed for the entire duration of their shift. If an RI applies for this badge, their attendance will be verified by a member of the research staff.

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MERIT BASED

Appreciation Award

Awarded to RIs nominated by research staff or principal investigators for extra efforts toward a particular study. Badge awarded at the discretion of research staff.

Leadership Award

Awarded to RIs nominated by research staff or principal investigators for exemplary leadership. Badge awarded at the discretion of research staff.

Innovation Award

Awarded to RIs nominated by research staff or principal investigators for creative or innovative contributions to the RI program. Badge awarded at the discretion of research staff.

Outstanding Contribution to the RI Program

Awarded to RIs nominated by research staff or principal investigators for their outstanding contributions to the RI program. Badge awarded at the discretion of research staff.

The EMRIP plays a pivotal role in supporting the Department of Emergency Medicine's mission to conduct innovative and practice changing clinical research. Our EMRIP structure has helped us recruit and maintain a highly enthusiastic and engaged team of students who are not only integral to the success of our funded, multicenter studies but also equipped with valuable skills that will serve them well on their path to becoming health professionals and researchers.

PECARN Study Updates

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.

BIOSIGNATURES I & II

The Biosignature I/II studies are evaluating the ability of the "RNA Biosignature" 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 is assessing the stability of the RNA biosignature via sequential sampling. We enrolled 2,612 infants, with 306 sequential samples! We have published ~ 10 manuscripts on Biosigs I and II, and are working on several others. We currently have 5 manuscripts under review and one under final analysis. We have just submitted 4 abstracts to the 2022 PAS/SAEM. Finally, we are preparing the protocol of a PECARN-endorsed concept regarding Implementation of the PECARN febrile infant prediction rule which will involve computerized decision support and shared decision-making. All of these studies will help facilitate a more expeditious, accurate and safer evaluation of the febrile infant.

PROBIOTICS

The Probiotics trial showed that LGG, a commonly used probiotic, was not better than placebo in improving outcomes in children 3-48 months of age with acute gastroenteritis. This landmark study, published in the NEJM, reverses previously held beliefs regarding the effectiveness of probiotics products, an industry worth 32 billion dollars per year globally. This work has had a major role in reversing the American Gastroenterology Society's guidelines and the latest Cochrane review, which no longer recommend the use of probiotics in children with acute gastroenteritis. The probiotics investigators and the DCC continue analyzing this large database, including data from a parallel trial conducted by PERC in Canada, the Progut study. To date the team has published 11 manuscripts (including NEJM, Annals of EM, BMJ open, Am J Gastroenterology, Jama Network open, Clin Infect Dis, Am J Nutrition, JPGN, etc..), 1 is under review at journal, and the final is undergoing edits. The data set is now public.

PediDOSE

Pre-enrollment work continues for the Pediatric Dose Optimization for Seizures in Emergency Medical Services (PediDOSE) study. Sites are beginning their community consultation activities for this exception from informed consent study, with enrollment anticipated to begin in May 2022. PediDOSE aims to measure the impact of standardized paramedic-administered midazolam dosing on seizure treatment effectiveness and safety. If the intervention is demonstrated to be both safe and 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.

C-SPINE

The Development and Testing of a Pediatric CSI Risk Assessment Tool (C-Spine study) has completed enrollment for both Round I (derivation phase) and Round II (validation phase) of the study. The Round I sites enrolled 12,257 patients with 259 CSIs meeting their goal of 240 cervical spine injuries. Round II sites enrolled 10,091 patients with 171 CSIs identified out of their goal of 160 CSIs. We are at 191 total CSI via EMS arrivals for the whole study. Additionally, we have begun coding the transcripts from the first 70 user-centered design interviews and are preparing the first UCD related manuscripts. Manuscripts for the main study are in progress. Lastly, the diversity supplement, which was awarded to support Dr. Jordee Wells has completed 88/180 phone interviews to collect data to investigate disparities amongst cervical spine injured patients from Round I and II.

BEEPER

BEdside Exclusion of Pulmonary Embolism in children without Radiation (BEEPER) is a large multi-center, observational study. This project will prospectively test if Pulmonary Embolism Rule out Criteria(PERC-Peds), or PERC rule, can safely exclude PE in approximately 4,030 children ages 4 to 17 years old who raise a suspicion of PE in the emergency department setting. We have enrolled 1256 participants between 20 sites to date. The rate of venous thromboembolism in the study population is on target at approximately 4.3%. The adjudication committee has been established.

SCIENCE

The investigators on the SCIENCE interventional trial are progressing towards study implementation. We had our first DSMB meeting in early January and the central IRB is reviewing our amended protocol. We are excited to continue our work improving the emergency department care of the children with sickle cell disease.

AZ-SWED

The AZithromycin Therapy in Preschoolers with a Severe Wheezing Episode Diagnosed at the Emergency Department (AZ-SWED) Trial will test two primary hypotheses: Azithromycin given for 5 days to preschool children with severe acute wheezing and harboring pathogenic bacteria in their nasopharynx will decrease the severity of the acute episode; and Azithromycin given on an identical schedule and dose will decrease the severity of wheezing episodes in children who do not harbor pathogenic bacteria in their nasopharynx. Total expected enrollment: 1476. Sub-group of 370 will be tested for antibiotic resistance. Study Enrollment: First participant randomized on 9/22/2021, currently 40 randomized (1/7/2022) 38% female; 53% Black/African American; 18% Hispanic/Latino.

IMPROVE

This is a multi-center, longitudinal comparative effectiveness study combining Registry data with prospective outcomes data collected via text messages. IMPROVE aims to provide evidence to inform optimal pain treatment for children discharged home with a long bone fracture. Enrollment of English and Spanish speaking participants is ongoing at 7 sites. 3,988 subjects have been enrolled as of December 13, 2021. We continue to focus on improving enrollment rates across all sites with the plan to enroll for 4 years. Manuscript writing and manuscript analyses plans are in progress.

ED-STARS

The ED Screen for Teens at Risk for Suicide (ED-STARS) is in the manuscript writing phase and has recently published 2 more manuscripts titled: 1. Prospective Development and Validation of the Computerized Adaptive Screen for Suicidal Youth published in JAMA Psychiatry. 2. Comparison of Self-Reported Risk and Protective Factors and the Death/Suicide Implicit Association Test in the Prediction of Future Suicide Attempts in Adolescent Emergency Department Patients published in Psychological Medicine.

PECARN Registry

The PECARN Registry is an emergency care visit registry with automated transmission of the electronic health record data for pediatric patients at participating sites. The Registry currently contains data from all ED visits from nine sites with data spanning calendar years 2012 through 2020. Each site transmits data to the DCC monthly. Comprehensive data quality assurance rules have been automated to assess data quality and validation of the transmitted data. The Registry is undergoing an upgrade to the data collection system, is onboarding 3 new sites and preparing to add 2 additional sites in 2022, bringing the total to 14 sites overall. The Registry has data on over 5.6 M visits and 2 M unique patients. Data are also used for health services research, comparative effectiveness research, hypothesis generation and grant planning for the network. The Registry is utilized in four other funded PECARN grants.

TIC-TOC

The Traumatic Injury Clinical Trial Evaluating Tranexamic Acid (TXA) in Children (TIC-TOC) pilot and feasibility trial of TXA for severely injured children was conducted and completed at four PECARN sites. TXA has the potential to safely reduce blood transfusions, morbidity, and mortality in injured children. We completed the pilot trial, enrolling 31 patients, and had several resulting publications. We submitted the grant proposal for the subsequent phase 3 definitive multicenter trial to the NIH and we are waiting for the summary statement and funding decision. The manuscripts published during the pilot study include: the study protocol (Trials), public deliberation methods (Acad Emerg Med), functional outcome assessment (Ann Emerg Med), outcome consensus (Am J Emerg Med), transfusion consensus (J Trauma Acute Care Surg), the statistical analysis plan using a Bayesian design (Trials) , evaluation of the PedsQL physical domain alone (Am J Phys Med Rehab), Delphi transfusion consensus (J Trauma Acute Care Surg), exception from informed consent (Acad Emerg Med), and the pilot main manuscript (under review). A few last manuscripts are in various stages of completion including coagulation biomarkers, frozen vs. real time thromboelastography, and the pharmacokinetics/pharmacodynamics of TXA. We can't wait to start the definitive trial!

FLUID

The FLUID study enrolled ~1,800 children with diabetes: ~1400 with DKA and 400 without DKA. The main analysis was published in the NEJM and demonstrated no significant differences between fast and slower fluid rates on neurological outcomes. This liberates clinicians to use their clinical judgment when hydrating children with DKA. There have been many secondary analyses ongoing and manuscripts written from the study. Most recently, we had 4 important publications. There are also 2 manuscripts under review. We have 4 final manuscripts near completion. Finally, the FLUID Public Use Dataset (PUD) is currently under review.

STI

Sexually transmitted infections (STIs) are highly prevalent among adolescents. Despite established principles for STI control, clinical practices related to screening, diagnosis, treatment and prevention of STIs among adolescents are suboptimal. This study aims to determine the most clinically efficient and cost-effective ED STI screening method among adolescents who would otherwise not receive preventive healthcare. This study 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 children. The STI study team completed data collection for phase one (workflow analysis) and is currently implementing the pragmatic trial at all sites through September 2022. Two manuscripts have been published: one, in JAMA Pediatrics, comparing the cost-effectiveness of these two screening strategies based on literature estimates, and a second manuscript describing the results of the workflow analysis. We also presented an abstract at PAS 2021 describing the impact of the COVID pandemic on ED-based STI testing and detection.

SPEED

The aim of the SPEED study is to develop an electronic health record clinical decision support (EHR-CDS) tool for outpatient antibiotic prescribing of pediatric urinary tract infections (UTI) and community acquired pneumonia (CAP). Currently we have developed EHR-CDS for both UTI and CAP, and completed end-user testing. The EHR-CDS is now in a live pilot in Colorado. Presently we have one manuscript published, with a second soon to be submitted. We are presenting our protocol, SPEED2, for PECARN approval. SPEED2 is an effectiveness-implementation trial of an ED antimicrobial stewardship programs using EHR-CDS as centerpiece, which is poised for grant submission to NICHD in June 2022.

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 a 26 site phase III, embedded, cluster-randomized, crossover trial to compare hyperhydration (e.g. early aggressive intravenous treatment) with conservative fluid management as treatment for STEC-infected children. This study has the potential to mitigate the renal and extrarenal complications of the hemolytic uremic syndrome (HUS) and improve health outcomes in STEC-infected children. The study was funded by the NIAID in September 2021. Weekly steering committee and monthly all site meetings are ongoing. The University of Utah IRB has approved the study and will serve as central IRB for the US. All US sites have begun reliance agreements and 2 of the 4 Canadian sites have obtained ethics approval. The DCC and PIs are working on study databases and the manual of operations. Patient enrollment will commence in September 2022.

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 enrolled 3101 children enrolled and completed 200 interrater assessments over the past 11 months. Emergent intracranial abnormalities have been identified in approximately 0.9% of children. Approximately 30% of children received ED neuroimaging, with 58.7% of them undergoing CT scans.

PRAPP

Procalcitonin to Reduce Antibiotic Use in Pediatric Pneumonia (P-RAPP) is a pilot study evaluating the feasibility of a future large-scale clinical trial evaluating use of amoxicillin vs no antibiotics (i.e., placebo) in children with mild clinical presentation and low procalcitonin values. Enrollment of English and Spanish speaking participants is ongoing at 3 sites. 1 subject has been enrolled as of October 15, 2021. We continue to focus on improving enrollment rates across all sites with the plan enroll through April-May.

STArT

The STArT study investigates the benefits and safety of arginine for the treatment of patients with Sickle Cell Disease and pain. We have activated 9 sites for enrollments and anticipate activating our last site mid-January. To date, our sites have screened more than 150 patients and enrolled 14 participants. We are currently preparing for our first interim DSMB meeting which is scheduled for mid-March and anticipate conducting our first virtual site visits later this month. All milestones have been met to date.

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

Federal Corner

Introducing a new look for EMSC! Recognizing the shared mission of EMSC grantees, a new, unified brand is being rolled out across the program. Learn more and access logo files via emscimprovement.center/about/branding/.

The U.S. Department of Health & Human Services (HHS) News:

HHS is welcoming back Carole Johnson as the new administrator of the Health Resources Services Administration (HRSA). Joined by Deputy Administrator Diana Espinosa, the new administrator, is deeply committed to HRSA's mission of improving health outcomes and achieving health equity. Johnson was previously the testing coordinator for the White House COVID-19 response team and also served as the Commissioner of the New Jersey Department of Human Services, providing health care and social services to one-in-five New Jersey residents.

Helping to Spread the Word about Vaccine Boosters

HHS released new resources – posters, flyers, videos, and talking points – to help promote the extra protection from COVID-19 boosters. All vaccinated adults aged 18+ are eligible for a booster. The Centers for Disease Control and Prevention (CDC) expanded booster eligibility to include adolescents ages 12 to 17, recommending that they receive a booster shot five months after their initial vaccination. The CDC also released a new resource, based on input from rural health departments and organizations, with 12 strategies to increase vaccine uptake in rural communities. Search by zip code to find nearby locations providing adult and pediatric vaccines and boosters for COVID-19 and the flu at vaccines.gov.

HRSA's Year in Review and Agency Overview

HRSA recently published the 2021 Year in Review and Agency Overview.

Find out how HRSA responded to COVID-19 and how programming improved American lives.

Learn more about HRSA's reach and impact of programs at HRSA eNews: a free, twice-monthly publication that provides updates on HRSA's programs, funding opportunities, events, and other timely information.

New Study Finds That More Than 1 in 4 Households Delayed or Missed Children's Preventive Checkups Due to the COVID-19 Pandemic

Public Health Reports published a new study by Maternal and Child Health Bureau (MCHB) researchers, Missed and Delayed Preventive Health Care Visits Among US Children Due to the COVID-19 Pandemic. Using data from the Census Bureau's Household Pulse Survey collected in April/May 2021, the researchers estimated the prevalence of missed, skipped, or delayed preventive checkups among households with children in the previous 12 months. They found that about 26% of these households had at least one or more children (< 18 years old) who had missed or delayed their preventive visit because of the pandemic.

HRSA Health Resources & Services Administration

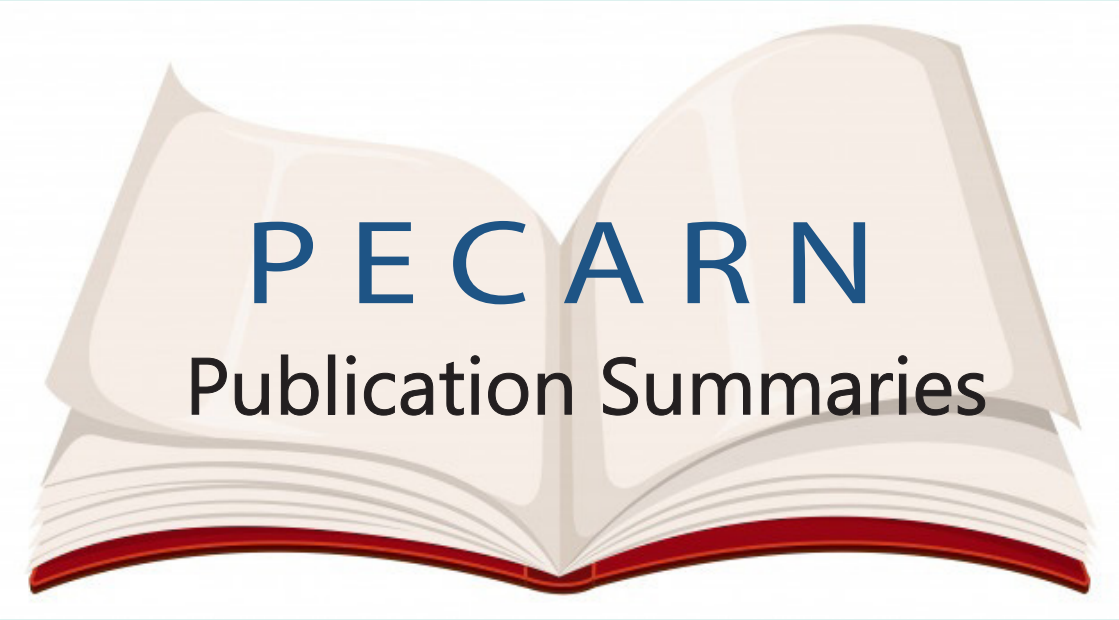
Emergency Medical Services for Children News

2022 EMS for Children Survey

A nationwide quality improvement effort regarding care of pediatric patients administered by the National EMSC Data Analysis Resource Center (NEDARC). The survey officially launched January 5, 2022 and will close March 31, 2022 https://emscsurveys.org/ Surveying more than 15,000 EMS agencies that respond to public 911 calls and render care – both transporting and non-transporting. Similar to previous years, NEDARC will provide a response rate dashboard to monitor progress and target non-respondents.

NIH Report: Oral Health in America

Oral Health in America: Advances and Challenges is a culmination of two years of research and writing by over 400 contributors. As a follow up to the Surgeon General's Report on Oral Health in America, this report explores the nation's oral health over the last 20 years. View a video message from National Institute of Dental and Craniofacial Research (NIDCR) Director Dr. Rena D'Souza, who shares highlights of the landmark report.



PECARN
Publication Summaries

Summarized by:
Renee Kuhn
Kammy Jacobsen
Kadyn Kimball
and
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Serum Sodium Concentration and Mental Status in Children With Diabetic Ketoacidosis

This was a prospective study investigating determinants of sodium concentration changes and associations with mental status alterations during Diabetic Ketoacidosis (DKA) using data from the Pediatric Emergency Care Applied Research Network (PECARN) Fluid Therapies Under Investigation in Diabetic Ketoacidosis Trial. In this trial, there were 4 intravenous fluid protocols with varying infusion rates and sodium content.

They found, with previously diagnosed diabetes, at presentation there were declines in sodium concentrations associated with higher sodium and chloride concentrations. Declines in sodium concentration were also associated with treatment with 0.45% (vs 0.9%) sodium chloride fluids; however, higher rates of fluid infusion were associated with declines in sodium concentration only at the longest treatment. Frequencies of abnormal Glasgow Coma Scale scores and clinical diagnoses of cerebral injury were similar in all patients.

In conclusion, DKA treatments are influenced by changes in sodium concentrations but not with mental status changes.

Nicole S Glaser 1, Michael J Stoner 2, Aris Garro 3, Scott Baird 4, Sage R Myers 5, Arleta Rewers 6, Kathleen M Brown 7, Jennifer L Trainor 8, Kimberly S Quayle 9, Julie K McManemy 10, Andrew D DePiero 11 12, Lise E Nigrovic 13, Leah Tzimenatos 14, Jeff E Schunk 15, Cody S Olsen 15, T Charles Casper 15, Simona Ghetti 16, Nathan Kuppermann, Pediatric Emergency Care Applied Research Network (PECARN) DKA FLUID Study Group. Serum Sodium Concentration and Mental Status in Children With Diabetic Ketoacidosis PMID: 34373322

Enrollment with and without exception from informed consent in a pilot trial of tranexamic acid in children with hemorrhagic injuries

This study compares enrollment rates with and without Exception from Informed Consent (EFIC) enrollment procedures for the TIC-TOC pilot study. The authors set an a priori futility threshold for enrollment without EFIC and initially began enrollment using only prospective informed consent recruitment methods. The futility threshold was met after 3 months of enrollment. During this time, 15 eligible patients were identified and 1 was enrolled using prospective informed consent methodology. The study was then paused for 6 months at 1 site and 13-17 months at the other 3 sites to conduct preparatory EFIC activities. Enrollment with EFIC procedures took place from March 2019 until March 2020 during which time 30 of 48 eligible patients were enrolled, 22 of these were enrolled using EFIC procedures and none of the EFIC participants refused consent after randomization. Results of this study demonstrate that the use of EFIC procedures greatly increased enrollment rates and were well accepted by guardians.

Seth W. Linakis MD, MA,Nathan Kuppermann MD, MPH,Rachel M. Stanley MD, MHSA,Hilary Hewes MD,Sage Myers MD, MSCE,John M. VanBuren PhD,T. Charles Casper PhD,Matthew Bobinski MD, PhD,Simona Ghetti PhD,Walton O. Schalick III MD, PhD,Daniel K. Nishijima MD, MAS,TIC-TOC Collaborators of the Pediatric Emergency Care Applied Research Network (PECARN), Enrollment with and without exception from informed consent in a pilot trial of tranexamic acid in children with hemorrhagic injuries. Academic Emergency Medicine. 12 July 2021

Variables Associated With Intravenous Rehydration and Hospitalization in Children With Acute Gastroenteritis: A Secondary Analysis of 2 Randomized Clinical Trials

This manuscript aimed to identify factors associated with intravenous fluid administration and hospitalization in children with acute gastroenteritis (AGE). A planned secondary analysis of two randomized clinical trials (PERC and PECARN) of oral probiotics in children with AGE-associated diarrhea evaluated 1846 children, ages 3 to 48 months, that had reported 3 or more watery stools in the 24 hours prior to their ED visit. Of these participants, 534 received oral ondansetron, 240 received intravenous rehydration, and 67 were hospitalized. Independent variables found to be associated with intravenous rehydration included higher clinical dehydration score, care in the US relative to Canada, greater frequency and duration of vomiting, prior intravenous rehydration, and lack of oral ondansetron. Higher clinical dehydration score, care in the US, greater frequency of vomiting, and lack or oral ondansetron were also found to be associated with hospitalization. In summary, both intravenous rehydration and hospitalization were associated with greater dehydration, care in the US, and more vomiting episodes. Oral ondansetron followed by oral rehydration therapy (ORT) was associated with lower odds of both intravenous rehydration and hospitalization. Strategies focusing on oral ondansetron administration followed by ORT in dehydrated children with AGE may reduce the reliance on intravenous rehydration and hospitalization.

Poonai N, Powell EC, Schnadower D, Casper TC, Roskind CG, Olsen CS, Tarr PI, Mahajan P, Rogers AJ, Schuh S, Hurley KF, Gouin S, Vance C, Farion KJ, Sapien RE, O'Connell KJ, Levine AC, Bhatt S, Freedman SB; Pediatric Emergency Care Applied Research Network (PECARN) and Pediatric Emergency Research Canada (PERC). Variables Associated With Intravenous Rehydration and Hospitalization in Children With Acute Gastroenteritis: A Secondary Analysis of 2 Randomized Clinical Trials. JAMA Netw Open. 2021 Apr 1;4(4):e216433. doi: 10.1001/jamanetworkopen.2021.6433. Erratum in: JAMA Netw Open. 2021 Jun 1;4(6):e2116800. PMID: 33871616; PMCID: PMC8056281.

Racial and ethnic disparities in the delayed diagnosis of appendicitis among children

This was a 3-year multicenter (seven EDs) retrospective cohort study of children diagnosed with appendicitis using the Pediatric Emergency Care Applied Research Network Registry. Delayed diagnosis was defined as having at least one prior ED visit within 7 days preceding appendicitis diagnosis. A multivariable logistic regression was performed to measure associations of race/ethnicity (non-Hispanic [NH]-white, NH-Black, Hispanic, other) with 1) appendiceal perforation, 2) delayed diagnosis of appendicitis, and 3) diagnostic imaging during prior visit(s).

Of 7,298 patients with appendicitis and documented race/ethnicity, 2,567 (35.2%) had appendiceal perforation. In comparison to NH-whites, NH-Black children had higher likelihood of perforation (36.5% vs. 34.9%; adjusted odds ratio [aOR] = 1.21 [95% confidence interval {CI} = 1.01 to 1.45]). A total of 206 (2.8%) had a delayed diagnosis of appendicitis. NH-Black children were more likely to have delayed diagnoses (4.7% vs. 2.0%; aOR = 1.81 [95% CI = 1.09 to 2.98]). Eighty-nine (43.2%) patients with delayed diagnosis had abdominal imaging during their prior visits. In comparison to NH-whites, NH-Black children were less likely to undergo any imaging (28.2% vs. 46.2%; aOR = 0.41 [95% CI = 0.18 to 0.96]) or definitive imaging (e.g., ultrasound/computed tomography/magnetic resonance imaging; 10.3% vs. 35.9%; aOR = 0.15 [95% CI = 0.05 to 0.50]) during prior visits.

In conclusion, there were racial disparities in appendiceal perforation, rates of delayed diagnosis of appendicitis and diagnostic imaging during prior ED visits. These disparities in diagnostic imaging may lead to delays in appendicitis diagnosis and, thus, may contribute to higher perforation rates demonstrated among minority children.

Monika K Goyal 1, James M Chamberlain 1, Michael Webb 2, Robert W Grundmeier 3, Tiffani J Johnson 4, Scott A Lorch 3, Joseph J Zorc 3, Evaline Alessandrini 5, Lalit Bajaj 6, Lawrence Cook 2, Elizabeth R Alpern 7, Pediatric Emergency Care Applied Research Network (PECARN) Racial and ethnic disparities in the delayed diagnosis of appendicitis among children. PMID: 32991770

"Conducting high priority, high quality research in pediatric emergency care."

WPEMR Node

Announcing **Retirement of Halim Hennes, MD, MS.** WPEMR would like to congratulate Dr. Halim Hennes on his well-deserved retirement, and thank him for his leadership of the University of Texas Southwestern PECARN site over the past two years. Dr. Hennes has had a successful career as a clinician, leader, and researcher in Pediatric Emergency Medicine. After practicing and collaborating alongside many PECARN colleagues for 22 years at Medical College of Wisconsin, Dr. Hennes went on to serve as PEM Division Chief and Emergency Medical Services Medical Director at UTSW for 10 years, and transitioned into his current role as PEM Research Director in 2018. Dr. Hennes has served as PI or Co-I on many clinical and multicenter trials, including the NETT and ESETT studies completed in collaboration with the PECARN network. WPEMR members have appreciated Dr. Hennes' witty sense of humor, scientific insights, and commitment to our mission.

Our node welcomes Dr. Mohamed Badawy as the new HEDA PI for the UTSW site and our new Research Coordinators at UT Southwestern: PECARN Research Study Coordinators Ashley Bird, BS and Aruna Ayalasomayajula, MSc, CCRP in Pediatric ER.

NEW FACES & NODAL NEWS

HOMERUN is excited to welcome Brad McClain, EMSA RC to our team. Brad has 17 years of experience as a paramedic with the Lexington Fire Department and a Graduate Certificate in Clinical and Translational Research. Welcome Brad! Congratulations to David Schnadower and team on funding for the HIKO STEC study; and David Brousseau on funding for the SCIENCE II study!

HOMERUN Node

GLEMSCRN Node

In September of 2021, our node enjoyed a hybrid retreat. Over 40 people attended sessions either virtually or in-person.

University of Michigan welcomes their newest RC, Sydney Erwin

DCC

The DCC is pleased to welcome new staff: Kim Bloom, Misty Burgess, Kadyn Kimball and Hilary Hickingbotham.

PRIME Node

Congratulations to Tiffani Johnson at UC Davis who was recently honored by the American Academy of Pediatrics with its inaugural Minority Health, Equity and Inclusion Award. The award recognizes outstanding contributions to advance health equity for underrepresented communities. It also celebrates efforts to promote diversity, equity, and inclusion of the pediatric workforce through policy, advocacy, education, mentorships, and research.

SPARC Node

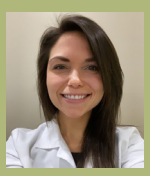
UCSF HEDA PI Jacqueline Grupp-Phelan, MD, MPH was appointed as the first UCSF Benioff Children's Hospital Pediatric Emergency Medicine Endowed Professor. Dr. Grupp-Phelan currently serves the chief of the Division of Pediatric Emergency Medicine at both UCSF Benioff Children's Hospitals (San Francisco and Oakland) and as the department's vice chair for Pediatric Emergency Medicine.

Welcome to all of our new staff!

Ayo Zahra

Kevin Li

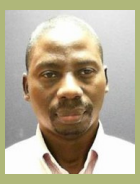
Alexus Locke



Laura Benedit

Polly Kumari

Ann Maroni



Olufemi Oluyole

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