

The [Division of Pediatric Emergency Medicine](#) (PEM) is one of the largest divisions within the Department of Pediatrics at UT Southwestern. The Emergency Department has always been the entry point for the Hospital, and in times of uncertainty, it serves a vital role for operations. Indeed, 2020 was a year like no other, in which the front-line faculty and staff were the front door for the Hospital and the Department of Pediatrics during the COVID-19 pandemic. Beginning in early 2020, the emergency department developed processes for suspected COVID-19 patients while still managing the high acuity, high complexity patients presenting to our tertiary care emergency department. In addition, leadership has been involved in the Emergency Operations Committee since the beginning of the COVID-19 pandemic, and we continue to be actively engaged as we manage our response. Despite the enormity of the COVID-19 pandemic and the responsibility of the Emergency Department to provide care, the Division of Pediatric Emergency Medicine was highly successful in 2020.

Traditionally, the division's faculty and PEM fellows provide clinical service at Children's Health Emergency Departments on 2 campuses: Dallas (main) and Plano. As the COVID-19 pandemic persisted, our normally very busy clinical service had fewer patient visits, similar to most children's hospitals in the country. Our 2020 combined patient volume decreased to 109,433 (down from 184,804 patient visits in 2019), with Dallas 75,211 (130,375 in 2019) and Plano 34,222 (54,429 in 2019). In December 2020, the Division of Pediatric Emergency Medicine concentrated our academic and clinical efforts by withdrawing from Children's Health, Plano, and focusing on the Dallas campus of Children's Health. In addition to staffing from UTSW faculty, a number of advanced practice providers and Emergency Medicine physicians assisted in the care of patients.

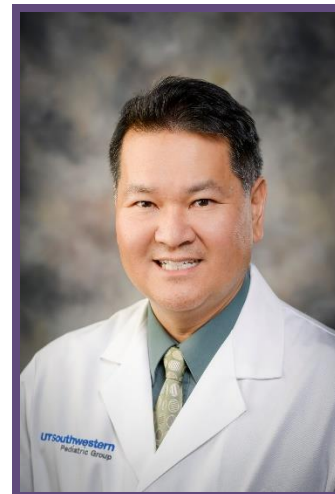
The Dallas Campus ED is the primary pediatric ED for Dallas, serves as a major pediatric referral center, and is the only American College of Surgeons verified Level I pediatric trauma center in North Texas. As such, the ED provides pediatric trauma stabilization and resuscitation, and plays a key role in the trauma network for North Texas. Division faculty also provide medical oversight and physician coordination for the Children's Health transport team and Dallas County Emergency Medical Services (BioTel). The Plano Campus ED is a free-standing community children's hospital staffed similarly. During the COVID pandemic, overall census dropped, but the number of high-acuity, high morbidity cases remained similar to previous years.

After joining the Pediatric Emergency Care Applied Research Network (PECARN) in September 2019, the Division of Pediatric Emergency Medicine has now participated in PECARN for a full year as a member of the highly prestigious, multi-center, federally funded research consortium. Membership is limited to a handful of leading academic medical centers, with multicenter research studies making impactful changes in Pediatric Emergency Medicine. PECARN is a significant step forward in research accomplishment for the Division.

The Division has an excellent research infrastructure with a full-time research coordinator, a dedicated PECARN research coordinator, and 5 more full-time and part-time research staff. Our faculty are involved in numerous clinical research studies, designed to advance patient care and knowledge regarding status epilepticus, respiratory diseases, brain injury, pain management, bedside ultrasound, prehospital care, and noninvasive monitoring. Currently, division faculty are participating in 3 multicenter, federally funded research projects.

The PEM Division plays a vital role in training pediatric emergency medicine fellows, pediatric residents, family medicine residents, emergency medicine residents, medical students, and advanced practice providers, who will provide pediatric emergency care throughout the country, as well as in Texas. The Division's well-established, ACGME accredited pediatric emergency medicine fellowship program provides strong clinical, educational, and research training, and plays a crucial role in clinical teaching. During the COVID-19 pandemic, educational initiatives grew and expanded, due to a focused effort to be an educational leader.

Ongoing educational initiatives included PEM Talks, which is a monthly educational series for primary care providers in North Texas, and the 4th PEMQBook national board review course. Both had highest attendance records in 2020. Educational initiatives introduced in 2020 included a monthly Core PEM Conference series for the Division of PEM and the UTSW Department of Emergency Medicine, and a semi-weekly joint ED-Radiology conference reviewing recent cases and topics. Attendings, fellows, residents, and medical students are encouraged to attend the new conference series.



Vincent Wang, M.D., M.H.A.
Professor
Division Chief

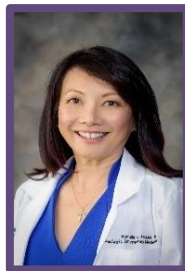
Pediatric Emergency Medicine Division Leadership



Vincent Wang, M.D., M.H.A.
Professor
Division Chief



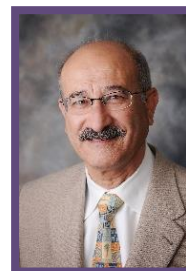
Mohamed Badawy, M.D.
Associate Professor
Medical Director-Dallas



Pamela Okada, M.D., M.S.
Professor
Medical Director-Plano



Ken Yen, M.D., M.S.
Associate Professor
Co-Research Director



Halim Hennes, M.D., M.S.
Professor
Co-Research Director



Jo-Ann Nesiama, M.D., M.S.
Associate Professor
Fellowship Director



Sing-Yi Feng, M.D.
Associate Professor
Associate Fellowship
Director



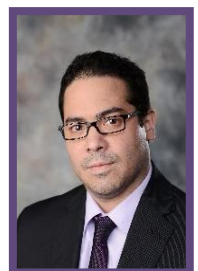
Craig Huang, M.D.
Associate Professor
EMS and Trauma Director



Susan Scott, M.D.
Associate Professor
Education Director



Megan Street, M.D.
Assistant Professor
Co-Associate Medical
Director, Dallas



Michael Baldovsky, D.O., M.B.A.
Assistant Professor
Co-Associate Medical
Director, Dallas
Referral Nurse Program
Director

Division Faculty

The Division has 27 full-time and 8 part-time faculty members. Included in the group of part-time faculty members are 3 who are full-time, but are split between other Divisions/Departments.

Jonathan Nielson, MD, is 50/50 PEM and Emergency Medicine with the Department of Emergency Medicine at UTSW.

Shahid Nadeem, MBBS, is primarily PEM with a secondary appointment in the Division of Pediatric Nephrology.

Clay Yaklin, MD, is primarily PEM with a secondary appointment in the Division of Palliative Care.

There are 12 fellows, all with diverse research and administrative interests. Five faculty joined the Division in 2020.

Shahid Nadeem, MBBS, FAAP

Assistant Professor



M.B.B.S.

Allama Iqbal Medical College, Lahore, Pakistan 2004

Postdoctoral Training

Residency, Pediatrics

West Virginia University, Charleston, WV, 2009 – 2011

Fellowship, Pediatric Nephrology

Emory University, 2011 – 2014

Fellowship, Pediatric Emergency Medicine

UT Southwestern, 2017 – 2020

Interests:

Electrolyte Emergencies, Hypertension, Urinary Tract Infections

Jonathan Nielson, M.D.

Assistant Professor



M.D.

Virginia Tech Carilion School of Medicine, 2015

Postdoctoral Training

Residency, Emergency Medicine

Virginia Tech Carilion School of Medicine 2015 – 2018

Fellowship – Pediatric Emergency Medicine

Children's Minnesota Health Partners/Regional Hospitals 2018 – 2020

Interests:

Resource Utilization, Pediatric Bedside Ultrasound, Simulation

Asha Tharayil, M.D.

Assistant Professor



B.A., Mathematics & Art
Austin College, Sherman TX, 2010

M.D.
McGovern Medical School, Houston, TX 2014

Postdoctoral Training
Residency, Pediatrics
University of Oklahoma Health Science Center, Oklahoma City, 2014 – 2017
Fellowship, Pediatric Emergency Medicine
UT Southwestern, 2017 – 2020

Interests:
Child abuse

Clay Yaklin, M.D.

Assistant Professor



B.S., Biomedical Sciences, *cum laude*
Texas A&M University, College Station, TX, 2009

M.D.
University of Texas Medical Branch, Galveston, TX, 2013

Postdoctoral Training
Residency, Pediatrics
Children’s Mercy Hospital – University of Missouri, Kansas City, MO, 2013 – 2016
Fellowship, Pediatric Emergency Medicine
Children’s Mercy Hospital – University of Missouri, Kansas City, MO, 2016 – 2019
Fellowship, Pediatric Hospice and Palliative Care Fellowship
Washington University, St. Louis, MO, 2019 – 2020

Interests:
Intersection of Pediatric Emergency Medicine and Palliative Medicine

Jillian McAdams, M.D.

Assistant Professor



B.A., Psychology/Pre-Healing Arts,
Franklin & Marshall College, Lancaster, PA, 2004

M.D.
Virginia Commonwealth University (VCU) School of Medicine, Richmond, VA, 2010

Postdoctoral Training
Residency, Pediatrics
University of South Carolina, Greenville, SC, 2010 – 2012
Residency, Pediatrics
St. Louis University School of Medicine, St. Louis, MO, 2013 – 2014

Interests:
Digital Innovation, Electronic Health Records, EPIC, Medical Education, Operations,
Pediatric Urgent Care, Telemedicine

Honors / Awards

Mohamed Badawy, MD

- Certificate of Recognition UT Southwestern Medical Center, Pediatric Emergency Medicine Fellowship Program, Dallas, Texas 2020
- Pediatric Emergency Medicine Residency Teaching Award 2020

Pamela Okada, MD

- Pediatric Emergency Medicine Residency Teaching Award 2020

Megan Street, MD

- Pediatric Emergency Medicine Faculty Recognition Award 2020

Ngoc “Kim” Van Horn, MD

- Pediatric Emergency Medicine Residency Teaching Award 2020

Invited Lectures

Sing-Yi Feng, MD

- Toxicology Historical Society North American Congress of Clinical Toxicologists, San Francisco, CA. September 2020
“Toxicology in Classical Music”

Pamela Okada, MD, MS

- The National Pediatric Emergency Medicine Fellows’ Conference, Denver, CO. February 2020
“ED Shift, Kids, Eat, Sleep, Repeat: Life-Work Balance”
- Pediatric Emergency Medicine Virtual Shadowing National Online Collaboration, (Virtual) August 2020

Megan Street, MD

- 2020 Pediatrics Video Board Review. Sponsored by MedStudy.com. September 2020
“Emergency Medicine and Maltreatment Syndrome.”

Vincent J. Wang, MD

- Pediatric Urgent Care Conference, Los Angeles, CA, sponsored by PM Pediatrics. February 2020
“Toxicological Emergencies”
- Pediatric Grand Rounds, UT Southwestern Medical Center, Dallas, TX, February 2020
“Management of Fever in the Neonate and Young Infant”
- 52nd Annual Kenneth C. Haltalin Pediatrics for the Practitioner, virtual conference, October 2020
“Common Pediatric Emergencies”

Conference Presentations

Celebration of Women in Medicine and Science

UT Southwestern, Dallas, TX, February 2020

Deramo J, Vandiver K, Street M, Van Horn N

Poster Presentation, *“Management of the Previously Healthy Neonate with Skin and Soft Tissue Infection in High MRSA Prevalence Population”*

Van Horn N

Poster Presentation, *“Prospective evaluation on parental and staff satisfaction with the use of an Emergency Department Subcutaneous Rehydration Clinical Practice Guideline”*

PEMQBook Board Review Course 2021

Virtual National Conference, sponsored by PEMQBook, LLC. December 2020

Course Co-Directors: **Pamela Okada, MD, MS** and **Craig Huang, MD**

Course Associate Director: **Sing-Yi Feng, MD**

Mohamed Badawy, MD

Lecture, *“Trauma: Abdominal & Genitourinary”*

Sing-Yi Feng, MD

Lecture, *“Environmental Emergencies”*

Craig Huang, MD

Lecture, *“Pediatric Gynecology and Obstetrics”*

Pamela Okada, MD, MS

Lecture, *“Medical Emergencies: Neurology”*

David Rodriguez, MD

Lecture, *“Medical Emergencies: Rheumatology”*

Susan Scott, MD

Lecture, *“Metabolic Emergencies: Inborn Errors of Metabolism”*

Megan Street, MD

Lecture, *“Medical Emergencies: Hematology and Oncology”*

Vincent J. Wang, MD

Lecture, *“Improving Test Performance”*

Other Conferences

Cooper M

Texas College of Emergency Physicians Conference, Virtual, May 2020

Poster Presentation, *“Point-of-care Ultrasonography by Novice Medical Students for Detecting Inferior Vena Cava Diameter and Collapsibility and Overall Left Ventricular Function in Euvolemic Pediatric Patients”*

Nadeem S, Oke O, Badawy M, Filkins L, Park J, Hennes H

Academic Pediatric Association, Virtual, July 2020

Virtual Presentation: *“Association of Pyuria with Certain Uropathogens in Young Children”*

Education and Training

The Division of Pediatric Emergency Medicine provides educational opportunities for medical students, residents, and advanced practice providers, in addition to its fully accredited fellowship program. Education is a group effort with multiple leaders.

Even with the COVID-19 pandemic, the Division of Pediatric Emergency Medicine continued to grow educational efforts and initiatives. Transitioning to a virtual format due to the COVID-19 pandemic accelerated our growth, and attendance expanded. Our educational activities include didactic lectures covering the core PEM curriculum, simulation labs for enhancing clinical and procedural skills, small group discussions, bedside teaching in the ED, and Pediatric Advanced Life Support (PALS). Two new conference series were initiated in 2020, as noted below.

Beginning in July 2020, in collaboration with the Division of Pediatric Radiology, the ED started holding semi-weekly joint ED-Radiology conferences, reviewing interesting recent cases and topics. Attendings, fellows, residents, and medical students are encouraged to attend this focused educational conference.

Beginning in September 2020, a new, monthly didactic series titled “Core PEM Conferences” was initiated. The purpose of this lecture series is to complete the Pediatric Emergency Medicine clinical lecture curriculum over 2 years, and is now required attendance for all faculty and fellows. The topics are also of relevance to the UTSW Emergency Medicine faculty, who work shifts at Children’s Medical Center, as well as the Advanced Practice Providers in the ED.

In 2020, the faculty members from the Division of Pediatric Emergency Medicine sponsored the 4th national Pediatric Emergency Medicine Question Review Book Board Review Conference, which is the largest board review conference in the country. Through this conference, faculty at UTSW helped teach the newest Pediatric Emergency Medicine attending physicians to pass the American Board of Pediatrics Pediatric Emergency Medicine Board certification examination. The last 3 national conferences were held live and in person in 2015, 2017, and 2019. As with most conferences this year, the course was held virtually, and had the highest attendance ever, with 115 participants attending from throughout the country, from the West Coast to New England to Florida. The typical 3-day course was divided into 1-day sessions in December 2020, January 2021, and February 2021.

The Division of Pediatric Emergency Medicine has been giving “PEM Talks” (Plano Emergency Medicine Talks) since 2018. PEM Talks was originally developed to offer education on various pediatric emergency medicine topics for the local primary care providers in the Plano area. Monthly lectures were offered in person in the main conference room in Children’s Health, Plano. After a brief pause due to the COVID-19 pandemic, conferences transitioned to virtual conferences. With this change, attendance grew both in number and in catchment area, with average attendance pre-COVID being 40 (range 12 – 62) in-person attendees, to average virtual attendance during COVID being 202 (range 69 – 950). Primary care providers, advanced practice providers, and nurses from all over North Texas are now attending, with attendance recorded from Oklahoma, Georgia, Ohio, Iowa, New Mexico, North Carolina, Massachusetts, and even Ontario, Canada. These talks demonstrate the essential role of the Division of Pediatric Emergency Medicine as an educational leader in North Texas and beyond. This evolution resulted in the conference series title being changed to Pediatric Emergency Medicine Talks, which is now based out of the media studio at Children’s Health, Dallas. Dr. Pamela Okada continues to organize these conferences, which are given primarily by UTSW faculty. In 2020, PEM Talks lectures given by the faculty from the Division of Pediatric Emergency Medicine at UTSW are as follows:

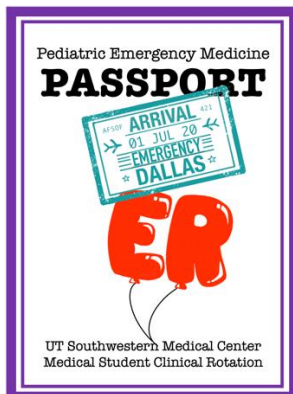
Sing-Yi Feng, MD	May	Biological and Chemical Terrorism in Children
Kalpesh Patel, MD	June	Laceration Basics
Mohamed Badawy, MD	July	Blunt Abdominal Trauma in Children
Craig Huang, MD	August	Is it Macular, Papular, Maculopapular, Or Something Else?: A Pediatric EM Doctor's Guide to Rashes
Michael Baldovsky, DO, MBA	August	Too Hot, Too Cold, Too High: Heat, Cold, and Altitude Related Illness in Children
Vincent J. Wang, MD, MHA	September	Management of Fever in the Neonate and Young Infant
Susan Scott, MD	October	Office Preparedness

Medical Students

The Pediatric Emergency Medicine faculty and fellows are active in providing didactic education to UT Southwestern medical students. The Division offers a third-year medical student shadowing rotation and a fourth-year medical student clerkship that provides in-depth exposure to Pediatric Emergency Medicine through recognition, evaluation, and management of the acutely ill and injured child.

In 2020, we expanded and revised the medical student curriculum. Gordon Bruce, MD, PhD, was appointed medical student liaison, and along with Jennifer McConnell, MD; Kim Van Horn, MD; David Rodriguez, MD; and Kayleigh McBride, DO, the following changes were made:

- Second and third-year medical students' experiences transformed from exclusive shadowing to a combination of shadowing and direct patient management, including multiple case history and physical examination presentations on patients in the ED, directly supervised by attending physicians.
- Second and third-year medical students were issued a "passport" to guide and document their experience in the pediatric ED. The passport is similar to a travel passport with the various patient experiences documented in the booklet. Several pages are shown below.



Lower Level Shift – Patient Encounters
Date: _____

Checklist
 Present three (3) cases to attending
 Case 1 diagnosis: _____
 Case 2 diagnosis: _____
 Case 3 diagnosis: _____

Attending Check-off
 Attending Name: _____

Later Tasks:
 Select one patient to write up full H&P
 Email H&P to Dr. Gordon Bruce

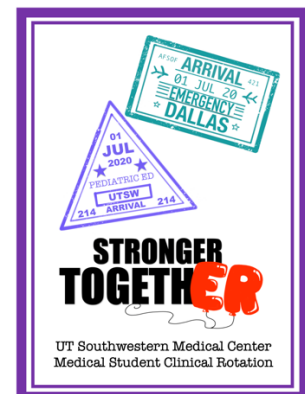
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Didactics

During your shifts with us, there may be additional pediatric and PEM-specific lectures on-going. You are encouraged to attend these.

Please indicate if you were able attend any of the following:
 Pediatric Multi-disciplinary Case Conference
 Pediatric Grand Rounds
 PEM Resident Education Conference Series
 Other: _____

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- Fourth year medical students' clerkship experiences were divided between the moderate and higher acuity areas. Previously guided by the senior pediatric resident, the students directly present to the attending physician on the high acuity team.

Residents

Major internal educational activities include didactic lectures for the Pediatric residents, as well as Family Medicine and Emergency Medicine residents. Training in the emergency department is often sought by residents from other pediatric training programs in Texas and Oklahoma.

The objectives of the rotation and educational efforts are to:

- Recognize, evaluate, and manage acutely ill and injured pediatric patients
- Evaluate and manage common pediatric complaints and disease processes
- Master technical skills, including lumbar puncture, laceration repair, fracture care and splinting, foreign body removal, and incision and drainage
- Acquire and maintain efficiency and prioritization required to care for multiple patients simultaneously

Requirements for this course include:

- Core competencies: common complaints, disease processes, and technical skills
- Monthly patient lists: chief complaint and diagnosis
- Noon and monthly emergency medicine conferences and Grand Rounds

Education opportunities include:

- Pediatric Emergency Medicine lectures at residents' conferences (variable over the year)
- Weekly didactic lectures on various Pediatric Emergency Medicine topics (every Wednesday)
- Pediatric Emergency Medicine Core Lectures (2nd Tuesdays)
- Joint Emergency Medicine-Radiology Conferences (every Monday and Thursday)
- Participation at Pediatric Emergency Medicine Fellows' Meetings (every Tuesday)
- Bedside teaching on the diverse patient population

Fellows

The well-established Pediatric Emergency Medicine Fellowship Program accepts both pediatric- and emergency medicine-trained residents. In 2020, our first emergency medicine trained fellow (Dr. McElroy-Wallace) joined the division, along with our first EM/PEM trained attending physician, as noted in the faculty section. The program provides excellent clinical training, includes a comprehensive research curriculum with didactic teaching that covers basic research concepts and statistics, and supports an extensive teaching curriculum to promote their individual growth as educators. The program strives to prepare the fellows to be outstanding clinician-educators, while training them to lead our future in pediatric emergency medicine, as they are also encouraged to complete 2 research projects by graduation. As Drs. Jo-Ann Nesiama and Sing-Yi Feng have assumed leadership of the fellowship program in July 2020, new initiatives were begun as we continue to strive for excellence.

Division faculty have diverse research interests, offering the fellows a unique opportunity to select the appropriate mentor with interests that match theirs. The Research Directors and Research Council assist faculty and fellows with their research projects, and the Fellowship Director has a Master of Epidemiology, along with one of the Research Directors.

The Division currently has 12 full-time fellows, each with diverse research and administrative interests.



Andrew Boulos, MD
3rd year PEM fellow



Jennifer Deramo, MD
3rd year PEM fellow
Chief Fellow



Janelle McCall, MD
3rd year PEM fellow



Amit Srivastava, MD
3rd year PEM fellow



Manju Korrattiyil, MD
2nd year PEM fellow



Matthias Manuel, MBBS, MPH
2nd year PEM fellow



Kayleigh McBride, MD
2nd year PEM fellow



Lyndsey van der Laan, MD, MPH
2nd year PEM fellow
Chief Fellow Elect



Ali McLeroy-Wallace, MD
1st year PEM fellow



Jacqueline Bolt, MD
1st year PEM fellow



Noormah Mehmood, MBBS
1st year PEM fellow



John Shin, MD
1st year PEM fellow

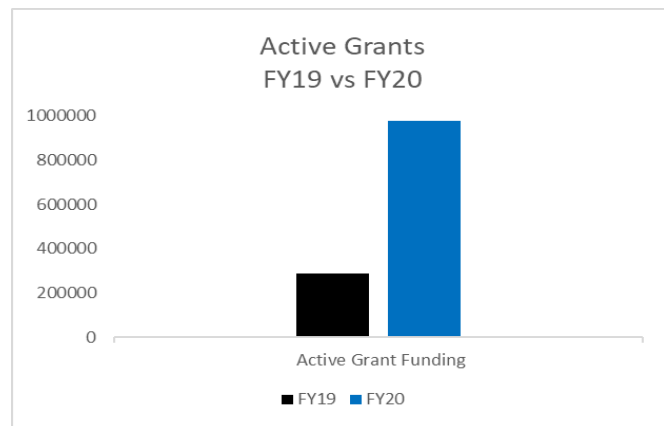
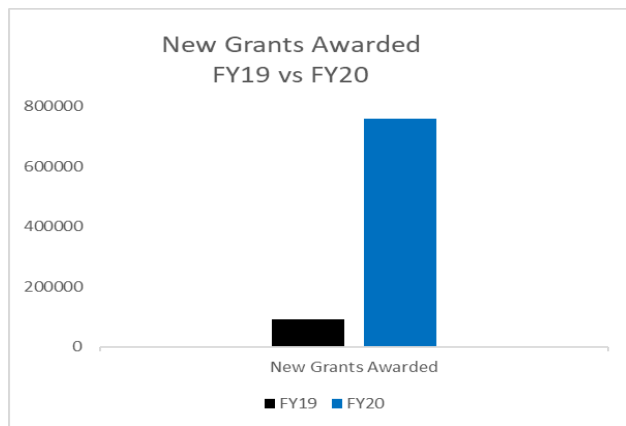
Research Activities

The Division of PEM serves a diverse population with broad pediatric pathology and high acuity, providing an opportune environment for clinical research. The mission of the Division is to conduct state of the art clinical research, with an emphasis on improving the clinical care and outcomes of the acutely ill or injured child. The pillars of the research program in the Division include trauma, EMS/pre-hospital management, pain management, clinical decision rules, respiratory care, and neurologic emergencies.

Because of its rich clinical service and broad research interests, the Division has been routinely selected to participate in multicenter, national, and international level studies. The research team has a proven track record of success by becoming one of the top enrolling sites for numerous multicenter, federally funded studies.

This is the 2nd year the Division has been a PECARN (the Pediatric Emergency Care Applied Research Network) center. PECARN is a federally funded research network which conducts high-priority multi-institutional research in pediatric emergency medicine. Being selected as a PECARN site is a high honor for the Division. Since joining PECARN in September 2019, there are 3 active PECARN studies ongoing, and 4 new funded studies to start in 2021. Dr. Halim Hennes was the PECARN Site PI through August 2020, and transitioned this role to Dr. Mohamed Badawy afterwards. Dr. Hennes continues to focus on PECARN in his role as Co-Research Director.

New grants awarded increased from \$90,772 in 2019 to \$759,118 in 2020, as shown in the 1st graph below. Active grants increased from \$287,265 in 2019 to \$977,710 in 2020 as shown in the 2nd graph below:



The research infrastructure includes two full-time research coordinators, 5 full-time and part-time research assistants (RAs). Research assistant support is present in the Emergency Department 16 hours per day. Research staffing is expected to grow in 2021 with the addition of one full-time and one part-time RA.

The Division's Research Council reviews and oversees all PEM research. The council is led by Dr. Halim Hennes and Dr. Kenneth Yen, the Co-Research Directors, and is composed of the Division Chief, Research Directors, Fellowship Director, Associate Fellowship Director, Research Coordinator, a member of the Emergency Medicine nursing management and education staff, and select senior PEM faculty. The PEM Research Council's purpose is to review and oversee all PEM research development and implementation, advising faculty interested in initiating research projects in the ED, and guiding the division research staff in prioritizing implementation. Dr. Kenneth Yen focuses on institution-initiated research in his role as Co-Research Director.

Even with the COVID-19 pandemic, the Division of Pediatric Emergency Medicine continued to grow research efforts, with 17 research publications in 2020. In comparison, in 2019, the Division published 15 research articles, and in 2018, the Division published 12 research articles. Additionally, several case reports, case series, and review articles were published each year, but were not counted as the articles heretofore mentioned. See bibliography at the end of this report.

Clinical Activities

Pediatric Emergency Medicine faculty and fellows provide emergency services at Children's Health. In 2020, the Division of Pediatric Emergency Medicine also served as the entrance point for Children's Health efforts in the COVID-19 pandemic in the Emergency Departments in Dallas and Plano. The beginning of 2020 began with a normal, busy winter season, but as the

months progressed, our attention focused on the spreading SARS-CoV-2 infections and preparations to manage this. Over the course of the pandemic, the ED built systems and protocols to manage the suspected, the unsuspected, and the known COVID-19 cases presenting to the ED. While patient census began to drop in March 2020, administrative demands preparing for the pandemic rose considerably, and continued into 2021. Initiatives were developed with regular improvements over the course of the pandemic. Changes in personal protective equipment, SARS-CoV-2 testing, and management of the influx of potentially ill patients from COVID-19 occurred. The faculty and nurses in the Emergency Departments have done a spectacular job navigating the unknown and building systems to protect the staff, while still providing the typical, expected emergency care.

Dr. Mohamed Badawy continues to be the Medical Director of the Dallas campus, and Drs. Megan Street and Mike Baldovsky were added as Co-Associate Medical Directors, Dallas in 2020. Dr. Pamela Okada was the Medical Director of the Plano campus.

- Our 2020 patient volume for both campuses was 109,433 patient visits (Dallas: 75,211 and Plano: 34,222).
- In Dallas, our overall ED admission rate was 13.3% (9,970).
 - 55% of all hospital admissions originated from the Emergency Department in 2020.
 - When excluding Fast Track patients, 15.7% of patients are admitted.
 - Among admissions, 11% (1,100/9,970) were admitted to one of the intensive care units, reflecting a relatively large number of acutely ill and injured children.
- In Plano, the main ED and Fast Track data are mixed.
 - The overall ED admission rate was 9.1% (3,098).
 - Among admissions, 10.8% (334/3,098) were admitted to the intensive care unit

Despite the decrease in annual visits, the number of high-acuity, high morbidity patients, remained disproportionately higher in Dallas, as the lower acuity patients dropped substantially compared to the higher acuity patients:

- Deaths in the ED: 27 (20 in 2019, 35% *increase*)
- Critical Care patients: 1,969 (2,282 in 2019, 12% decrease)
- Behavioral Health patients: 2,501 (2,637 in 2019, 5% decrease)
- Emergency Severity Index (triage index)
 - ESI 4/5 (lower acuity):
 - 32,122 in 2020 (42% of all patients)
 - 66,886 in 2019 (51% of all patients)
 - ESI 1/2/3 (higher acuity):
 - 43,089 in 2020 (58% of all patients)
 - 63,483 in 2019 (49% of all patients)

The Dallas ED is the only Level 1 pediatric trauma center in North Texas, and pre-COVID, it was one of the busiest pediatric emergency medicine clinical services in the country. Comparative 2020 data are not available at this point in time. We also provide emergency care for a variety of complex problems in children with special health care needs.

One pediatric emergency medicine faculty, Dr. Sing-Yi Feng, is also a board-certified toxicologist. She manages a Lead Poisoning Clinic at Children's Health and provides toxicology consultation service at Children's Health, Parkland Memorial Hospital, and Clements University Hospital.

Telemedicine Program

The TeleER program started in 2015 and has evolved over the past 12 months, especially as pediatric emergency visits dropped across the nation. We currently serve 11 hospital emergency departments, and the furthest outlying hospital is located 417 miles from Dallas. Consults were decreased in 2020.

Patient Statistics

Emergency Medicine patient visits by location by volume and length of stay by year

Dallas Main Emergency Department	2016	2017	2018	2019	2020
Annual Volume	70,260	72,757	77,469	74,836	63,507
Trauma (Patients meeting trauma criteria)	835	835	797	773	582
Admissions	12,048	11,954	11,721	12,617	10,748
Median time arrival to departure (minutes)	221	258	196	307	183

Dallas Emergency Department Trauma Statistics	2017	2018	2019	2020
Trauma stat activation	119	90	90	124
Trauma Alert activation	366	321	318	350
Trauma consult	329	386	365	356
Trauma admission	1,372	1,214	1185	1178

Plano Emergency Department	2016	2017	2018	2019	2020
Annual volume	46,553	49,769	51,323	54,429	34,222
Admissions	3,647	4,042	3,977	4,694	3,098
Median time arrival to departure (minutes)	131	131	167	205	161

Dallas Fast Track	2016	2017	2018	2019	2020
Annual volume	54,909	57,915	45,669	55,539	11,704
Median time arrival to departure (minutes)	146	158	176	198	149

Quality data for the campuses are also reported here. Left without being seen (LWBS) has been an area for which we have concentrated our improvement efforts.

See the table below for comparison values between 2019 and 2020.

Left Without Being Seen	2019	2020
Annual LWBS: Dallas	6.7% (8,844/130,369)	0.8% (595/75,211)
January: Dallas	5.1% (616/11,999)	1.8% (213/11,659)
February: Dallas	11.2% (1,444/12,905)	1.1% (106/9,949)
Annual LWBS: Plano	3.4% (1,867/54,429)	0.6% (194/34,222)
January: Plano	1.5% (70/4,677)	1.3% (64/4,792)
February: Plano	3.7% (198/5,303)	0.9% (40/4,357)

LWBS is a metric that is dependent on overall census and staffing. In 2020, census dropped and staffing improved. However, as shown in the table, even in January and February 2020, before the COVID pandemic began to affect our census, LWBS was improved to 1.8% and 1.1%, respectively in Dallas, compared to January and February of 2019 at 5.1% and 11.2%, respectively, in Dallas. Similar trends occurred in February in Plano.

Current Grant Support

Mohamed Badawy/Kenneth Yen

Grantor: NIH – NICHD

Title of Project: Validation of Decision Rules for CT Use in Children with Abdominal or Head Trauma

Role: Co-investigators; Site-principal Investigators

Funding: \$64,772 for this year

Dates: 7/2016 – 06/2021

Sing-Yi Feng

Grantor: American Academy of Clinical Toxicologists Trainee Research Award

Title of Project: Bedside Ultrasound Evaluation and Indicators of Progression in Crotalid Snakebites

Role: Co-investigator

Funding: \$450 for this year

Dates: 08/2019 – 08/2022

Halim Hennes

Grantor: Health Resources and Services Administration

Title of Project: Pediatric Emergency Care Applied Research Network (PECARN)

Role: Project Lead

Funding: \$138,716 for this year (\$566,750 over 5 years)

Dates: 9/2019 – 8/2023

Kenneth Yen

Grantor: Texas Higher Education Coordinating Board: Emergency and Trauma Care Education Partnership Program

Title of Project: Pediatric Emergency Medicine Fellowship Expansion

Role: Project Lead

Funding: \$131,466 per year

Dates: 5/2016 – 6/2022 – Has been renewed in 2-year increments through 2022

Kenneth Yen

Grantor: NIH:-NICHD 1R01HD091347-01A1 REVISED

Title of Project: Development and Testing of a Pediatric Cervical Spine Injury Risk Assessment Tool

Role: Co-investigator; Site-principal Investigator

Funding: \$45,200 plus start up \$5,000

Dates: 9/2020-8/2022

Publications

Journals

1. **Patel NH**, Hassoun A, Chao JH. [The Practice of Obtaining a Chest X-Ray in Pediatric Patients Presenting With Their First Episode of Wheezing in the Emergency Department: A Survey of Attending Physicians.](#) *Pediatr Emerg Care.* 2020 Jan;36(1):16-20. doi: 10.1097/PEC.0000000000002015. PMID: 31851079.

2. Mansbach JM, Hasegawa K, Geller RJ, Espinola JA, Sullivan AF, Camargo CA, and the MARC-35 Investigators: Bauer CS, Beasley AK, Boos M, Celedon J, Cohen AR, Dunn MB, Gomez MR, Inohfe NR, Iyer SS, Laham FR, Macias CG, Ong T, Pate BM, Porter SC, Puls HT, Shreffler WG, Spergel JM, Stevenson MD, Strait RT, Teach SJ, Thomson AD, **Wang VJ**, Waynik IY, Wu S. [Bronchiolitis severity is related to recurrent wheezing by age 3 years in a prospective, multicenter cohort.](#) *Pediatr Res.* 2020 Feb; 87(3):428-430. PMID: 31585458.
3. Pade KH, Agnihotri NT, Vangala S, Thompson LR, **Wang VJ**, Okelo SO. (2020) [Asthma specialist care preferences among parents of children receiving emergency department care for asthma.](#) *J Asthma.* 2020 Feb 57(2):188-195. PMID: 30663904
4. Day LM, Huang R, **Okada PJ.** [Management of Pain After Pediatric Trauma.](#) *Pediatr Emerg Care.* 2020 Feb;36(2):e33-e37. PMID:30702641
5. Dhar AV, **Huang CJ**, Sue PK, Patel K, Farrow-Gillespie AC, Hammer MR, Zia AN, Mittal VS, Copley LA. [Team Approach: Pediatric Musculoskeletal Infection.](#) *JBS Rev.* 2020 Mar;8(3):e0121. PMID:32224640
6. Lyons TW, Garro AC, Cruz AT, Freedman SB, **Okada PJ**, Mahajan P, Balamuth F, Thompson AD, Kulik DM, Uspal NG, Arms JL, Nigrovic LE, HERPES SIMPLEX VIRUS STUDY GROUP OF THE PEDIATRIC EMERGENCY MEDICINE COLLABORATIVE RESEARCH COMMITTEE (PEM CRC).. [Performance of the Modified Boston and Philadelphia Criteria for Invasive Bacterial Infections.](#) *Pediatrics.* 2020 Apr;145(4):e20193538. PMID:32205466
7. McKee RS, Schnadower D, Tarr PI, Xie J, Finkelstein Y, Desai N, Lane RD, Bergmann KR, Kaplan RL, Hariharan S, Cruz AT, Cohen DM, Dixon A, Ramgopal S, Rominger A, Powell EC, Kilgar J, Michelson KA, Beer D, Bitzan M, Pruitt CM, **Yen K**, Meckler GD, Plint AC, Bradin S, Abramo TJ, Gouin S, Kam AJ, Schuh A, Balamuth F, Hunley TE, Kanegaye JT, Jones NE, Avva U, Porter R, Fein DM, Louie JP, Freedman SB, Pediatric Emergency Medicine Collaborative Research Committee and Pediatric Emergency Research Canada. [Predicting Hemolytic Uremic Syndrome and Renal Replacement Therapy in Shiga Toxin-producing Escherichia coli-infected Children.](#) *Clin Infect Dis.* 2020 Apr 10;70(8):1643-1651. PMID:31125419
8. Rao DR, Maple KL, Dettori A, Afolabi F, Francis JKR, Artunduaga M, Lieu TJ, Aldy K, Cao DJ, Hsu S, **Feng SY**, Mittal V. [Clinical Features of E-cigarette, or Vaping, Product Use-Associated Lung Injury in Teenagers.](#) *Pediatrics.* 2020 Jul;146(1): PMID:32393606
9. Cao DJ, Aldy K, Hsu S, McGetrick M, Verbeck G, De Silva I, **Feng SY.** [Review of Health Consequences of Electronic Cigarettes and the Outbreak of Electronic Cigarette, or Vaping, Product Use-Associated Lung Injury.](#) *J Med Toxicol.* 2020 Jul;16(3):295-310. PMID:32301069
10. Tweedle J, Mercado E, Truesdale N, Leonard D, **Nesiama JO.** [Decreasing review and notification times of genital and urine cultures in a pediatric emergency department: An observational before and after study.](#) *J Am Coll Emerg Physicians Open.* 2020 Jul;1(6):1512-1519. PMID 33392558.
11. Zeretzke-Bien C, **McCall J**, Wylie T, Chowdhury MAB, Balakrishnan M, Hendry P, Kalynych CJ, Chung HTJ. [Using an Online Vaccination Registry to Confirm Tetanus Status in Children with Tetanus-prone Wounds.](#) *West J Emerg Med.* 2020 Aug 21; 21(5):1140-1146. PMID 32970567.
12. Young AC, Wax PM, **Feng SY**, Kleinschmidt KC, Ordonez JE. [Acute Elemental Mercury Poisoning Masquerading as Fever and Rash.](#) *J Med Toxicol.* 2020 Oct;16(4):470-476. PMID:32572678

13. Aldy K, Cao DJ, Weaver MM, Rao D, **Feng SY**. [E-cigarette or vaping product use-associated lung injury \(EVALI\) features and recognition in the emergency department](#). *J Am Coll Emerg Physicians Open*. 2020 Oct;1(5):1090-1096. PMID:33145562
14. Green RS, Cruz AT, Freedman SB, Fleming AH, Balamuth F, Pruitt CM, Lyons TW, **Okada PJ**, Thompson AD, Mistry RD, Aronson PL, Nigrovic LE, Herpes Simplex Virus Study Group of the Pediatric Emergency Medicine Collaborative Research Committee (PEM CRC). [The Champagne Tap: Time to Pop the Cork?](#) *Acad Emerg Med*. 2020 Nov;27(11):1194-1198. PMID:32187765
15. Allister L, Langan ML, Rose JA, Kane I, Vu T, Ngo TL, **Nesiama JO**, Blumberg S, Ciener DA, Titus MO, Nagler J, as contributing authors and representatives of the American Academy of Pediatrics Section of Emergency Medicine Subcommittee of Fellowship Directors.. [Pediatric Emergency Medicine Fellowship Directors' Collective Statement on Virtual Interviews](#). *Pediatr Emerg Care*. 2020 Nov;36(11):549-550. PMID:33021578
16. Goldman RD, **Marneni SR**, Seiler M, Brown JC, Klein EJ, Cotanda CP, Gelernter R, Yan TD, Hoeffe J, Davis AL, Griffiths MA, Hall JE, Gualco G, Mater A, Manzano S, Thompson GC, Ahmed S, Ali S, Shimizu N, International COVID-19 Parental Attitude Study (COVIPAS) Group.. [Caregivers' Willingness to Accept Expedited Vaccine Research During the COVID-19 Pandemic: A Cross-sectional Survey](#). *Clin Ther*. 2020 Nov;42(11):2124-2133. PMID:33067013

Online Publications

1. **Long RA**, Diesen D, Robertson B, Leonard D, **Nesiama JO**. [Is There a Need for an Observation Period in the Emergency Department after Mild Accidental Pediatric Blunt Head Injury?](#) *SunKist J Trauma Emerg Med Acute Care*. 2020; 1:1006

Online case reports/series/review articles

1. **Baldovsky, MD, Okada, PJ**. [Pediatric stroke in the emergency department](#). *J Am Coll Emerg Physicians Open*. 2020 Oct 6;1(6):1578-1586. doi: 10.1002/emp2.12275. eCollection 2020 Dec. PMID: 33392566;
2. **Srivastava, A., Pandya, L**. [Nevus Sebaceous in a Teenager](#). *Visual Journal of Emergency Medicine*. 2020; 20, [100786]. <https://doi.org/10.1016/j.visj.2020.100786>
3. **Manuel M, Nadeem S**, Moredock E, Rakheja D, **Scott S**. [Fibroepithelial polyp: an unusual cause of acute urinary retention in a 5-year-old boy](#). *Consultant*. Published online November 5, 2020. doi:10.25270/con.2020.11.00007
4. Miller RG, **Lowe G, Pandya L**, Miller B, Morshedi B. [COVID-19 in Kids – It's Not a Small Problem](#). *JEMS*. June 9, 2020
5. **Van Horn NL, Street M**. [Infantile Botulism](#) [Internet]. *Treasure Island (FL) StatPearls Publishing* PMID:29630230
6. **Van Horn NL, Street M**. [Night Terrors](#) [Internet]. *Treasure Island (FL) StatPearls Publishing* PMID:29630274

Book Chapters

1. **Cheng AY, Wang VJ**. (2020). [Wheezing](#) In: Shaw K, Bachur R, et al (Eds.), *Textbook of Pediatric Emergency Medicine* (8th ed.). Philadelphia, PA: Lippincott, Williams and Wilkins.