CONNECTICUT CHILDREN'S
DEPARTMENTS OF PEDIATRICS
& SURGICAL SUBSPECIALTIES

ANNUAL ACADEMIC REPORT 2020

Connecticut Children's

UCONN HEALTH

TABLE OF CONTENTS

CHAIR'S SUMMARY

CHAIR'S SUMMARY

Christine Finck, MD, FACS

Peter Deckers Endowed Chair of Pediatric Surgery
Surgeon-in-Chief
Executive Vice President
Connecticut Children's
Professor of Surgery and Pediatrics
Associate Vice Chair of Surgery
UConn School of Medicine

Dear Colleagues and Friends,

It is with great pleasure that we present the 11th annual report from the Department of Pediatric Surgical Subspecialties of Connecticut Children's and the seventh combined report with the Department of Pediatrics. This report continues to highlight the solid alignment between Surgery and Pediatrics and the continued multidisciplinary growth of combined surgical and pediatric programs at Connecticut Children's.

As we reflect on the challenges over the last year, I continue to be amazed and proud of our Connecticut Children's team. Despite having to shut down elective surgery for almost three months, the Department of Surgery was able to perform 9,133 surgical procedures. The teams worked hard on the front lines during this pandemic to care for our emergent patients and then rapidly resumed elective surgeries when the time was right.

In 2020, we were pleased to earn national recognition for several of our medical and surgical divisions. *U.S. News & World Report* ranked Connecticut Children's divisions of Diabetes & Endocrinology, Gastroenterology, Neonatology, and Urology as among the best in the country. In addition, Connecticut Children's continues its Magnet® designation for Nursing, and the Bariatric Surgery Program, in collaboration with Hartford Hospital, continues as a center of excellence as determined by the American College of Surgeons and the American Society for Metabolic and Bariatric Surgery. Connecticut Children's is the only pediatric center in the state to hold this designation.

Over the last year, we saw growth in our pediatric plastic surgery volumes with help from our pediatric-trained plastic surgeon, Christopher Hughes, MD, MPH. Since arriving in 2019, Dr. Hughes has added expertise to a variety of multidisciplinary teams in areas including vascular anomalies and bariatric surgery. We continue to see growth in cardiac surgery and welcomed a second pediatric-trained cardiac surgeon, Raina Sinha, MD. Her arrival expands our ability to care for some of the most critically ill neonates.

Lee Pace, MD, clinical director of surgical sports medicine, continues to lead the nation in arthroscopic trochleoplasty, a non-invasive procedure ideal for the treatment of trochlear dysplasia, a debilitating congenital condition that causes the kneecap to pop out unpredictably. He is joined by Allison Crepeau, MD, who provides expertise in injuries and conditions specific to female athletes. Additionally, we welcomed Mark Rieger, MD, and Anna Katsman, MD, both of whom provide pediatric orthopedic and sports medicine care in Fairfield County. This growth enables us to provide pediatric support at our partner clinics in southern Connecticut.

We hope to continue our growth trajectory in surgical services and have launched a hybrid operating room project on the main campus to build a state-of-the-art, minimally invasive suite for cardiac catheterization and other procedures. We continue to aggressively pursue our vision to bring the very best surgical care to the children of the region while simultaneously pursuing our two other core missions: research and education.

Some specific highlights from the past year:

Innovation through research is integral to the mission of the department. We received philanthropic donations that allowed us to purchase cutting edge bioprinters. These printers are essential in our tissue engineering work, and during the pandemic, they did double duty, producing surgical face shields to keep our team safe. Moving ahead, our research and innovation efforts will continue to focus on children with solid tumors, premature lung disease, esophageal disease, congenital urethral defects, obesity, injury prevention, and sports-related injuries. Several federal grants and invention patents were submitted over the past two years focusing on diagnosis and treatment of these diseases and conditions.

Education of the next generation of pediatric surgery specialists is another core mission of the department. Annually, dozens of students and residents from the University of Connecticut, Quinnipiac University, and other institutions receive their required pediatric surgical training at Connecticut Children's. Pediatric Otolaryngology, which earned full ACGME accreditation for a fellowship in 2019, has begun the process of recruitment, and Pediatric Neurosurgery will serve as the site for the newly implemented neurosurgical residency at the University of Connecticut.

As we continue to expand our services in Connecticut, and champion innovation and education, we remain focused on providing the highest quality, state-of-the-art care for children of the region. Our goal is to provide the best surgical experience as close to home as possible for our pediatric patients and their families.

Sincerely,

Christine Finck, MD, FACS

Dear Colleagues and Friends,

We are honored to present the combined Annual Academic Report for the Departments of Pediatrics and Pediatric Surgical Subspecialties and to share with you the remarkable accomplishments and achievements of our staff during 2020, a year that will be remembered foremost for the Covid-19 pandemic and the unprecedented challenges faced by the health care community around the world and at Connecticut Children's.

The outbreak of Covid-19 brought a test of medical and scientific expertise, ingenuity, and the raw courage and faith of medical providers. We are proud and humbled to say that our team met the challenge with expertise, necessary speed, creativity, and adaptability. As cases began to appear in Connecticut, our faculty and staff quickly sourced (and in some cases created) necessary personal protective equipment (PPE), researched, developed and implemented new protocols and clinical pathways, converted as many patient visits as possible to virtual telehealth appointments, set up on-site testing, initiated academic research projects related to the virus, and developed and maintained a series of new communications for dispensing expert, up-to-date information about the virus to our staff, community members, primary care providers, and, in some cases, national audiences. Our staff managed to do all of this while maintaining, expanding on, and delivering the same high quality pediatric care typical of Connecticut Children's and our faculty.

Among the year's Covid-related highlights, our research team received a $1.7M grant from the National of Institutes of Health (NIH) to study multisystem inflammatory syndrome in children (MIS-C), a rare condition affecting a small number of children who contract Covid-19. Connecticut Children's was one of only eight awardees nationwide. Our Office of Continuing Medical Education (CME) created a weekly educational webinar series called *Ask the Experts* to provide regional medical providers with the most up-to-date information on the Covid-19 pandemic. We also pivoted all conferences, including our Grand Rounds series, to virtual formats at the start of the 2019-20 academic calendar, allowing us to continue to offer our highly rated programs throughout the pandemic.

On December 15, 2020, Connecticut Children's received its first shipment of the Covid-19 vaccine. The relief at the vaccine's arrival was profound, and it was celebrated across the institution. Anticipation of a post-holiday surge in cases and new knowledge of mutations of the virus shaped ongoing Covid-19 planning as we entered the new year.

The Black Lives Matter movement was another major story in 2020, and Connecticut Children's and its employees were proud to respond in full support. On June 5th, our employees joined in a moment of silence to honor the life of George Floyd and knelt for our patients, colleagues, family, friends, and all communities in honor of black lives. Our physicians joined the White Coats for Black Lives movement, kneeling in solidarity with health care professionals across the country to publicly recognize racism as a national health crisis. Perhaps most importantly, Connecticut Children's renewed its passionate commitment to promoting diversity and equity to ensure a welcoming and inclusive culture for our staff and patients in all areas of the organization.

The urgency of the Covid-19 pandemic and the Black Lives Matter movement notwithstanding, our faculty, staff and institution achieved remarkable distinctions in 2020 with accomplishments across all categories – from growth and expansion to national awards and honors to clinical advances and academic research.

We recruited exceptional individuals to strengthen and diversify our faculty and welcomed a total of 18 new faculty members, to include 15 pediatricians and three pediatric surgeons. We secured faculty appointments for three advanced practice providers (APPs). *U.S. News & World Report* once again ranked Connecticut Children's a top children's hospital in the nation for 2020-21 in four specialties: Diabetes & Endocrinology, Gastroenterology, Neonatology, and Urology. The Women's Choice Awards® named Connecticut Children's a 2020 Best Children's Hospital and a 2020 Best Children's Hospital for Emergency Care. Our Sedation division was designated a Sedation Center of Excellence by the Society for Pediatric Sedation (SPS) for a four-year period, 2020-24. We are the only pediatric hospital in New England to achieve this particular distinction.

Our pediatric rotations for third- and fourth-year medical students remain among the most highly rated at the University of Connecticut School of Medicine. Although students shifted to virtual learning in the early months of the pandemic, they returned to Connecticut Children's for the balance of the year. Our residency and fellowship programs continue to attract and graduate highly accomplished residents and fellows.

Our many successes would not be possible without the generous support of our dean, Dr. Bruce T. Liang, and the academic leadership at the UConn School of Medicine and UConn Storrs, and the support of Connecticut Children's Chief Executive Officer Jim Shmerling, Chief Operating Officer Gil Peri, CCSG Practice President Glenn Focht, MD, the Executive Management Team, and the Board of Directors. We trust they share our pride in the accomplishments of a remarkable and extraordinarily challenging year.

Sincerely,

Juan C. Salazar, MD, MPH, FAAP

CHAIR'S SUMMARY

Juan C. Salazar, MD, MPH, FAAP

Executive Vice President of Academic Affairs
Physician-in-Chief
Connecticut Children's
Professor and Chair
Department of Pediatrics
UConn School of Medicine

THIS YEAR'S HIGHLIGHTS

We are honored to present highlights from the seventh combined *University of Connecticut and Connecticut Children's Departments of Pediatrics and Pediatric Surgical Subspecialties Annual Academic Report 2020.* The report reflects the alliance between Surgery and Pediatrics and the continued multidisciplinary growth of combined surgical and pediatric programs at Connecticut Children's, as well as the impact made by the many contributions of our faculty members. Their expertise, leadership, and genuine dedication to our mission shine through on the pages that follow.

Juan C. Salazar, MD, MPH, FAAP
Professor and Chair, Department of Pediatrics
University of Connecticut School of Medicine
Executive Vice President of Academic Affairs
Physician-in-Chief
Connecticut Children's

Christine Finck, MD, FACS
Professor of Pediatrics and Surgery
Associate Vice Chair of Surgery
University of Connecticut School of Medicine
Peter Deckers Endowed Chair of Pediatric Surgery
Surgeon-in-Chief, Executive Vice President
Connecticut Children's

THE YEAR OF THE PAND


EMIC

The year 2020 was the most challenging anyone in the health care community can remember. As the novel coronavirus (SARS-CoV-2) pandemic swept the globe, our faculty and staff members responded with courage, determination, innovation, and a steadfast commitment to doing whatever was necessary to provide expert health care to our pediatric patients and their families. We confronted the virus with a comprehensive, multipronged approach that was quick to adapt to emerging clinical data, recommendations from the Centers for Disease Control (CDC), state and federal government sources, and the recommendations of our own internal Covid-19 Preparedness Task Force and Operations Resumption teams. The year was difficult to be sure and at times frightening, but it brought out the best in us. Here are some of the highlights.

Physician-in-Chief **Juan C. Salazar, MD, MPH**, Surgeon-in-Chief **Christine Finck, MD, FACS**, and **Lori Pelletier, PhD, MBA**, chief of the Division of Excellence in Patient Safety and Clinical Quality, led and continue to lead the Connecticut Children's response to the pandemic along with key leaders including **Michelle McKee, MD**, division chief of Emergency Medicine; **Anand Sekaran, MD**, division chief of Hospital Medicine; **John Schreiber, MD, MPH**, interim division chief of Infectious Diseases; **Ilana Waynik, MD**, and **Beth Natt, MD, MPH**, both of the Division of Hospital Medicine; **MacDara Tynan, MD, MBA**, interim division chief of Pulmonology; **James Moore, MD, PhD**, division chief of Neonatology; **David Sink, MD**, physician quality and safety officer in Neonatology; **Annmarie Golioto, MD**, medical director of Neonatology; **Brendan Campbell, MD, MPH**, pediatric surgical quality and safety officer; **Heather Schlott, MD**, medical director of the Extracorporeal Membrane Oxygenation (ECMO) program; **Nicole Murray, MD**, head of the Center for Airway, Voice & Swallowing; and **Edwin Zalneraitis, MD**, program director of Pediatric Residency. Dr. Pelletier and members of her division helped lead the efforts of initial modifications and response to the Covid pandemic, followed by the safe resumption of operations and the planning and operations of the second-wave response. Part of the fundamental framework of this response was the development of clinical pathways for the multiple phases and aspects of caring for our patients, keeping our team members safe, and providing essential resources and guidance for our community partners. This effort was led by Dr. Waynik and **Grace Hong, APRN**, both of whom are physician quality and patient safety officers in the Division of Clinical Excellence and Patient Safety.

President of the Connecticut Children's Specialty Group **Glenn Focht, MD**, worked with tireless dedication and compassion to provide support and leadership through a period of unequaled demand and sacrifice for our physicians.

Aimee Monroy Smith, senior vice president of Government Relations and External Affairs, and her team leveraged and facilitated outreach for available Covid-related funding to state and federal agencies including response and recovery support funds from the Federal Emergency Management Agency (FEMA).

We are also indebted to the members of the Connecticut Children's Executive Management Team, who continue to provide firm and steady support throughout the pandemic while guiding the institution on a path to achieve its clinical, medical education, and long-term strategic goals. The members are: Connecticut Children's President and Chief Executive Officer **James E. Shmerling, DHA, FACHE**; President and Chief Operating Officer **Gil Peri, MBA, MPH**; Executive Vice President of the Office for Community Child Health and Founding Director of the Help Me Grow® National Center **Paul Dworkin, MD**; Vice President of Regional Partnerships and Operations **Trisha A. Farmer, MSN, RN, CPHRM**; Senior Vice President and Chief Financial Officer **Bridgett Feagin, MBA**; Executive Vice President and Surgeon-in-Chief **Christine Finck, MD**; President of the Connecticut Children's Specialty Group **Glenn Focht, MD**; President of the Connecticut Children's Foundation **David Kinahan**; Interim Senior Vice President and Clinical Services and Chief Nursing Officer **Sarah Matney, MSOL, BSN, RN, CPON, CENP**; Senior Vice President of Human Resources **Larry Milan**; Division chief of Neonatology, Vice President of Clinical Network Development, and Chief Clinical Network Development Officer **James Moore, MD, PhD**; Vice President and Chief Marketing & Communications Officer **Deb Pappas, MBA**; Interim Chief Information Officer **Jung Park**; Chief Quality and Patient Safety Officer **Lori Pelletier, PhD, MBA**; Executive Vice President and Physician-in-Chief **Juan C. Salazar, MD, MPH**; Senior Vice President of Government Relations and External Affairs **Aimee Monroy Smith**; and Vice President and General Counsel **Moses Vargas, Esq**. We are particularly grateful for a very talented team of executive assistants, who worked tirelessly during the pandemic in support of our emergency operations and all Covid-19 related tasks.


Safe
and
Sound
SKYTRON
DOCTOR


NURSE

Medical Education

Our medical education leaders adjusted our programs to the shifting circumstances of the Covid-19 pandemic while prioritizing the safety and well-being of our medical learners and keeping their educations on track. They include the University of Connecticut Health Center's Senior Associate Dean for Faculty Affairs and Associate Dean for Graduate Medical Education (GME) **Jacqueline "Kiki" Nissen, MD**; Assistant Dean for GME and Vice Chair of Education for Medicine **Steven Angus, MD**; and Associate Dean for Medical Student Affairs **Melissa Held, MD**; and Connecticut Children's Program Director of Pediatric Residency **Edwin Zalneraitis, MD**; Director of Pediatric Undergraduate Education **Joanne Crowley, MD**; Assistant Dean of Medical Education **Christine Rader, MD**; and Associate Chair of Education **Andrea Orsey, MD**.

Our pediatric residents and fellows and their mentors were heroic in their efforts to continue learning and teaching while bolstering the ranks of providers at all of our care centers. For many young learners, the experience of Covid-19 was a trial by fire, and they proved unflinching and inspiring in their dedication to caring for patients and to making the necessary sacrifices to keep everyone safe.

Personal Protective Equipment (PPE)

In the earliest days of the pandemic, Connecticut Children's was, like other medical institutions, challenged to procure enough **personal protective equipment (PPE)** to keep our staff and patients safe. Surgeon-in-Chief **Christine Finck, MD, FACS**, and **Nicole Murray, MD**, head of the Center for Airway, Voice & Swallowing, co-chaired Connecticut Children's PPE Task Force. In addition to sourcing and procuring PPE for our staff, they developed protocols for the use and reprocessing of N95 masks and other PPE. In an example of the kind of innovation that was on display all year, the bioprinter that is essential for tissue engineering in the laboratory of Dr. Finck was repurposed to create face shields. Drs. Murray and Finck worked closely with **William Lee, Jr.**, director of the Supply Chain, and his team, and also with **Mike Tortora**, Connecticut Children's director of Safety & Security.

New Processes, Staff Education & Training

The Simulation Team, under the direction of **Carla Pruden, MD, MPH**, played a critical role in the design and testing of Covid-related processes, as well as the adaptation for safe conduct of ongoing educational and training curriculum for routine simulation sessions, via virtual and hybrid models. **Mariann Kelley, MD**, who also supports

the Simulation Program, helped to develop and test protocols related to resuscitation and care of critically ill patients with known or concern for Covid-19, in conjunction with the Emergency Response Committee.

Telemedicine

Telehealth, or remote video conference medical appointments between doctors and their patients, quickly became an essential tool for providing ongoing, safe care for our patients and their families. Connecticut Children's rapidly pivoted to telemedicine, led by Chief Medical Information Officer **Richelle DeMayo, MD, CM**, and a team that included **Trisha Farmer, MSN, RN, CPHRM**, vice president, regional partnerships and operations, and **Jeffrey Sargent**, director of virtual health services. As of March 1, 2020, Connecticut Children's had conducted one video visit. By June, we were providing 600 video visits per day across 30 subspecialties. The speedy adoption of telemedicine by our pediatric experts propelled them, in some cases, into positions of national leadership. **Christopher Grindle, MD**, who helped build, train and roll out telehealth technology to all clinicians at Connecticut Children's, performed a grand rounds on telehealth and participated in television interviews and advocacy at the Connecticut state legislature and with federal elected officials. Our Neurosurgery division not only quickly adopted telehealth, it developed innovative tools for craniometric assessment and standardized approaches to the evaluation of patients. Division chief **Jonathan Martin, MD**, served in April 2020 as moderator for the American Academy of Pediatrics Section on Neurological Surgery webinar 'Pediatric Neurosurgery Telehealth in the Time of Covid-19.' **Christopher Carroll, MD**, of the Critical Care division, served as a leader on the Covid Task Force for CHEST (the American College of Chest Physicians).

In our communities, the Division of General Pediatrics led by **Catherine Wiley, MD**, oversaw the launch of a highly successful telehealth program across all primary care sites. Faculty members incorporated residents and medical students into this clinical experience. **Andrew Carlson, MD**, was appointed as a core faculty lead by the pediatric residency program to develop a formal primary care telehealth curriculum.

The Importance of Communication: Nationally, Locally & In-House

Communication with our staff, patient families and community members was and remains a critical component of our successful response to Covid-19. Throughout the year, our staff utilized or created new ways to share expert, up-to-date information in the dynamic, fast-moving circumstances required by Covid-19.

The pressing need for expert medical advice put our providers in the spotlight. Physician-in-Chief **Juan C. Salazar, MD, MPH**, was interviewed on *Good Morning America* among dozens of other appearances. **Nicole Murray, MD**, made appearances on local news outlets and filmed educational videos for families as they considered how to keep their children safe as schools and society reopened. Many other staff members including **John Brancato, MD**, **Christopher Carroll, MD**, **Patricia Garcia, MD, MPH**, **Annmarie Golioto, MD**, **Robert Keder, MD**, **Steven Rogers, MD**, and **John Schreiber, MD, MPH**, were featured in or on news outlets including *Forbes*, *Health*, *Parade*, and *Prevention* magazines, Yahoo News, and msn.com.

To best provide current, easily accessible medical information for regional providers, the Continuing Medical Education program at Connecticut Children's on April 3, 2020 launched and continues to offer the **weekly webinar series *Ask the Experts*** in which regional and national experts from different specialties and backgrounds provide updates and answer questions related to Covid-19. **John Schreiber, MD, MPH**, division chief of Infectious Diseases, kicks off each *Ask the Experts* session

with the most pertinent facts and updates related to Covid-19, its impact on children in Connecticut and across the nation. The series was registered with the Continuing Medical Education governing body, the Accreditation Council for Continuing Medical Education (ACCME), as a Comprehensive Clinician's Resource on Covid-19. Connecticut Children's is the only children's hospital providing such education not only to our staff and partners in the community but to pediatricians across the U.S. In addition, it is offered as a state-mandated series for Infectious Diseases. Connecticut Children's also created and launched several other resources including a **hotline for community providers** and parents, enabling them to instantly access pediatric experts 24/7 with questions related to Covid-19; **weekly Covid-19 emails** to providers; and provider-focused materials that were added to the website.

For parents and caregivers, Connecticut Children's experts authored more than 40 **pandemic-related articles for the blog** on topics including school closure and back-to-school tool kits, building resilience in children, and tips for keeping children engaged in distance learning.

In-house, to keep our staff up-to-date on the pandemic and our responses to it, Connecticut Children's leadership instituted **daily emails from CEO Jim Shmerling** and **weekly virtual Town Hall meetings**, which featured the participation of key leaders including Chief Operating Officer Gil Peri, Drs. Finck and Salazar, Senior Vice President for Human Resources and Chief Diversity Officer Larry Milan, and other members of the Executive Management Team.

Supporting Our Faculty

Academic support for our medical and surgical faculty never waivered during 2020. Led by **Annamarie Beaulieu, MPH**, senior director of Academic Affairs, Research Operations, and Sponsored Programs, leaders and staff across the Academic Affairs, Research, Clinical Trials, Sponsored Programs, Graduate Medical Education Pediatric Fellowship Programs, and Office of Continuing Medical Education departments quickly adapted to providing support virtually to all faculty. Support for grant submissions, guidance for faculty appointment and promotion submissions, ongoing research projects and clinical trials, virtual CME activities, and recruitment of fellow applicants via Zoom using pre-taped tours of our facility were just a few of the ways our academic teams ensured that the non-clinical needs of our faculty and staff were not interrupted.

Led by **Todd Jensen, MHS**, research associate and lab manager, and **Julie Vigil, MS, CHC, CHRC**, administrative manager, Department of Pediatrics, all operational, faculty, and laboratory needs at UConn Health were supported with exceptional care and attention to the always changing institutional Covid guidelines and requirements.

Advocating for Children With Our Government Leaders

In April, Connecticut Children's Physician-in-Chief **Juan C. Salazar, MD, MPH**, participated in a Facebook Live Q&A with Connecticut Sen. Chris Murphy to discuss Covid-19 and children.

In May, Connecticut Children's Surgeon-in-Chief **Christine Finck, MD, FACS**, and Division chief of Otolaryngology **Scott Schoem, MD**, participated in a Covid-19 virtual town hall meeting with Connecticut Congressman John Larson.

In June, Connecticut Children's hosted a telemedicine virtual town hall in collaboration with U.S. Congressman Joe Courtney and the Connecticut Chapter of the American Academy of Pediatrics to discuss the important role telemedicine is playing in children's health.

Drive-Thru Covid-19 Testing

To ensure a safe and sound experience for team members and patients receiving in-person medical or surgical care, Connecticut Children's launched **drive-thru Covid-19 testing for team members and patients**. The effort was led by **Sarah Matney**, interim chief nursing officer, with support from these directors: **Kristy Dixon-Stinger**, director for the ED, PICU, and Education & Development, **Joseph Phillips**, director for Clinical & Diagnostic Services, **Karri May**, director of Facilities, and **Connie Grant**, practice manager. Medical Staff Services donated funds for the purchase of one rapid-testing Covid-19 machine known as LIAT (Lab in a Tube), which remains crucial to the safety of our operations.

Covid-Related Research

In the area of research, our staff members were inspired by the virus and its divergent effects on patients to quickly initiate **a range of Covid-19 studies**, which resulted in a variety of publications. Physician-in-Chief **Juan C. Salazar, MD, MPH**, in collaboration with researchers at UConn Storrs, Jackson Laboratory (JAX) in Farmington, CT, and the Wadsworth Center in Albany, NY, received a grant from the National of Institutes of Health (NIH) to study multisystem inflammatory syndrome in children (MIS-C), a rare syndrome affecting a small number of children who contract Covid-19. Connecticut Children's is one of only eight institutions nationwide to receive this award.

Jeffrey Hyams, MD, division chief of Digestive Diseases, Hepatology & Nutrition and holder of the Mandell Braunstein Family Endowed Chair in Pediatric Inflammatory Bowel Disease, worked in collaboration with pre-eminent IBD investigators throughout North America to submit a potentially groundbreaking new initiative to the NIH investigating the variability in response to biologic therapy for Crohn's disease. Partnering with the division of Infectious Diseases at Connecticut Children's and with the Jackson Laboratory (JAX) in Farmington, CT, Dr. Hyams and his research staff began examining the immune response of patients with IBD to SARS-CoV-2 infection. The initial research is being funded by a generous grant from the David and Geri Epstein Foundation.

With generous help from more donors who responded rapidly to the need, other studies include: the safe handling of expressed breast milk; the impact of Covid-19 on pediatric gastroenterology fellow training (**Melissa Fernandes, MD**); domestic violence and the safe storage of firearms (**Brendan Campbell, MD**); critical care in the time of Covid-19 (**Christopher Carroll, MD**); the impact of Covid-19 on global disparities in surgical training in pediatric otolaryngology (**Katherine Kavanagh, MD**); the effect of two distinct interventions (cognitive strategies and gratitude journaling) on coping in health care professionals during the Covid-19 pandemic (**Kimberly Roche, MSN, APRN**, **Siddika Mulchan, PsyD**, **Lauren Ayr-Volta, PhD**, and **Katherine Hinderer, PhD, RN, CNE**), as well as other publications.

Taking Care of Our Community

To help engage and inspire children and families throughout the region during the pandemic, Connecticut Children's launched the **#Chalk4Childrens Campaign**, which continues to be a call to action, one designed to spread hope and gratitude at a time when the world needs it most.

Connecticut Children's Office for Community Child Health (OCCH), led by **Paul Dworkin, MD**, was quick to respond to the direct impact of the pandemic on some of our community's most vulnerable populations. Educating Practices, a signature innovation of the Child Health and Development Institute (CHDI) that is supported by the OCCH, shifted its presentations and training sessions to an online format so pediatric practices could remain up-to-date on important child health issues as well as the availability of resources in their communities to support families during the pandemic. The online offerings include 21 **virtual training modules** available to pediatric practices, a presentation for pediatric providers addressing family stress during the pandemic, and a webinar for pediatric providers covering behavioral health resources for families.

With funding from the Hartford Foundation for Public Giving, Connecticut Children's Practice Quality Improvement Program donated 130 My Family Is Strong! **Community Care Bags** to Hartford residents.

Taking Care of Our Faculty & Staff

To support our faculty and staff throughout this most challenging year, Connecticut Children's created a series of programs including **Family Sundays via Facebook**, a series of live-streamed events designed to inspire, teach, and motivate individuals to get their children and families on a healthy track; a **School Closure Kit** that included helpful information on how to structure a child's day, engage a child in learning, and answer their Covid-19 questions; and the creation of a **Medical Student Crisis Fund**, which is provided by the University of Connecticut School of Medicine in honor of Mark Greenstein, MD, who retired in 2020 after 36 years with the department of Pediatrics.

Our Community Takes Care of Us

Throughout 2020 and the pandemic, we were humbled and gratified that members of our community rallied behind Connecticut Children's. The initial shortage of PPE was met with generous donations from a wide variety of sources with donors including individual patients, the Chinese Baptist Church of Greater Hartford, Whiting-Turner Contracting Co. of Rocky Hill, Danaher Lagnese, PC, law firm of Hartford, and the Wallingford Public Schools science departments, among others. Allied Printing Service, LLC, of Manchester, and Ardent Displays and Fixtures of East Hartford, both found a way to manufacture face shields, which they donated to local hospitals including Connecticut Children's to aid in Covid-19 relief. The National Guard generously donated a tent to Connecticut Children's, which was set up outside our Washington Street entrance to assist in Covid-19 specimen collection.

In June, Connecticut Children's received generous gifts from the Walden W. & Jean Young Shaw Foundation ($50,000) and the Johnson Family Foundation ($30,000) toward our telemedicine program.

In November, the first-ever **Connecticut Children's Virtual Gala** raised almost $1 million. More than 1,000 guests tuned in from around the country. The proceeds included more than $265,000 from the Bid for Kids appeal to support the behavioral health needs of our community.

The First Vaccines

On Dec. 15, 2020, at 7:17 a.m., Connecticut Children's received its first shipment of the Covid-19 vaccine. Our pharmacy team safely secured the Pfizer vaccine in an ultra-low temperature freezer. On Dec. 16, Physician-in-Chief **Juan C. Salazar, MD, MPH**, was among the first five staff members to receive the vaccine. Our first vaccine clinic for staff opened on Friday, Dec. 18.

OUR SUPPORT FOR BLACK LIVES MATTER

The Covid-19 pandemic was not the only big story of the year in 2020. As protestors took to the streets to demand **racial justice**, members of the Connecticut Children's staff were proud to reinforce our pledge to do everything within our power to see that all people and all patients are treated equally.

At 1 p.m. on June 5, Connecticut Children's employees joined in a moment of silence to honor the life of George Floyd, and to kneel for our patients, colleagues, family, friends, and all communities in honor of black lives.

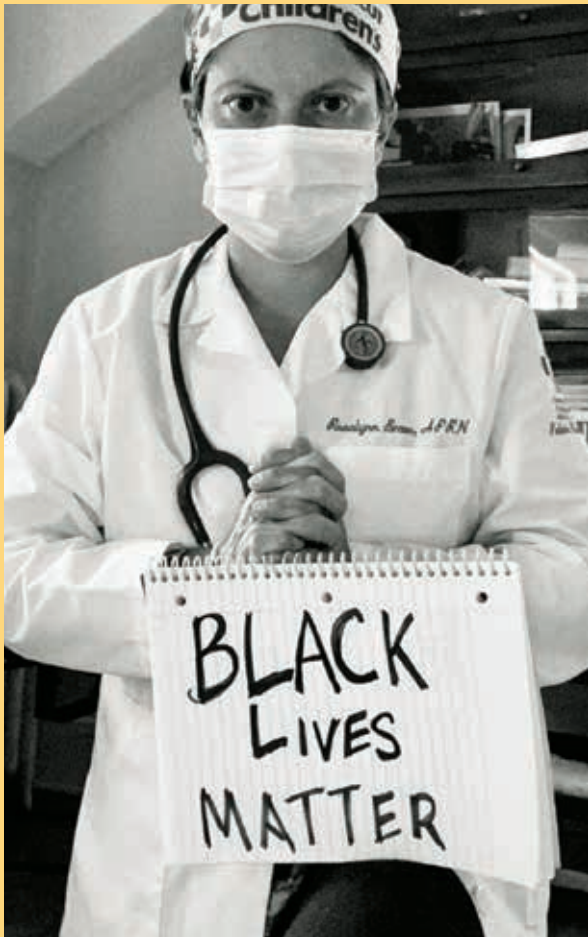
Our physicians joined the **White Coats for Black Lives** movement, kneeling in solidarity with health care professionals across the country to publicly recognize racism as a national health crisis.

Connecticut Children's renewed its commitment to promoting diversity, equity and inclusion to ensure a welcoming and inclusive culture in all areas of our organization.


DO NO HARM
WHITE COATS
FOR
BLACK
LIVES


#WHITECOATS FOR BLACKLIVES


Black Lives Matter
Black Health Matters


BLACK LIVES MATTER


White coats for black lives


White Coats for Black lives
WHITE COATS
FOR
BLACK
LIVES

THE YEAR'S OTHER HIGHLIGHTS

Apart from the two major challenges that came to define 2020, our remarkable faculty and staff managed to excel and achieve milestones in many other areas. We are pleased to highlight some of these accomplishments here. You will find many more in the full report.

CLINICAL & RESEARCH ACHIEVEMENTS

The 2020-21 ***U.S. News & World Report*** "Best Children's Hospitals" once again ranked Connecticut Children's among the top pediatric hospitals in the nation in four specialties: Diabetes & Endocrinology, Gastroenterology & GI Surgery, Neonatology, and Urology.

The research laboratory of Surgeon-in-Chief **Christine Finck, MD**, focuses on innovation and tissue engineering of organs including the lungs and the esophagus. The NIH awarded this project $1.2 million to continue research in collaboration with a small company, Biostage, based out of Boston. Dr. Finck's research laboratory and Biostage received approval from the federal Food and Drug Administration (FDA) to start clinical trials using the esophageal scaffold in adults. This is a first step toward translating Dr. Finck's tissue-engineered technology for pediatric diseases.

In addition, the Finck laboratory received a Department of Defense Grant in collaboration with the University of Vermont to evaluate an alginate sealant for tracheobronchial injuries.

Connecticut Children's was named a **Sedation Center of Excellence** by the Society for Pediatric Sedation (SPS). The designation is a highly competitive award given annually to centers of pediatric sedation that create an "ideal environment for the delivery of safe, effective, efficient, timely and equitable patient-centered pediatric procedural sedation." The Sedation division is led by **Jesse Sturm, MD.** The designation was awarded for a four-year period from 2020-24.

Connecticut Children's received **Magnet Recognition® for Nursing Excellence** in 2019, which continues through 2023. Bestowed by the American Nurses Credentialing Center (ANCC), it is the highest and most prestigious credential a health care organization can achieve for nursing excellence and quality patient care. Connecticut Children's joined just 7 percent to 8 percent of hospitals across the country with this award.

In response to the Covid-19 pandemic and the growing need for social distancing, **Nursing Grand Rounds** transitioned to a virtual format. This increased accessibility improved the reach of continuing education to nurses and other health care providers both within and beyond Connecticut Children's. Nursing Grand Rounds is free and available to health care professionals across the region.

Also continuing is national accreditation of our **Bariatric Surgery Program** by the Metabolic and Bariatric Surgery Accreditation and Quality Improvement Program (MBSAQIP), the combined accreditation program of the American College of Surgeons (ACS) and the American Society for Metabolic and Bariatric Surgery (ASMBS). Connecticut Children's is the first and only pediatric program in the state to receive this honor. The highly prestigious recognition designates Connecticut Children's as an MBSAQIP Adolescent Center, making its bariatric surgeons and clinical staff the most qualified and up-to-date in surgically treating children with metabolic disorders.

In May, we initiated an expansion of our partnership with **Nuvance Health™**, and our Neonatology providers began delivering services at Nuvance sites in eastern New York including Vassar Brothers Medical Center in Poughkeepsie, Northern Duchess Hospital in Rhinebeck, and Putnam Hospital in Carmel Hamlet.

In October, Connecticut Children's and **Hartford HealthCare** announced the formation of a **Pediatric Care Alliance** that will positively impact the lives of our patients, and all children across the region. The alliance ensures that proper care is available to children and families when and where they need it, giving them greater access to pediatric expertise spanning from birth to the transition to adult care. The care alliance will weave Connecticut Children's pediatric expertise throughout Hartford HealthCare's comprehensive network, including with more newborn nurseries and NICUs staffed by our neonatologists.

In late March, Connecticut Children's became the first medical center in the state to open a dedicated pediatric dialysis center. The Connecticut Children's **Robert R. Rosenheim Foundation Dialysis Center** was made possible by a $1.5 million donation by the Robert R. Rosenheim Foundation. The center is located on the fourth floor of Connecticut Children's main campus at 282 Washington Street in Hartford. The facility allows our highly skilled team members to provide lifesaving treatments to patients at a location that is close to home. In addition to dialysis, the center provides services including tailored treatment plans and specialized care teams comprised of nursing, nutrition, social services and child life experts.

Despite having to shut down elective surgery for almost three months, the **Department of Surgery** was able to perform 9,133 procedures.

In February, after more than a year of planning and research by a team of nurses, lactation experts and nutritionists, Connecticut Children's launched the innovative technology known as **Keriton**, a human milk and formula management system that improves the safety and quality of human milk and formula feeding for our patients.

In February, we unveiled a **new playroom** on MS-6. The renovation was made possible by a $49,500 grant from the Joy in Childhood Foundation (powered by Dunkin' brands) in partnership with the Starlight Children's Foundation.

On March 4, we christened **two renovated teen lounges**, one each on floors 5 and 8 at the main campus of Connecticut Children's. Both were designed by adolescent and young adult patients who have cancer or blood disorders. The renovations were made possible, in part, thanks to donations by Teen Cancer America and Lyman Orchards of Middlefield, CT. Among the decorative donations is a guitar from rock stars Roger Daltrey and Pete Townshend of the Who.

Barbara Edelheit, MD, division chief of Rheumatology, and **Sherene Mason, MD, FAAP, MBA**, of Nephrology, successfully completed the first year of their combined **Lupus Clinic** to provide continued state-of-the-art care for children and young adults with systemic lupus erythematosus in a multidisciplinary setting. This clinic provides the patients and families care in a collaborative fashion between the divisions of Rheumatology, Nephrology, Psychology, and Adolescent Medicine.

On April 30, 2020, we celebrated the first anniversary of the **Farmington Infusion Center**, which has performed more than 4,500 total infusions, seen more than 850 unique patients from 188 Connecticut towns and across state lines, and ranks in the 99th percentile for overall patient satisfaction scores. In June, Connecticut Children's opened a same-day, walk-in **orthopedic and sports medicine care center** in Glastonbury, offering a full range of pediatric-specific orthopedic services.

Also in June, our **Adolescent Medicine and Primary Care Centers** moved to 599 Farmington Avenue in Farmington, CT. The new location offers outpatient consultative care to adolescents and young adults and complete health care services for infants to adolescents.

On July 6, 2020, Connecticut Children's welcomed two new faculty members, **Mark Rieger, MD**, and **Anna Katsman, MD**, as Fairfield County-based orthopedic surgeons. Drs. Rieger and Katsman provide expanded pediatric urgent orthopedic and sports medicine expertise and care to the children and families of Fairfield County and New York. They will see patients at the Connecticut Children's location in Danbury.

On Sept. 8, 2020, we opened our first **Connecticut Children's Urgent Care** location at 599 Farmington Avenue in Farmington, CT. The care center provides full-service after-hours and weekend care for infants, children and young adults up to age 26.

The **Clinical Pathways Program** achieved a major milestone as the program moved to an Internet site. It has since received over 35,000 hits, as providers from all over the country and the world benefit from the 45 to 50 evidence-based clinical pathways. This development extends the impact of Connecticut Children's far beyond our doors.

HONORS & AWARDS

Connecticut Children's received **2020 eHealthcare Leadership Awards for Best Native Mobile App and Best Covid-19 Pandemic-Related Communications**. eHealthcare is a leading awards program that recognizes the very best websites and digital communications of health care organizations (both large and small), online health companies, pharmaceutical/medical equipment firms, agencies/suppliers, and business improvement initiatives.

Connecticut Children's was recognized by the College of Healthcare Information Management Executives (CHIME) as a **Digital Health Most Wired hospital**. In addition, our specialty clinics received the Ambulatory Digital Health Most Wired Award for the second year. Hospitals and health systems that receive these recognitions have showcased exemplary performance in using their technology to improve patient care, communication, and patient-provider relationships.

Connecticut Children's was named both a 2020 Best Children's Hospital and a 2020 Best Children's Hospital for Emergency Care by the **Women's Choice Award®**, a nationally recognized, trusted referral source aimed at providing women one voice regarding the products and services they choose for themselves and their families, including pediatric health care. This is the fourth consecutive year Connecticut Children's has been named to the Best Children's Hospitals list and the third consecutive year we have been recognized for our expert emergency services.

Connecticut Children's **Office for Community Child Health's Care Coordination Collaborative Model** received national recognition in a report published by the Association of State and Territorial Health Officials (ASTHO™). The report focuses on best practices that health care and community-based organizations are engaging in to work together in addressing the social determinants of health and behavioral health needs of the populations they serve.

INDIVIDUAL AWARDS & ACHIEVEMENTS

Basia Adams, DNP, APRN, lead advanced practice provider (APP) in the Division of Pediatric Hospital Medicine and instructor in Pediatrics at the UConn School of Medicine, and **Garry Lapidus, PA-C, MPH**, pediatric emergency medicine APP and associate professor of Pediatrics and Public Health at UConn School of Medicine, were chosen as directors of Advanced Practice Providers. They took up the roles in May 2020.

Kevin Borrup, DrPH, JD, was elected to serve on the governing council of the American Public Health Association.

Brendan Campbell, MD, MPH, FACS, was awarded a $1 million grant from the National Collaborative on Gun Violence Research (NCGVR) as a member of a multi-institutional effort exploring individual and community-based factors associated with non-lethal firearm injury.

Andrew Carlson, MD, was presented with the Faculty Award for Excellence in Teaching and the Douglas H. MacGilpin Community Physician Award for recognition as an outstanding role model.

Chris Carroll, MD, received two significant academic honors. The first is a Presidential Citation from the Society of Critical Care Medicine, which reflects his outstanding work at a national level on behalf of children and young adults who benefit from his research and advocacy in critical care medicine. The second is a top academic incentive score for his research and outstanding publications in 2019. This is the sixth year he has earned the top score amongst all faculty who participate.

Richelle deMayo, MD, CM, served as a reviewer of the American Board of Pediatrics Entrustable Professional Activity in Telemedicine. Her investigation on the importance of information systems in combating vaccination hesitancy across sectors was presented at the American Public Health Association's annual conference.

The Connecticut Lions Club presented **Cem Demirci, MD**, with the Knight of the Blind Award at the Connecticut Lions Club convention. The award was established in 1999 to honor outstanding Lions, non-Lions, organizations or businesses that exhibit the highest examples of good character, ideals, and purpose of service.

Leonard Eisenfeld, MD, was awarded the Eastern Connecticut Health Network (ECHN) resident teaching award on June 12, 2020.

Daniel Fisher, MD, was appointed to serve as interim division chief for the Division of Critical Care effective July 1, 2020.

Patricia Garcia, MD, was presented with the Milton Markowitz/Edwin L. Zalneraitis Award for Outstanding Contributions to House Staff Education and Career Development.

Christopher Grindle, MD, received the R. Timothy Brown Faculty Award for Excellence in Teaching in an Affiliated Pediatric Field.

In his first year at Connecticut Children's, **David Hersh, MD**, of the Division of Pediatric Neurosurgery, was awarded the prestigious Thrasher Research Fund Early Career Award, and his publications were recognized with an editor's choice award from the *Journal of Neurosurgery* and a faculty invitation to the International Pediatric Neurosurgery Journal Club.

Grace Hong, APRN, a member of the Clinical Pathways Team, and **Ilana Waynik, MD**, were co-recipients of the Quality Cup Award from the Medical Staff Office in recognition of their critical work on clinical pathways pertaining to Covid-19.

Michael Isakoff, MD, was presented with the Heart of Gold Award at the Feb. 26, 2020, National Pediatric Cancer Foundation Summit in Tampa, FL. He also was elected president of Connecticut Children's Medical Staff Office.

Noah Jablow, MD, and **Robert Parker, DO**, received the Timothy W. Kelly Award for Excellence in Teaching in Acute Care.

Sarah Kollar, DO, one of our chief residents, was awarded the prestigious Resident Research Grant from the American Academy of Pediatrics for her work with cardiologist **Olga Toro-Salazar, MD**, on cardiac MRI.

Garry Lapidus, PA-C, MPH, co-director of Advanced Practice Providers, received the Distinguished Career Award from the Injury Control and Emergency Health Services section of American Public Health. In November, he was appointed director of Connecticut Children's Research Operations & Development.

In a first for the Residency program, medical resident **Nancy Presnick, DO**, was accepted into the American Academy of Pediatrics Federal Advocacy Internship. As part of the internship, she will learn about child health policy, the legislative process, federal advocacy, and public affairs.

Christine Rader, MD, FACS, was appointed associate dean for Medical Education at Connecticut Children's and the University of Connecticut School of Medicine effective June 1, 2020. She joined Connecticut Children's in 2011 and is a fellowship-trained pediatric general and thoracic surgeon.

In May 2020, **Karen Rubin, MD**, was appointed as interim division chief for the Division of Medical Genetics. Dr. Rubin has been working closely with the division since 2018, when her leadership efforts resulted in an award to Connecticut Children's by the state of Connecticut to transform the newborn screening program.

Melissa Santos, PhD, was appointed as interim division chief of Psychology, effective June 1, 2020. She succeeded Barbara Rzepski, PhD, who remains in the division providing clinical care and mentorship.

Sarah Schlegel, MD, was appointed division chief of Developmental and Behavioral Pediatrics, effective July 1, 2020. Dr. Schlegel succeeded Dr. Ann Milanese, who was division chief from 2009 to 2020, and who remains in the division providing clinical care and mentorship.

Jim E. Shmerling, DHA, FACHE, president and CEO of Connecticut Children's, was named a Power 25 Health Care leader by the *Hartford Business Journal*. The Power 25 Health Care list identifies leaders in the Greater Hartford area who are significantly impacting the health care industry and public health.

Jody Terranova, DO, was invited to serve on Connecticut Gov. Ned Lamont's Covid-19 vaccine advisory group. She also was invited to serve on the Student Evaluation and Appeals Review Committee (SEARC) for the University of Connecticut School of Medicine.

MacDara Tynan, MD, was appointed interim division chief of Pulmonary Medicine, effective June 17, 2020. He provides administrative support for day-to-day operations.

Edwin Zalneraitis, MD, received the Parker J. Palmer Courage to Teach Award from the Accreditation Council for Graduate Medical Education (ACGME). This prestigious award recognizes educators who have made an outstanding contribution to medical education.

William Zempsky, MD, MPH, FAAP, division chief of Pain and Palliative Medicine, was appointed associate chair of Research, effective June 1, 2020.

Three of our nurses were honored with Nightingale Awards. **Aimee Bareiss**, **Molly Ray**, and **Cynthia Whetten** were chosen for continually demonstrating excellence in clinical practice, exhibiting a commitment to mentoring and collaboration, and having a significant impact on patient care.

This year's recipients of Dr. Juan Salazar's four Chair's Awards are: **Lisa Marella** and **Rebecca Moles, MD**, the Chair's Award for Well-Being; **Emily Germain-Lee, MD**, the Chair's Award for Innovation; **Richelle deMayo, MD, CM**, the Chair's Award for Teaching; and, **John Schreiber, MD, MPH**, the Chair's Award for Citizenship.

EDUCATION HIGHLIGHTS

The Pediatric Residency Program continued with its uninterrupted record of full, continuing accreditation, with no areas of concern or citations from the Pediatric Review Committee of the Accreditation Council for Graduate Medical Education (ACGME). This represents one of the strongest records of accreditation standing in the nation. The program first-attempt pass rate on the American Board of Pediatrics certifying examination increased once again to 93 percent (national average 87 percent).

FACULTY PROMOTIONS

Craig Schramm, MD, was awarded emeritus status as associate emeritus professor; **Ilana Waynik, MD**, was promoted to associate professor of pediatrics; **James Moore, MD, PhD**, was promoted to professor of pediatrics; **Michael Brimacombe, PhD**, **Michelle McKee, MD**, and **Lori Pelletier, PhD**, were granted appointments as associate professors of Pediatrics. **Abraham Khorasani, MD**, was promoted to assistant professor.

FACULTY APPOINTMENTS

New Faculty Members:

Hassan El Chebib, MD, Infectious Diseases and Immunology; Caitlin Heyden, DO, Cardiology; Raina Sinha, MD, Cardiothoracic Surgery; Lila Worden, MD, Neurology; Ana Garnecho, MD, Developmental and Behavioral Pediatrics; Abraham Khorasani, MD, and Esther Oziel, MD, Primary Care Center; Laura McKay, MD, Hematology-Oncology; Michelle McKee, MD, Emergency Medicine; Nancy Louis, MD, NICU; Jonah Mandell, DO, Urgent Care; Elliot Melendez, MD, PICU; Lori Pelletier, PhD, Quality and Patient Safety; Barbara Adams, DNP, James Gerace, DHSc, Petronella Stoltz, PNP-BC, Advanced Practice Providers; Mark Rieger, MD, and Ana Katsman, MD, Orthopedic Surgery; Leah Gregorio, MD, Middlesex Hospital; Kirin Suri, MD, the Hospital for Special Care; Julieta Bonvin-Sallago, MD, Research; and Lisa Backus, PhD, Amy Signore, PhD, Child and Adolescent Psychology. Our 2020-21 chief residents, Jessica Takores, MD, Amy Miller, MD, and Sarah Mackey, DO, were granted faculty appointments in the Department of Pediatrics.

Joint Appointments:

Ashley Groshong, PhD, Amy Hunter, PhD, Department of Medicine; Jennifer Downs, MD, Saili Kalaskar, MBBS, Lovejit Kaur, MBBS, Lynn Mangini, MD, Kashmeer Zablan, MD, Jennifer Zajac, DO, Child & Adolescent Psychiatry; David Hersh, MD, and Raina Sinha, MD, Surgery.

Community-Based Faculty:

Damian D. Dos Santos, MD, Alicia Dodson, MD, Yesu Kumar Matta, MD, Mary A. Simon, MD, Martha Sternberg, MD, Clinical Longitudinal Immersion in the Community (CLIC).

RECRUITMENTS & STAFF CHANGES

Following an extensive national search, **Michele R. McKee, MD, MS, FAAP**, was appointed the new division chief of Emergency Medicine at Connecticut Children's and the Department of Pediatrics at the University of Connecticut School of Medicine. She previously was medical director of the Pediatric Emergency Medicine Department at Comer Children's Hospital in Chicago and associate professor of Pediatrics at the University of Chicago.

Also following an extensive national search, **Dr. Elliot Melendez, MD**, joined Connecticut Children's as the new medical director of the Pediatric Intensive Care Unit (PICU) and division chief of Pediatric Critical Care in the Department of Pediatrics at UConn Health. Dr. Melendez is board certified in pediatrics, pediatric critical care, and pediatric emergency medicine. He is a fellow of the American Academy of Pediatrics. Dr. Melendez joined us from Johns Hopkins All Children's Hospital in St. Petersburg, FL.

Lori Pelletier, PhD, joined Connecticut Children's as senior vice president, chief quality patient safety officer, and head of the Division of Excellence in Patient Safety & Clinical Quality. Dr. Pelletier worked for nine years at UMass Memorial Health Care building an organizational capability of improvement and operational excellence through systems design and staff development.

On February 1, 2020, the Cardiothoracic Surgery division welcomed **Raina Sinha, MD, MPH, FACS**. She is Connecticut Children's first female pediatric cardiovascular surgeon and one of only 19 female pediatric cardiovascular surgeons practicing in the United States.

Connecticut Children's **Glycogen Storage Disease (GSD) Program** is under new leadership. David Weinstein, MD, left Connecticut Children's for an exciting new role at Passage Bio gene therapy in Philadelphia. Under his leadership, he and his team helped to build an internationally recognized program, and Connecticut Children's has now cared for more than 650 children and adults with GSD from 49 states and 51 different countries around the world. He and his team also launched the world's first gene therapy trial for GSD, showing promising early results in the search for a cure. **Emily Germain-Lee, MD**, division chief of the Division of Endocrinology and Diabetes, and **Rebecca Riba-Wolman, MD**, have assumed leadership of the GSD Program and will continue to build on its legacy and to provide a source of hope, innovation, and care for the GSD community.

Patricia Joyce, MD, retired on July 1, 2020, after 34 years of service as medical director of the St. Francis/University of Connecticut Primary Care Services Pediatric Clinic.

Lisa Namerow, MD, retired in 2020, but she continues to work and collaborate with trainees and colleagues in the Division of Child & Adolescent Psychiatry. Connecticut Children's served and continues to serve as one of the hubs for the ACCESS-Mental Health CT program, and under Dr. Namerow's leadership, we consistently obtained excellent ratings on all hub activities from our primary care providers. Throughout Dr. Namerow's career, she has been on the leading edge of efforts to integrate Psychiatry and Pediatrics, using collaboration, clinical expertise, and creativity to anticipate and fulfill the needs of behavioral health care patients, and to educate and support the providers of all levels who care for them.

Barbara Rzepski, PhD, retired in June. Her efforts were crucial to the formation and development of the Division of Pediatric Psychology. She built the foundation that we continue to use and expand on in servicing the many needs of Connecticut's children.

Craig Schramm, MD, division chief of Pediatrics Pulmonary Medicine since 1999, retired on July 1, 2020, but he continues to provide medical directorship to the Connecticut Children's Sleep Medicine Program and will serve as a source of clinical information and history until recruitment efforts for the role of division chief are completed.

Aaron Zucker, MD, FCCM, retired on July 1, 2020, following 23 years of service as head of the Division of Critical Care. In the words of his successor Elliot Melendez, MD, "Dr. Zucker leaves a legacy of critical care growth and excellence."

GRANTS

Physician-in-Chief **Juan C. Salazar, MD, MPH**, was awarded a $1,685,063 grant from the National Institutes of Health (NIH/NIAID) for the study of the Covid-19-related multisystem inflammatory syndrome in children (MIS-C). He and his team will work to identify biomarker signatures of prognostic value.

In November 2020, Dr. Salazar and his HIV Team received a three-year $850,000 grant from the U.S. Department of Health and Human Services (HHS) to help advance and expand comprehensive medical care for HIV-infected women, children, youth, and HIV-exposed infants living in Connecticut.

Steven C. Rogers, MD, MS-CTR, and **Ryan O'Donnell, MSN, RN, NEA-BC**, were awarded a $25,000 grant from the Child Health and Development Institute (CHDI) of Connecticut, Inc. This grant allows the Emergency Department team to initiate an assessment of patient care for emergency behavioral health patients, with the goal of more efficiently triaging and tracking the acuity of youth with behavioral health concerns who come to our Emergency Department.

Jennifer Madan Cohen, MD, and the entire Epilepsy Center Team were awarded a $25,000 grant from the We Bear This Together Foundation. This grant establishes the We Bear This Together Fund, which provides financial assistance to families who are receiving care at Connecticut Children's Epilepsy Center.

Sylvia Õunpuu, MSc, and **Gyula Acsadi, MD, PhD**, were awarded a $50,000 grant from the Harold & Rebecca H. Gross Foundation to support research at Connecticut Children's Center for Motion Analysis (CMA). The grant provides funding for their continued research into Charcot-Marie-Tooth (CMT) disease, which causes foot/ankle deformity and associated gait challenges.

Markus Bookland, MD, FAANS, **Eileen Gillan, MD**, and **Elizabeth Lachat, LCSW**, were notified of a $25,000 grant from the Connecticut Brain Tumor Alliance, Inc. to support research and patient assistance at Connecticut Children's.

OTHER HIGHLIGHTS

The University of Connecticut's annual **HuskyTHON** raised a record $1.5 million for Connecticut Children's. The 2020 event was an 18-hour dance marathon held Feb. 22-23.

Quinnipiac University's **QTHON 2020: Virtual Edition** was held March 21 via Zoom and other social media platforms. The 12-hour event raised more than $200,000 for Connecticut Children's.

25th ANNIVERSARY YEAR

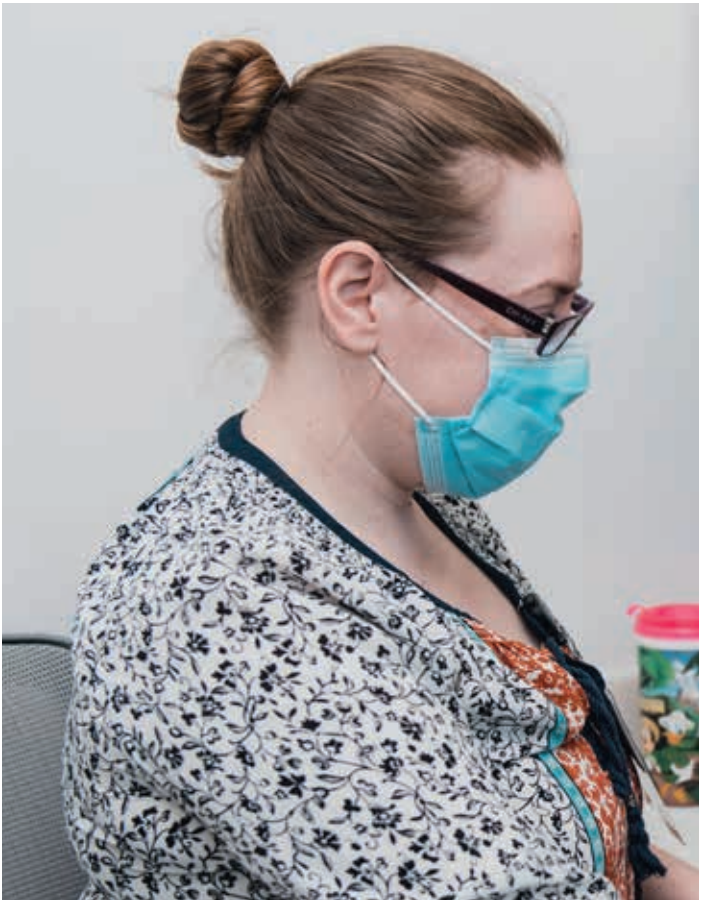
On April 2, 2021, Connecticut Children's will mark its 25th anniversary. In addition to a day of celebration, we will be saluting this milestone with monthly activities. Throughout, we also eagerly anticipate another year of clinical achievement, innovation, expansion, advances in research, and the opportunity to educate and train the next generation of pediatric providers. Whether buffeted by the pandemic crisis of 2020 or buoyed by the upcoming anniversary celebrations of 2021, we remain committed to providing the highest quality pediatric care for our patients and families. They are the inspiration for everything we do.


25th
ANNIVERSARY
Creating the
Future

PEDIATRIC SUBSPECIALTIES

ADOLESCENT MEDICINE

The Division of Adolescent Medicine demonstrated its ability to adapt and thrive in 2020. Jessica MacCormac, DO, spearheaded our transition to telemedicine during the pandemic; we moved into a new clinical space at 599 Farmington Avenue in Farmington; and we welcomed a third provider, Miranda Mitchell, CPNP, in November.



SPECIALTY CARE

We continue to provide specialty care to adolescents and young adults ages 10 to 25 at our **Adolescent Medicine Clinic** in Farmington. Examples of our services include:

- **Eating Disorders:** We have seen a marked increase in eating disorders among adolescents during the pandemic. Our medical providers evaluate the medical and nutritional status of patients, recommend levels of care, and collaborate with community therapists and dieticians to provide longitudinal care over time. We also prescribe psychotropic medications for the treatment of anxiety and depression, which are common co-morbid diagnoses in patients with eating disorders. Mrs. Mitchell has brought extensive eating disorder and psychopharmacology experience after previously working in the medical and psychiatric adolescent inpatient unit at Hasbro Children's Hospital in Rhode Island.
- **Contraception:** We offer all forms of hormonal contraception, including same-day insertions of IUDs and implants, for both the management of menstrual concerns and for birth control. We also provide non-surgical gynecologic care including Pap smears and sexually transmitted infection (STI) testing and treatment.
- **Menstrual disorders:** We treat a variety of menstrual disorders including abnormal uterine bleeding, dysmenorrhea, irregular menses, primary/secondary amenorrhea, and polycystic ovary syndrome (PCOS). We also collaborate with our colleagues in the Hemostasis & Thrombosis Program to help manage menstrual bleeding with bleeding disorders.

PRIMARY CARE

Drs. Bennett and MacCormac continue to provide primary care of adolescents and young adults ages 13 to 21 within Primary Care at their East and West Hartford locations.

EDUCATION

Educating future pediatricians and pediatric subspecialists continues to be an essential part of our mission. University of Connecticut pediatric residents are required to complete a four-week adolescent medicine rotation during their second year of training. The residents work with Connecticut Children's providers as well as our community clinical partners during their rotation. The Division of Adolescent Medicine greatly appreciates the time commitment and teaching contributions of the following clinical preceptors and their colleagues:

- **Elite Sports Medicine, Farmington, CT:** David Wang, MD, MS, through spring/summer of 2020, followed by Imran Hafeez, MD, and Allison Crepeau, MD
- **Westminster School, Simsbury, CT:** Davis Smith, MD, medical director
- **Institute of Living Adolescent Programs, Hartford, CT:** Jennifer Zajac, MD, Robert Sahl, MD, and Sheena Joychan, MD, followed by Victoria Urrutia, MD
- **Women's Ambulatory Health Services, Teen Clinic and Family Planning Clinic, Hartford, CT:** Sarah Lindsay, MD, and Sheila Flaum, DO

We also offer an adolescent medicine elective for fourth year medical students from the **UConn School of Medicine** and the **Frank H. Netter MD School of Medicine at Quinnipiac University.** Following the retirement of Dr. Patricia Joyce in July, Dr. MacCormac became the clerkship director of Ambulatory Pediatrics at the UConn School of Medicine.

RESEARCH & GRANTS

Dr. Bennett continues her work with colleagues in the Division of Infectious Diseases on the Department of Public Health Integrated HIV Testing and PrEP Navigation Project.

STAFF

Alyssa Bennett, MD, *Division Chief*

Jessica MacCormac, DO, MS
Miranda Mitchell, CPNP

BIOMEDICAL INFORMATICS

During 2020, the year of Zoom and virtual reinvention, the Division of Biomedical Informatics continued to celebrate milestone achievements. Guided by division chief Richelle deMayo, MD, CM, the team of five jointly appointed physicians and two advanced practitioners drove the rapid deployment and expansion of telemedicine throughout the health system and the application of novel tools enabling best-practice management of patients with suspected or confirmed Covid-19. Division members' energies were also broadly invested in the design and evaluation of health information solutions to improve the delivery of health care services and quality outcomes.

Endeavors helmed by Biomedical Informatics this year were dominated by intensive, sustained efforts to introduce and expand telemedicine throughout the medical center: **training more than 250 providers** in telehealth workflows during three weeks in the spring and **connecting over 70 percent** of outpatient families to the patient portal. In the fall, we celebrated the successes of our contributions, as Connecticut Children's surpassed its **50,000th completed video visit**. The division spent much of the year focused on swift, iterative optimization of telemedicine workflows and implementation of innovative virtual service delivery models including video-facilitated on-site visits and shared medical (group) video visits.

The division's dual commitment to caring for clinical colleagues and patients – including our most vulnerable – manifested in multiple ways. Dr. deMayo and Christopher Grindle, MD, joined Biomedical Informatics alumna Rebecca Riba-Wolman, MD, to share collective early adopter expertise, presenting Department of Pediatrics grand rounds on "Managing High-Risk and Immunosuppressed Patients via Telehealth." Drs. deMayo, Grindle and Jane Im, MD, also championed the cause of telehealth care equity, leading efforts to improve availability and adoption of video-integrated interpretation services for non-English-speaking patients. Dr. Im, Andrew Heggland, MD, and Jessica Williams, MD, promoted projects to ensure that systems

functionality supported behavioral health providers who were caring remotely for high-needs patients in the Emergency Department and on inpatient floors in times of social distancing. Members of the division launched a multi-institutional research study with three children's hospital collaborators to examine the effects of pandemic-related virtual care on pediatric provider work and well-being and were involved in the development of core telehealth curricula for Connecticut Children's faculty and resident trainees. Dr. deMayo served as a reviewer of the American Board of Pediatrics Entrustable Professional Activity in Telemedicine.

Though telemedicine occupied center stage for much of the year, division members continued work in other important areas, diversifying the reach of our advanced peer-to-peer electronic health record (EHR) training, at-elbow support and mentored personalization. The team developed new data literacy workshops and a curriculum in "self-service analytics," offered initially to the organization's Patient Quality Safety Officers and then extended to all providers. Dr. Heggland devised a version of the division's signature "Smart-EHR, Bett-EHR, Happi-EHR" provider experience program specifically for Emergency Department/Urgent Care physicians and advanced practitioners. Organized by Robin Bradshaw, APRN, who has played a pivotal and increasingly prominent role in advanced EHR training over the past few years, the team partnered with operational leadership to better serve provider populations within the medical center, creating "divisional Epic insights" reports and streamlining the process for connecting new and existing providers to Informatics supports.

The division also remained devoted to advancing patient safety. Drs. deMayo and Williams led efforts to create analytics tools to prevent care gaps arising from novel Covid-19 workflows. **Jill Herring, APRN**, nimbly produced updated versions of Covid-19 order sets, sometimes daily, to keep our clinical pathways current with rapidly evolving diagnostic capabilities and evidence-based guidance. Dr. Williams led the re-engineering of medication reconciliation processes, new actionable reporting, and also spearheaded the implementation of **AlertSpace**, software to improve customization of pediatric dosing alerts. Dr. deMayo's investigation on the importance of information systems in combating vaccination hesitancy across sectors was presented at the American Public Health Association's annual conference.

Biomedical Informatics is by nature a multidisciplinary, collaborative specialty. Informaticists cooperate with colleagues from every other academic division within the Department of Pediatrics, and with hospital and specialty group leadership. During the coming year, division members will be busy ensuring organizational compliance with legislative changes related to information-sharing across the care-continuum. The year promises greater access to health-information exchange and, for clinicians, on-demand analytics of aggregate clinical datasets beyond our own institution. The division also looks forward to greater interaction with physician trainees as we amplify our Clinical Informatics rotations. In addition to clinical service and instruction, the division's members regularly present our scholarship at academic conferences and participate in policy work at state, regional, and national levels.

STAFF

Richelle deMayo, MD, CM, *Division Chief*

Christopher Grindle, MD
Andrew Heggland, MD
Jane Im, MD
Jessica Williams, MD

Robin Bradshaw, APRN
Jill Herring, APRN

CARDIOLOGY

The mission of the Division of Pediatric Cardiology is to care for and improve the cardiovascular health of newborns, children and adolescents, and to transition them into healthy adulthoods. We strive to embrace discovery, teamwork, integrity and excellence in all that we do. Despite the Covid-19 outbreak, our division was able to provide excellent cardiology care within the region.

EXPANSION

The fetal cardiology program continues to expand, and we now provide fetal cardiology services in Danbury. We are training one additional cardiac sonographer, Melanie Bova, for our team to accommodate increasing cardiology patient volumes.

Our interventional cardiology program recruited Caitlin Heyden, DO, who possesses advanced training in pediatric interventional cardiology. Her arrival helps ensure we can provide 24/7 interventional cardiology services to meet growing volumes.

We now have a formal multidisciplinary pulmonary hypertension program led by Joseph Kuruvilla, DO, and inclusive of a dedicated nurse, Megan Clark, RN, NICU and inpatient cardiology.

We developed and expanded our telemedicine video visit services to accommodate and see patients remotely in accordance with Covid-19-related social distancing.

INTERVENTIONAL CARDIOLOGY AND ELECTROPHYSIOLOGY: PROCEDURAL INNOVATIONS

Frederic Bernstein, DO, was joined by Dr. Heyden as the additional interventional cardiologist. Our catheterization laboratory performs pediatric and adult congenital interventions. The program has expanded the institution's interventional capabilities, which include catheter-based closure of patent ductus arteriosus in premature newborns and trans-catheter pulmonary valve (TPV) replacement (Melody™ valve).
Our electrophysiology laboratory performs state-of-the-art, non-fluoroscopic catheter ablation for supraventricular tachycardia in children. Connecticut Children's is the only medical facility in the state to routinely perform this procedure without X-ray use. Fluoroscopy time for catheter ablation of arrhythmias at Connecticut Children's is significantly lower than the national average. Connecticut Children's provides a dedicated pediatric pacemaker clinic run by a certified pediatric electrophysiologist and a pacemaker nurse.

The catheterization and electrophysiology laboratory continues to be an active member of the American College of Cardiology's IMPACT Registry™, a national, multi-institutional cardiovascular data registry designed to support evidence-based guidelines and review of performance benchmarks. The lab also participated in the Reducing Radiation Quality Care Initiative™, leading to drastic reductions in radiation exposure for Connecticut Children's patients.

ADULT CONGENITAL HEART DISEASE PROGRAM

Connecticut Children's provides the most comprehensive care of adults with congenital heart disease (ACHD) in the state of Connecticut. Our Connecticut Adult Congenital Heart Service (CTACH) received accreditation as a comprehensive adult congenital heart disease center by the Adult Congenital Heart Association (ACHA) in 2018. Our program is the first and only accredited ACHD program in the state of Connecticut and one of only 40 in the nation. The program is overseen by three providers, Felice Heller, MD; division chief of Cardiology Shailendra Upadhyay, MD; and Whitney Fairchild, APRN. Drs. Heller and Upadhyay are both board-certified adult congenital cardiologists. The outpatient clinic follows over 1,200 adults with congenital heart disease on an annual basis. It offers comprehensive pregnancy management for patients with congenital heart disease. We also offer inpatient consultations at Hartford Hospital to ensure optimal collaboration in the care of ACHD patients.

NON-INVASIVE IMAGING: PEDIATRIC AND ADULT

This year marked an unprecedented challenge for our echocardiography lab at Connecticut Children's as the Covid-19 pandemic swept through our region. Our echocardiography volume continued to increase despite these challenges, from 5,873 transthoracic, transesophageal and fetal echocardiograms to 6,013 studies this year. We have targeted imaging protocols for Covid-19 and multisystem inflammatory syndrome in children (MIS-C) patients at Connecticut Children's to play our part in the care of children affected by the coronavirus during this pandemic. Despite some challenges with staffing among sonographers, our team worked together to find solutions to accommodate our patient volume, increase efficiency in the lab, and maintain high quality imaging standards. Our echocardiography team, certified by the Intersocietal Accreditation Commission, continues our commitment to perform the highest quality echocardiograms with efficient and accurate interpretation to serve the babies, children and adults in our community who have congenital heart disease or acquired cardiac illness.

NON-INVASIVE IMAGING: FETAL

Our fetal cardiology program experienced continued growth this year. Our multidisciplinary fetal cardiology team includes cardiologists, nurses, specially trained sonographers, obstetricians, maternal-fetal medicine specialists, neonatologists, the palliative care team, and pediatric cardiothoracic surgeons. We provide services in Hartford on the main campus and at our satellite clinic in Farmington. We have expanded to Danbury and now provide fetal cardiology services there. We present monthly educational conferences for the regional maternal-fetal medicine specialists, and we are the primary site for teaching fetal echocardiography for the maternal-fetal medicine fellow at the University of Connecticut. We have developed a fetal registry and clinical care pathways that enable us to track and optimize outcomes in our fetal patients.

NON-INVASIVE IMAGING: CARDIAC MRI

Cardiac magnetic resonance (CMR) imaging is an important diagnostic tool in the care of all patients with congenital and acquired heart disease. It is now a standard of care for the evaluation of adults with congenital heart disease. Olga Toro-Salazar, MD, leads our program. With the acquisition of our own 3T scanner in October 2019, we possess the best congenital MRI program in the state. This cardiac MRI program, which is over a decade old, has gained national recognition and allows us to effectively handle both congenital and acquired cardiac cases in both children and adults. The MRI services are not limited only to congenital heart disease patients, but also are available for adults with myocardial disorders. There has been a substantial increase in our volumes compared to prior years.

NON-INVASIVE IMAGING: CARDIO-ONCOLOGY PROGRAM

The Cardiology and Hematology-Oncology divisions at Connecticut Children's collaborate in maintaining a cardio-oncology program, COPE (Cardiovascular Oncology Prevention Experience). The program focuses on chemotherapy-related damage to the heart. A multidisciplinary clinical, imaging and research team has created a registry of cancer patients treated with cardiotoxic medications at Connecticut Children's. The program aims to provide uniform, evidence-based cardiac care to childhood survivors of cancer through innovative research in this field. In keeping with this goal, we have established a dedicated cardio-oncology clinic led by Dr. Toro-Salazar.

INPATIENT CARDIOLOGY

The inpatient cardiology program, under the directorship of Alex Golden, MD, continues to serve the hospital through inpatient consultations, and it provides care for children with congenital and acquired heart disease and adults with congenital heart disease. The inpatient team collaborates closely with the Critical Care team, the Pediatric Surgery service, and the Neonatal Intensive Care team to provide care of pre- and post-operative cardiac patients with special attention to standardization of care, smooth transition of care from the ICU to regular nursing floor settings, and from inpatient to outpatient settings. The inpatient team continues to provide education to the house staff and medical students, both on rounds and in didactic settings.

PULMONARY HYPERTENSION PROGRAM

Joseph Kuruvilla, DO, leads our pulmonary hypertension program and brings his expertise in pulmonary hypertension to the region. In 2019, we treated our first patient with severe pulmonary hypertension with injectable prostacyclin therapy. This marked the formal start of our advanced pulmonary hypertension program, likely the only dedicated pediatric pulmonary hypertension program in the state. We also have formalized evaluation and management of persistent pulmonary hypertension in newborns (PPHN).

EDUCATION

Our division is dedicated to the medical education of future providers and medical professionals. Drs. Heller and Upadhyay provide training in congenital heart

disease for adult cardiology fellows from Hartford Hospital and John Dempsey Hospital. Dr. Heller serves as a content expert for the first-year medical student's core curriculum. She created a highly regarded lecture series on congenital heart disease for adult cardiology fellows.

Alicia Wang, MD, provides training in fetal cardiology for the maternal-fetal medicine fellows at the University of Connecticut. We provide subspecialty training for pediatric residents in pediatric cardiology. We also contribute to the training of medical students at both the University of Connecticut and Quinnipiac University.

The School of Pediatric Cardiac Ultrasound through the Hoffman Heart and Vascular Institute of Connecticut is now in its ninth year, and is recognized by the Joint Review Committee on Education in Cardiovascular Technology (JRC-CVT) and the Commission of Accreditation of Allied Health Education Programs (CAAHEP). Connecticut Children's Echo Lab is the training site for didactic and hands-on instruction of pediatric ultrasound for one to two sonographers yearly.

Under the research mentorship of Drs. Toro-Salazar, Brooke Davey and Upadhyay, our residents, Drs. Sarah Kollar, Jenna Schermerhorn, Andres Moreno, and Nicholas Robles were able to complete research studies, present data at national meetings, and secure pediatric cardiology fellowships at reputed programs.

PROFESSIONAL RECOGNITION

Felice Heller, MD, has an international reputation as an expert for LMNA cardiomyopathy with patients from outside the state of Connecticut seeking her care.

Shailendra Upadhyay, MD, was invited as a moderator and speaker at the Innovations in Cardiovascular Disease Symposium, which was held in New York in February and organized by the Rambam Foundation. Dr. Upadhyay was invited as a discussion panelist for arrhythmias during pregnancy at the 30th Annual International Symposium on Adult Congenital Heart Disease.

Seth Lapuk, MD, is on the Connecticut Children's medical staff board of the executive committee. He remains a member of the Connecticut chapter of the American Heart Association and the American College of Cardiology board of directors.

Olga Toro-Slazar, MD, joined the Society of Cardiac MRI's writing committee on CRMI evaluation of chemotherapy-induced cardiotoxicity.

CARDIOLOGY RESEARCH PROGRAM DIVISION REPORT

Our research group continues to have a multitude of active projects that include the following areas of exploration:

- **CHD Diagnosis and Parental Psychological Coping**

  Brooke Davey, MD, is actively involved in a research project titled "Parental Reaction and Psychological Coping After Diagnosis of Congenital Heart Disease." She presented this project in virtual poster format at the American College of Cardiology in March of 2020 and is completing a manuscript for publication.

- **Electrophysiology and Arrhythmia Research**

  Our electrophysiology laboratory performs predominant catheter ablation in pediatric and adults patients with congenital heart disease. Two research projects looking at retrospective data analysis, "Zero X-Ray Ablation of AV Node Reentry Tachycardia in Pediatric Population" and "Zero X-Ray Ablation in Patients with Congenital Heart Disease," were presented in poster format at the 23rd Annual Update on Pediatric and Congenital Heart Disease in Florida in February 2020. The projects were completed by our residents Drs. Andres Moreno and Jenna Schermerhorn under the mentorship of Dr. Upadhyay. Manuscripts on these projects are being submitted.

- **Adult Congenital Heart Disease Research**

  Our ACHD program has demonstrated continuous research efforts and presentations at national meetings. Whitney Fairchild, APRN, gave an oral presentation this year titled "Impact of Pulmonary Valve Replacement on Left Ventricular Ejection Fraction in Pulmonary Atresia with Intact Ventricular Septum and Congenital Critical Pulmonary Stenosis," at the 30th Annual International Adult Congenital Heart Disease (ACHD) Symposium, held in October 2020 in Cincinnati, OH.

  Our program is a participant in an international multicenter study looking at the effects of Covid-19 in adults with congenital heart disease. Our data was shared at the 30th International ACHD meeting and is scheduled for publication.

- **MRI Research Program**

  Our cardiac MRI program under Dr. Toro-Salazar's guidance is performing several research studies including myocardial strain and segmental displacement in various cohorts of patients such as childhood survivors of cancer chemotherapy and tetralogy of Fallot.

- **Fontan Working Group**

  The Connecticut Children's team, led by Drs. Davey and Toro-Salazar, continues to work closely with the Fontan working group through the New England Congenital Cardiology Association. This study aims to determine the clinical characteristics of a Fontan patient with low risk for mortality or significant morbidity over a 12-month period of follow-up and to evaluate how well providers can identify patients at low vs. high risk of an adverse event.

- **Cardio-Oncology Research**

  Anthracycline-induced cardiomyopathy (AIC) presents a major long-term issue in survivors of childhood cancers treated with anthracycline group medications. Dr. Toro-Salazar is becoming a national leader in assessing and developing diagnostic tools and therapeutic interventions to curtail the impact of AIC in childhood cancer survivors. The extensive project involves risk modeling of therapeutic-induced cardiotoxicity and development of improved pathways of care in pediatric cancer patients. Dr. Toro-Salazar has been working on developing novel echocardiographic and cardiac MRI for early detection of AIC. In collaboration with the Jackson Laboratory for Genomic Medicine in Farmington, CT, Dr. Toro-Salazar has been exploring differential biomarker signatures associated with this pathology. These may lead to early identification of patients especially susceptible to left ventricular dysfunction upon anthracycline exposure. By working collaboratively with a multidisciplinary team of experts in cancer biology, genetic analysis, and pediatric oncology, Dr. Toro-Salazar has developed a diverse in-vivo model of AIC in Collaborative Cross (CC) mice. Furthermore, dosing protocols that mimic the patient roadmaps used in clinical practice have been implemented in this model, and hold promise in furthering our knowledge of AIC.

  In parallel, Dr. Toro-Salazar's team have also started work on a study that examines the benefits of exercise-based intervention on cardiotoxic effects in childhood survivors of cancer.

PUBLICATIONS

Robles N, **Upadhyay S.** The utility of exercise stress testing in the evaluation of ischemia among pediatric patients with exertional chest pain. Circulation. 2020 Nov 12; 142:A15780.

Davey BT, Sinha R, Lee JH, Gauthier M, Flores G. Social determinants of health and outcomes for children and adults with congenital heart disease: a systematic review. Pediatr Res. 2020 Oct; doi: 10.1038/s41390-020-01196-6. Epub ahead of print.

Doan TT, **Toro-Salazar O**, Hutt C, **Upadhyay S**. Miniaturized implantable loop recorder in patients with congenital heart disease and children. Conn Med. 2020 Feb; 84(2):57-63.

Davey BT, Elder RW, Cloutier MM, Bennett N, Lee JH, Wang Z, Manning A, Doan T, Griffiths M, Perez M, Ahluwalia N, **Toro-Salazar OH**. T-cell receptor excision circles in newborns with congenital heart disease. J Pediatr. 2019 Oct; 213:96-102.e2. doi: 10.1016/j.jpeds.2019.05.061. Epub 2019 Jul 2.

Zeiss CJ, Gatti DM, **Toro-Salazar O**, Davis C, Lutz CM, Spinale F, Stearns T, Furtado MB, Churchill GA. Doxorubicin-induced cardiotoxicity in collaborative cross (CC) mice recapitulates individual cardiotoxicity in humans. G3 (Bethesda). 2019 Aug 8; 9 (8):2637-2646. doi: 10.1534/g3.119.400232.

Doan TT, **Wang A, Davey B, Upadhyay S, Toro-Salazar O**. Two cases of a prenatally diagnosed double aortic arch with postnatal obliteration of the distal left aortic arch. Pediatr Cardiol. 2019 Dec; 40 (8):1748-1751. doi: 10.1007/s00246-019-02141-z. Epub 2019 Jun.

Toro-Salazar O, Lee JH, Mosha MM, Ruiz T, Orsey A, Wilhelm C, Partovi Hauser K, **Upadhyay S**, Hor K. Role of cardiorespiratory fitness to modulate cardiotoxicity in long-term cancer survivors exposed to anthracycline therapy. Circulation. 2019 Nov 11; 40: A14533.

STAFF

Shailendra Upadhyay, MD, CEPS, FHRS, *Division Chief*

Frederic Bernstein, DO, FACC, FSCAI
Leon Chameides, MD, *Professor Emeritus*
Brooke Davey, MD
Alex Golden, MD, MMM
Felice Heller, MD
Caitlin Heyden, DO
Joseph Kuruvilla, DO, FAAP
Seth Lapuk, MD, FAAP, FACC
Harris Leopold, MD
Olga Toro-Salazar, MD
Alicia Wang, MD

Whitney Fairchild, APRN

CHILD & ADOLESCENT PSYCHIATRY

The Division of Child and Adolescent Psychiatry continues to be a highly active, vibrant, and collaborative resource within the Department of Pediatrics at Connecticut Children's. Our work has focused on a number of areas: meeting the increasing clinical demand for behavioral health assessment and treatment services, close collaboration with other divisions within Connecticut Children's – both for treatment purposes as well as in the area of clinical pathway evaluation and development, and research efforts in a variety of areas as well as presentations at several national conferences.

During the past year, we have continued to see clinical volumes rise in all of the services in which we play a role. We have continued to participate in the Transitions Clinic in order to provide immediate access to behavioral health services for patients presenting to our emergency department; and we have helped to expand the scope of the Transitions Clinic to provide brief follow-up services for children and adolescents leaving inpatient units and requiring a "bridge" prior to involvement in the next part of their mental health treatment. Our team also has continued to partner with the division of Pediatric Hospital Medicine (PHM) to maintain clinical pathways for our most complicated patients and to provide effective collaborative care models based on extensive research of evidenced-based treatments. Additionally, we continue to partner with the Emergency Medicine division not only in evaluating the many children and their families who present to us in crisis but also to review alternate models to streamlining the movement through our emergency department into appropriate mental health care settings.

We have been very fortunate in the past year to welcome four new members to our Child/Adolescent Psychiatry team: Marta Papoosha, MD, has become one of the inpatient physicians on our Adolescent Inpatient Unit; Sadiq Naveed, MBBS, MD, has also become one of our adolescent inpatient psychiatrists in addition to taking on the clinical lead for all of our inpatient units; Lovejit Kaur, MBBS, MD, assumed a position on our inpatient Consultation/Liaison team at Connecticut Children's; and Jennifer Downs, MD, took over for Lisa Namerow, MD, as the medical director of our Child/Adolescent Psychiatry division at Connecticut Children's. Dr. Namerow stepped down from her previous position but still maintains frequent work and collaboration with our trainees and our Connecticut Children's colleagues. At Connecticut Children's, our division's services include: a Consultation/Liaison service that provides inpatient evaluations on any patient presenting with behavioral health concerns that may indicate co-occurring psychiatric and medical conditions; emergency psychiatric assessment, triage and disposition services within the Connecticut Children's Emergency Department; and the new Transitions Clinic noted above, located in the outpatient offices at 85 Seymour Street.

At the Institute of Living (IOL), clinical services include: individual, group, and family therapies; pharmacotherapy; and diagnostic evaluations. These services are provided through: inpatient units for children and adolescents; the Child and Adolescent Rapid Emergency Services (C.A.R.E.S) unit, a very short-term setting interfacing directly with Connecticut Children's Emergency Department that focuses on the assessment, stabilization, and disposition of children and adolescents in acute behavioral crisis; the Grace Webb School, a therapeutic educational setting for children and adolescents with co-existing psychiatric and learning difficulties; an outpatient child and adolescent clinic; an extended day treatment program for older school-aged children; and a partial hospital program for children and adolescents. The adolescent program has a specialized track for early onset psychotic disorders. In addition, we continue to serve as one of the hubs for the Access-Mental Health CT program, a collaborative educational, consultation and assessment program between primary care providers and child and adolescent psychiatrists providing more than 1,000 phone consults to primary care physicians (PCPs) yearly, and approximately 2,500 care coordination activities since the program started in June of 2014.

Connecticut Children's and the IOL remain highly active teaching sites for many trainees: child and adolescent psychiatry fellows; general psychiatry residents; psychology interns; pediatric residents and medical students; as well as a post-doctoral psychology fellow who joins our consultation-liaison service for 12 months.

In the academic area, Dr. Namerow and her colleagues from the IOL continue to study the benefits and limitation of pharmacogenomics testing on the treatment of children and adolescents with anxiety and depression. Michael Stevens, PhD, and Michal Assaf, MD, of the Olin Neuropsychiatry Research Center remain active in the area of MRI research in such mental health conditions as ADHD, autism, TBI, and mood disorders. Our clinical trials unit, under the leadership of Mirjana Domakonda, MD, continues to have multiple drug treatment studies, including involvement in the international trial of esketamine. And Salma Malik, MD, our fellowship director, continues her work in the areas of pharmacogenomics, homicide assessment, and residency transitions.

At the national level, our group has been honored to be selected for a number of presentations at the American Academy of Child and Adolescent Psychiatry Annual Meeting. Our presentations have included such topics as: Internet gaming and obsessive-compulsive disorder; pharmacogenomics; homicide risk assessment; and the use of clinical pathways.

PUBLICATIONS

Zalpuri I, **Domakonda M**, Wrzosek M, DeJong S. Trainees on technological terrain: a video vignette-based tool to teach e-professionalism. Acad Psychiatry. 2020 Oct 14. doi: 10.1007/s40596-020-01325-7. Epub ahead of print.

Gertler J, Novotny S, Poppe A, Chung YS, Gross JJ, Pearlson G, **Stevens MC**. Neural correlates of non-specific skin conductance responses during resting state fMRI. Neuroimage. 2020 Jul 1; 214.

Chung YS, Calhoun V, **Stevens MC**. Adolescent sex differences in cortico-subcortical functional connectivity during response inhibition. Cogn Affect Behav Neurosci. 2020 Feb; 20(1):1-18.

Stevens MC, Levy HC, Hallion LS, Wootton BM, Tolin DF. Functional neuroimaging test of an emerging neurobiological model of hoarding disorder. Biol Psychiatry Cogn Neurosci Neuroimaging. 2020 Jan; 5(1):68-75.

Boedhoe PSW, van Rooij D, Hoogman M, Twisk JWR, Schmaal L, Yoshinari Abe Y, et al, (**Stevens MC**, 189/221). Subcortical brain volume, regional cortical thickness, and cortical surface area across disorders: findings from the ENIGMA ADHD, ASD, and OCD Working Groups. Am J Psychiatry. 2020; 177(9):834-843. doi: 10.1176/appi.ajp.2020.19030331. Epub 2020 Jun 16.

Bruin WB, Taylor L, Thomas RM, Shock JP, Zhutovsky P, Abe Y, et al, (**Stevens MC**, 80/ 91). Structural neuroimaging biomarkers for obsessive-compulsive disorder in the ENIGMA-OCD consortium: medication matters. Transl Psychiatry. 2020; 10(1):342. PMID: 33033241 PMCID: PMC7598942 DOI: 10.1038/s41398-020-01013-y.

Yun JY, Boedhoe PSW, Vriend C, Jahanshad N, Abe Y, Ameis SH, et al. (**Stevens MC**, 57/70). Brain structural covariance networks in obsessive-compulsive disorder: a graph analysis from the ENIGMA Consortium. Brain. 2020; 143(2):684-700.

Zugman A, Harrewijn A, Cardinale EM, Zwiebel H, Freitag GF, Werwath KE, et al, (**Assaf M**, 38/88), for the ENIGMA-Anxiety Working Group. Mega-analysis methods in ENIGMA: the experience of the generalized anxiety disorder working group. Hum Brain Mapp. 2020 Jun 29. Epub ahead of print. PMID: 32596977. doi: 10.1002/hbm.25096.

Das A, Clerkin EM, Tolin DF, **Assaf M**, Diefenbach G. Moving beyond the negative: understanding the relationship between positive affect and quality of life in patients with generalized anxiety disorder. J Nerv Ment Dis. 2020; 208(11):843-847.

Hyatt CJ, Calhoun VD, Pittman B, Corbera S, Bell MD, Rabany L, Pelphrey K, Pearlson GD, **Assaf M**. Default mode network modulation by mentalizing in young adults with autism spectrum disorder or schizophrenia. Neuroimage Clin. 2020; 27:102343. doi: 10.1016/j.nicl.2020.102343. Epub 2020 Jul 8.

Fu Z, Sui J, Turner J, Du Y, **Assaf M**, Pearlson G, Calhoun V. Dynamic functional network reconfiguration underlying the pathophysiology of schizophrenia and autism spectrum disorder. Hum Brain Mapp. 2020 Sep; 42(1). PMID: 32965740. doi: 10.1002/hbm.25205.

Namerow LB, Walker S, **Loftus M**, Bishop J, Ruaño G, et al. Pharmacogenomics: an update for child and adolescent psychiatry. Curr Psychiatry Rep. 2020 May 6;22(5):26. doi: 10.1007/s11920-020-01145-4.

Silver GH, Kearney JA, Bora S, De Souza C, Giles L, Hrycko S, Jenkins W, Malas N, **Namerow L**, et al. Developing a clinical pathway for delirium. Hosp Pediatr. 2019 Nov; 9(11):909-916. doi: 10.1542/hpeds.2019-0115.

Malik S, Yasser K. Genetics of autism spectrum disorder: an update. Psychiatric Ann. 2019 Feb; 49(3):109-114. doi: 10.3928/00485713-20190212-01.

Malik S, Young K, Walker S, **Loftus M**. A novel approach to assess violent and homicidal ideation: the I-HAVAT©. Adol Psychiatry. 2019 Aug; 9:100-117.

Namerow L, Walker S, **Loftus M**, Bishop J, Ruaño G, et al. Pharmacogenomics: an update for child and adolescent psychiatry. Curr Psychiatry Rep. 2020 May; 22:26.

Aamer I, Liaqat S, **Malik S**, Imran N. A qualitative study of psychological impact on mothers of children with Covid-19 in a hospital setting. AKEMU. 2020 Jul; 26:126.

Waqas A, **Malik S**, Fida A, Abbas N, Mian N, et al. Interventions to reduce stigma related to mental illnesses in educational institutes: a systematic review. Psychiatr Q. 2020; 91(3): 887–903. Epub 2020 May 5. doi: 10.1007/s11126-020-09751-4.

Iyer V, Kuntz S, **Malik S**. A roadmap to understanding systems of care in child and adolescent psychiatry. World Psychiatry. 2020 Feb.

STAFF

Robert Sahl, MD, *Division Chief*

Michal Assaf, MD
Sudeshna Basu, *Medical Director Accessmh, IOL hub*
Rosemary Coratola, PsyD, LMFT
Mirjana Domakonda, MD
Jensi George, MD
Julie Goslee, MD
Sheena Joychan, MD
Saili Kalaskar, MD
Mirela Loftus, MD
Daane Logsdon, DO
Salma Malik, MD
Lynn Mangini, MD
Lisa Namerow, MD
Jennifer Downs, MD, *Medical Director of Child/Adolescent Psychiatry at Connecticut Children's*
Francisco Ripepi, MD
Michael Stevens, PhD
Kashmeer Zablan, MD
Jennifer Zajac, DO
Sadiq Naveed, MD
Marta Papoosha, MD
Lovejit Kaur, MD

CHILD ABUSE PEDIATRICS

The Division of Child Abuse Pediatrics provides clinical evaluation services through the Suspected Child Abuse and Neglect (SCAN) program at Connecticut Children's. Consults are provided on an inpatient and outpatient basis at the Hartford campus of Connecticut Children's, and they include comprehensive expert medical evaluation and psychosocial assessment for children who may have experienced maltreatment. Program staff members offer support to caregivers throughout the evaluation process. We seek to collaborate with multidisciplinary partners in the service of the child and family, and strive to improve community response to child maltreatment through education, research, prevention and advocacy.

In 2020, with funding received from the Connecticut Office of Victim Services to improve sexual abuse medical services in northern Connecticut, the SCAN program:

- Established three new satellite medical services in Children's Advocacy Centers in Waterbury, Torrington, and Hartford
- Provided subcontract support and regular peer review for established regional examiners in Danbury and Putnam
- Provided regular education for sexual abuse examiners statewide using the ECHO (Extension for Community Healthcare Outcomes) telementoring model

Beyond clinical work, 2020 activities of division staff included the following:

- Teaching medical students, residents and fellows with didactics and block rotations
- Teaching statewide multidisciplinary partners, including child protective service workers, members of law enforcement, and attorneys
- Participation in nine regional community multidisciplinary teams: Hartford MDT, MDT 14, Central Connecticut New Britain MDT, Central Connecticut Bristol MDT, East Central MDT, North Central MDT, Tolland MDT, Torrington MDT, Waterbury MDT
- Provision of regular expert testimony in Connecticut courts
- Participation in statewide initiatives focused on child abuse prevention, human trafficking and domestic violence
- Provision of national training to attorneys on medical evaluation of abuse and neglect
- Participation in research
- Participation in quality improvement initiatives including ongoing work on a clinical pathway for suspected physical abuse, development of a new clinical pathway for suspected sexual abuse, and suicidality screening in SCAN outpatient clinic
- Provision of national medical peer review to other medical providers

PUBLICATIONS

Hunter A, **Livingston N**, Divietro S, Schwab Reese L, Bentivegna K, Bernstein B. Child maltreatment surveillance following the ICD-10 CM transition, 2016-2018. Inj Prev. 2020 Apr 1;injuryprev-2019-043579. doi: 10.1136/injuryprev-2019-043579. Epub ahead of print.

STAFF

Medical
Nina Livingston, MD, *Division Chief*

Rebecca Moles, MD
Laura Caneira, APRN
Audrey Courtney, APRN
Sarah Dean, APRN
Sierra Sweeney, MA
Crystal Vasquez, MA

Family Advocacy/Social Work
Sara Goldstein, LMSW
Rebecca Maston, LMSW

Administrative
Wanda Vasquez, CCSG Manager
Lisa Parris, Administrative Assistant

COMMUNITY PEDIATRICS

Community Pediatrics is the largest division in the Department of Pediatrics, consisting of 234 providers in practices throughout southern New England. The academic activities of the division are centered on pediatric education. Practices serve as teaching sites for the core clinical experience of medical students in ambulatory pediatrics. Many physicians also precept students and pediatric residents in continuity practice experiences.

Clinically, community pediatric practices can be thought of as the place where the rubber hits the road. Community pediatricians provide medical care to children of all ages, and offer the continuity that children can only find in a medical home. Clinicians in this division provide the bulk of preventive care for children in the region, including physical examinations, immunizations and behavior screening. Most referrals to specialty divisions in the department are initiated by community pediatricians, and much of the follow-up care is centered in pediatric offices as well.

Many of our members have joined the Pediatric Care Network, a joint project with Connecticut Children's and practices across the region. As this program develops, the interface between generalists and specialists will strengthen, and the goal is to make the care of our sickest children more affordable and more coordinated. By examining and sharing measures that reflect pediatricians' practices and outcomes, the program hopes to realize and disseminate best practices that will result in better health for the entire pediatric population in our region. The network sponsors educational programs for practices aimed at meeting these goals. In 2021, the network will be sponsoring a Behavioral Health learning community to assure consistent screening of children for anxiety, depression, and ADHD, and to develop increased capabilities of practices to manage less complex childhood mental health disorders.

From a public health perspective, community pediatricians serve as trusted sources of information for families that have built close and lasting relationships with their children's doctors. These relationships are vitally important today, during a global pandemic. Community pediatricians have been a primary audience for education programs offered by the Department of Pediatrics, including grand rounds and *Ask the Experts* webinars, thus assuring that consistent messages about health matters are conveyed.

STAFF

Douglas MacGilpin, MD,
co-Division Chief

Larry Scherzer, MD,
co-Division Chief

Matthew G. Abel, MD
Nicole Abramowitz, MD
Robert S. Adamenko, MD
Amy Agoglia, MD
Susan Adeife-Lee, MD
Susan Adeyinka, MD
Anton M. Alerte, MD
Janue Alon, MD
Lisa C. Alonso, MD
Dina Amato, MD
Caroline Amin, MD
Rena L. Aroesty, MD
Leon Baczeski, MD
Lauren Bader, MD
Claire Bailey, MD
Sherry R. Banack, MD
Tina Bafumi, MD
Meredith Barrows, MD
Amy L. Baumer, MD
Shannon Beausoleil, MD
Kristi F. Beck, MD
Lucia Benzoni, MD
Eric M. Bezler, MD
Thomas B. Binder, MD
Shawn Binns, MD
Elizabeth M. Bird, MD
Amy Blodgett, MD
Alicia Briggs, MD
Tamika T. Brierley, MD
Nancy Brown, MD
David Brown, MD
Steven J. Brown, MD
Ronald L. Buckman, MD
Olga A. Bulygina, MD
Arvin Bundhoo, MD
Frank J. Bush, MD
Karen P. Camera, MD
Keith Casey, MD
Leon Chameides, MD
Christine M. Chaput, DO
Carolyn A. Clark, MD
Greer A. Clarke, MD
Paul Clarke, MD
Bruce Cohen, MD
Della M. Corcoran, MD
Cathy L. Corrow, MD
Steven L. Craig, MD
Michael Curi, MD
Nancy K. Cusmano, MD
Lynn M. Czekai, MD
Margot H. Dayton, MD
Christopher M. DeSanto, MD
Karen Dettmer, MD
Larry Deutsch, MD
Sachin Dhingra, MD
Leo J. DiStefano, MD
Andrea G. Dixon, MD
Alicia M. Dodson, MD
Damian D. Dos Santos, MD
Robert Dudley, MD
Allyson N. Duffy, MD
Terry M. Eccles, MD
Sarah Elbaum, MD
Craig R. Elliott, MD
Marybeth P. Ellison, MD
Jeffrey Factor, MD
Frank Fanella, Jr., MD
Mina Farkhondeh, MD
Erin Feller, MD
Bruce Freeman, MD
Cecille R. Freilich, MD
Jeanine Freliech, MD
Traci A. Friedman, MD
Thomas N. Fromson, MD
Carolyn R. Ganeles, MD
Amy Garaffa, MD
Angela G. Geddis, MD
Richard W. Geller, MD
Gregory S. Germain, MD
Sarah L. Germani, DO
Mark N. Gilroy, DO
Sally H. Ginsburg, MD
Susan K. Glasser, MD
Karen Goldberg, MD
Carol Gorman, MD
Sophia Grant, MD
Timothy Grogean, MD
David Gropper, MD
Jennifer Gruen, MD
Kimberly C. Gygi, DO
Evan R. Hack, MD
Hillary Hernandez-Trujillo, MD
Dena A. Hoberman, MD
Shannon Hogan, MD
Bryan R. Holland, MD
Joy E. Kingston Hong, MD
Judy C. Huang-Bulger, MD
Kenneth R. Inchalik, MD
Joseph Hufnagel, DO
Shiji A. Isaac, MD
Saima Jafri, DO
Peter J. Jannuzzi, MD
Brad A. Jubelirer, MD
Zachary Kahn, DO
Vasanth Kainkaryam, MD
Scott M. Kallor, DO
Norine T. Kanter, MD
Edward Kavle, MD
John R. Kelley, MD
Jay D. Kenkare, MD
Anjum Khera, MD
Kimberly J. Kim, MD
Kumar Kishore, MD
Natalie S. Komaiszko, MD
Lauren B. Kopyt, MD
Sarojini Kurra, MD
Sam Kweku, MD
Sydney Ladenheim, MD
Jaye Ladinsky, MD
Jerome E. Lahman, MD
Brian Lamoureux, MD
Christine T. Lamoureux, MD
Julius Landwirth, MD
Rebecca LePage, MD
John H. Lavalette, MD
Christopher C. Lawrence, MD
Susan E. Lelko, MD
Noelle M. Leong, MD
Deepa P. Limaye, MD
Foong-Yi Lin, MD
Kathryn E. Litwin, MD
Ruth A. Loomis, MD
Janice M. Lopez, MD
Matteo J. Lopreiato, MD
Jennifer Lovin, MD
Maury R. Luxemburg, MD
Ana Machado, MD
Christine Macken, MD
Jessica Magda, MD
Sajda Malik, MD
Pushpa Mani, MD
Kathleen Marinelli, MD
Elizabeth A. Martin, MD
Linda Mathew, MD
Yesu Matta, MD
Christopher J. McDermott, MD
Kristin D. McGregor, MD
Margaret McLaren, MD
Swathanthra K. Melekote, MD
Lauren E. Melman, MD
Shafia S. Memon, MD
Lisa Menillo, MD
Wanda I. Merced, MD
Melanie Mier, MD
Arpana Mohnani, MD
Jody Navistsky, MD
Elizabeth Northrop, MD
Glenda Nouman, DO
James O'Connor, MD
Bhawani S. Ojha, MD
Margaret M. O'Neill, MD
Maureen N. Onyirimba, MD
Manuel A. Orta Cobo, MD
Hemant K. Panchal, MD
Rishikesh Pandey, MD
Robert E. Parnes, MD
Christine Patterson, MD
Elizabeth T. Pericat, MD
Jason Perkel, MD
Kenneth Perks, MD
Susan O. Perks, MD
Jenny L. Petrauskas, MD
Laura J. Pickett, MD
Tricia R. Pinto, MD
John G. Pitegoff, MD
Ross W. Porter, MD
Leah G. Post, MD

Ishrat I. Quadri, MD
Marc P. Ramirez, MD
Meredith Renda, MD
Lawrence S. Rifkin, MD
Tina Roman, MD
Keith R. Ruppel, MD
Vandana Sacheti, MD
Bhavna Sacheti-Singh, MD
Krishanti Satchi, MD
Julie E. Schiff, MD
J. Christopher Schuck, MD
Jennifer L. Schwab, MD
Gavin Schwarz, MD
Lester R. Schwartz, MD
Richard A. Segool, MD

Sarah Siegel, MD
Mary A. Simon, MD
Marilyn P. Smith, MD
Candra Smith-Slatas, MD
Aaron Slaiby, DO
Lori Storch Smith, MD
Courtney Souza, MD
Kenneth N. Spiegelman, MD
Cindy L. St. Onge, MD
Neil D. Stein, MD
Martha Sternberg, MD
Leah Sterry, DO
Kurt R. Stewart, MD
Carrie S. Streim, MD
Judith E. Tapper, MD

Richard Tenzcar, MD
Heather L. Tirpaeck, DO
Stephanie T. Tiso, MD
Robert R. Toscano, MD
John Tsalapatanis, MD
Nicholas Tzakas, MD
Richard Uluski, MD
Kerline Vassell, MD
Jayashree V. Venkatesh, MD
Anne Marie F. Villa, MD
Racha Walia, MD
Ramindra Walia, MD
Matthew S. Warren, MD
Harry C. Weinerman, MD
Allison H. Whitaker, MD

Felicia M. Wilion, MD
Anne S. Willenborg, MD
Jennifer S. Wilner, MD
Michael E. Yencho, MD
Nancy M. Yip, DO
Joseph E. Yunis, MD
Robert W. Zavoski, MD
Barbara F. Ziogas, MD

Gretchen E. Carlin, APRN
Rachel L. MacLean, PA-C
Betsy Meyer, PA-C
Rachel Mitchell, APRN
Lynn E. Nochisaki, APRN
Janna Zempsky, APRN

CRITICAL CARE

The Division of Pediatric Critical Care is dedicated to the delivery of state-of-the-art child and family centered care for critically ill and injured children.

The division's mission is accomplished by a collaborative group that champions a multidisciplinary approach to care, the incorporation of best available evidence into clinical practice, and acquisition of new knowledge through clinical research. Attention to patient safety, continuous performance improvement, and education of physicians, nurses, and other care team members is paramount.

The Pediatric Intensive Care Unit staff faced the challenge and uncertainty of Covid-19 and took their responsibilities professionally and without wavering. The PICU team embraced the challenge and was integrated into all aspects of systems improvement to provide high quality care for children with Covid-19, while maintaining the safety of all our team members. The PICU quickly created and implemented clinical management pathways for delivery of respiratory therapies, processes for managing patients with acute deterioration, and maintained a continuous flow of education and updates as needed for a rapidly changing management schema. It is through these efforts that children suffering from Covid-19 received prompt high quality care without a child dying from Covid-19 and with no staff member acquiring infection from a patient.

Despite the challenges of Covid-19, the PICU faculty has been successful academically and professionally. Major awards and academic accomplishments among the division members include important contributions to several national societies and both internal and external collaborations:

Christopher Carroll, MD, continues many clinical and translational research activities and collaborations. He is recognized as an international leader and lectures frequently at international conferences about topics including asthma and other respiratory diseases, critical care, and digital media. He continues in leadership roles in major medical organizations including Chest® (the American College of Chest Physicians) Covid Task Force, deputy editor of multimedia for the journal *Chest*, and chair of the Critical Care NetWork and chair of the program committee of Chest. Dr. Carroll also received a distinguished educator award from Chest, the Presidential Citation from the Society of Critical Care Medicine, and *Hartford Business Journal's* 2020 Health Care Hero Award.

Adam Silverman, MD, as director of the Center for Global Health (CGH), leads efforts to increase appreciation for diversity, equity and inclusion amongst learners, staff and faculty at Connecticut Children's while leveraging the skills and talents of our institution to improve the health of children living in resource-limited settings. Despite travel restrictions created by the Covid-19 pandemic, Dr. Silverman partnered remotely with pediatric providers in Haiti and Rwanda and assisted in the education of future pediatricians and with quality improvement activities in countries with some of the most compelling health care inequalities. He continues to organize an annual Global Health Symposium and the Global Health Film Festival. Locally, he has collaborated with other faculty to further refine and improve the Global Health Care Pathway for pediatric residents, organized a Global Health Boot Camp and mentored staff members who travel to developing countries to help improve the health care of children around the world.

Heather Schlott, MD, continues as medical director of the hospital's Extracorporeal Membrane Oxygenation (ECMO) program. This technology provides state-of-the-art heart and lung support for our most critically ill patients. The program has grown and, in fact, Connecticut Children's received a Silver Award from the national Extracorporeal Life Support Organization for excellent outcomes. The award spans 2018 through 2021. Dr. Schlott also leads the continuous renal replacement therapy (CRRT) program. This collaboration with Neonatology, Nephrology, Hepatology, and Pediatric Surgery continues its efforts to expand the services available to a growing population of neonates and infants that might benefit from CRRT. Lastly, Dr. Schlott continues as a champion of sepsis care, including acting as the clinical expert for Connecticut Children's in the Children's Hospital Association's "Improving Pediatric Sepsis Outcomes" Collaborative, which has achieved a 30 percent increase in timely sepsis recognition, a 6 percent decrease in hospital days per sepsis episode, and a 19 percent decrease in sepsis mortality.

Kenneth Banasiak, MD, continues to lead as the medical director of cardiac critical care with a multidisciplinary collaboration with Cardiology and Cardiothoracic Surgery to standardize the care of post-operative patients, resulting in improved inter-service communications, patient safety, staff competency, and patient outcomes. Our benchmarked cardiac surgery outcomes are superb and either exceed or match that of larger cardiac intensive care programs. Dr. Banasiak also created and implemented a continuing education curriculum on "Applied Critical Care Physiology," which focuses primarily on the education of residents who intend to go on to careers in acute care subspecialties. He is revamping this program to provide this education virtually, which will allow for expansion beyond Connecticut Children's.

Daniel Fisher, MD, in collaboration with the Simulation Center, continues to oversee the interdisciplinary educational program with focus on in-hospital resuscitation of patients in emergency situations. Using a high-fidelity simulation manikin, care team learners are presented with a patient in a life-threatening scenario and are called upon to resuscitate the patient. Sessions focus on medical decision-making, critical task completion, and interdisciplinary communication during high risk situations. This program has elevated the quality of care provided. Dr. Fisher also continues to chair the Medication Safety Management Committee, which evaluates the safety of the institution's medications practices and works to decrease medical errors. In addition, he continues his participation in the refinement of the hospital's comprehensive electronic medical record. All of these activities have huge impacts on the quality and safety of patient care and translate to improved outcomes.

Leonard Comeau, MD, continues his activities to improve the comfort and quality of care for our patients, both in the PICU and hospital-wide. He participates in care delivered by the Sedation Service, and also serves as the leader of the quality and safety oversight activities of the Sedation and Analgesia Committee. He also serves as the chair of the hospital Clinical Ethics Committee, which addresses issues related to the appropriateness and decision-making regarding health care for some of our most complicated patients. In addition, Dr. Comeau leads Schwartz Rounds, a series of discussions for all Connecticut Children's staff where they can openly and honestly discuss the social and emotional dimensions of providing patient care. The goal is to foster empathy, collaboration, and compassionate support for the self and others, including our patients, their families, and all members of the health care team.

Allison Cowl, MD, serves as a member of the steering committee of the Pediatric NetWork for the American College of Chest Physicians. She continues her clinical research collaborations with the Pediatric Acute Lung Injury and Sepsis Investigators (PALISI) international network, focusing on various aspects of the care of critically ill patients and is a key site director for these multi-institutional research collaboratives. She participates in clinical research protocols evaluating platelet transfusion algorithms as well as early mobilization practices in the PICU. Dr. Cowl serves as the site PI in a large international trial that is evaluating ventilation strategies, as well as the use of prone positioning, in the treatment of patients with severe acute respiratory failure. In addition, Dr. Cowl has implemented a new care paradigm for all patients within the PICU with an eye on ensuring the best possible functional outcome for our patients and minimizing post-intensive care syndrome. As leader of our comprehensive multidisciplinary program ("BLOOM"), she is working with the care team to develop the expertise to minimize, recognize and manage delirium, promote early mobilization of patients, and liberate them as early as possible from mechanical ventilation support. In addition, Dr. Cowl serves as the core faculty leader for student, resident, and fellow education in the PICU. She has mentored many residents in clinical studies; specifically, the role of ECMO in the treatment of asthma, the utilization of two modes of non-invasive pressurized respiratory support devices for treatment of patients with bronchiolitis, and the feasibility of providing enteral nutrition.

Rosanne Salonia, MD, continues her work in improving the quality of care and safety for children with acute deterioration and in reducing the incidence of hospital acquired conditions. Specifically, she continues her work as a member of the Emergency Response Committee, which oversees the use of the Pediatric Early Warning Score system (PEWS/MET) in focusing attention on patients at risk for clinical deterioration. She manages the associated database and coordinates the ongoing evaluation of the MET data. She is also co-leader of the Code Blue Committee, reviewing activations across the institution with a multidisciplinary team to improve patient outcomes and system-related issues. She continues her clinical research collaboration with the Pediatric Neuro-critical Care Research Group (PNCRG), which addresses various aspects of care of patients with severe brain injuries (such as management of sedation and delirium and most recently Covid-related neurologic complications). She is involved in a collaboration with the National Children's Hospitals' Solutions for Patient Safety group, which works to eliminate serious safety events in children's hospitals with specific work focused on reducing unplanned extubations. Dr. Salonia also continues her work with the simulation program to improve team communication during high-risk clinical scenarios.

Robert Parker, DO, is interested in medical simulation and education. He has presented and lectured internationally and brings this expertise to Connecticut Children's. His research is focused on clinician stress and burnout. Using wearable technology, he is able to capture data about how a clinician's body responds to stressful situations. With these biometrics, he can gain a better understanding of provider stress and educate the medical team about potential ways to offload it and increase personal wellness, which can also improve patient care and clinical outcomes.

The year 2020 marked the retirement of Aaron Zucker, MD, FCCM. Connecticut Children's, in general, and the PICU, in particular, are indebted to him for leadership for over a decade. Dr. Zucker leaves a legacy of critical care growth and excellence. In October 2020, Connecticut Children's welcomed Elliot Melendez, MD, as the new head of the division of critical care. He grew up in the Bronx and though his early education was characterized by being a high school dropout, he was able, through mentorship and determination, to obtain his high school equivalency diploma and attend the City of New York, Lehman College. He went on to graduate cum laude from Harvard Medical School. He did his General Pediatrics residency and Pediatric Emergency Medicine fellowship at Boston Children's Hospital, and a Pediatric Critical Care fellowship at the Massachusetts General Hospital. His career focus has been on quality improvement, specifically in the field of pediatric severe sepsis and shock. He was a member of the national executive advisory committee of the Children's Hospital Association, which eventually created the Improving Pediatric Sepsis Outcomes collaborative. His vision for the department is one that fosters and maintains a model of continuous improvement, which puts our patients and families in the center of all conversations.

PUBLICATIONS

Acquaviva K, Mugele J, Abadilla N, Adamson T, Bernstein SL, Bhayani RK, Büchi AE, Burbage D, **Carroll CL**, et al. Documenting social media engagement as scholarship: a new model for assessing academic accomplishment for the health professions. J Med Internet Res. 2020; 22(12): e25070.

Kaul V, Szakmany T, Peters JI, Stukus D, Sala KA, Dangayach N, Simpson SQ, **Carroll CL**. Quality of the discussion of asthma on Twitter. J Asthma. 2020. doi: 10.1080/02770903.2020.1847933.

Carroll CL, Szakmany T, Dangayach NS, DePriest A, Duprey MS, Kaul V, Kleinpell R, Tegtmeyer K, Kudchadkar SR. Growth of the digital footprint of the Society of Critical Care Medicine Annual Congress. Crit Care Explor. 2020; 2(11): e0252.

López-Fernández YM, Smith LS, Kohne JG, Weinman JP, Modesto-Alapont V, Reyes-Dominguez SB, Medina A, Piñeres-Olave BE, Mahieu N, Klein MJ, Flori HR, Jouvet P, Khemani RG for the Pediatric Acute Respiratory Distress Syndrome Incidence and Epidemiology (PARDIE) Investigators. Prognostic relevance and inter-observer reliability of chest-imaging in pediatric ARDS: a pediatric acute respiratory distress incidence and epidemiology (PARDIE) study. Int Care Med. 2020; 46(7):1382-1393.

Weiss SL, Peters MJ, Agus MSD, Alhazzani W, Choong K, Flori HR, Inwald DP, Nadel S, Nunnally MR, Schlapbach LJ, Tasker RC, Tissieres P, Kissoon N on behalf of the Children's Surviving Sepsis Campaign Taskforce. Perspective of the surviving sepsis campaign on the management of pediatric sepsis in the era of coronavirus disease 2019. Pediatr Crit Care Med. 2020; 21(11): e1031-e1037.

Corsello D, Gotur DB, Masud FN, **Carroll CL**, Simpson SQ. Impact of small-n studies in the face of a pandemic. Chest. 2020;158(4):1338-1340.

Siuba MT, **Carroll CL**, Farkas JD, Olusanya S, Baker K, Gaijic O. The Zentensivist manifesto: defining the art of critical care. ATS Scholar 2020; 1(3):225-232.

Gallo de Moraes A, **Carroll CL**, Schmidt GA, Pendleton KM. All that glitters isn't gold: critical care in the time of Covid. Chest. 2020;158(3):877-878.

Carroll CL. Not just little ARDS? Pediatric critical care and biomarkers for pediatric acute respiratory distress syndrome. Chest. 2020; 158(3):850-851.

Kudchadkar SR, **Carroll CL**. Utilizing social media for rapid knowledge dissemination in a pandemic: #PedsICU and Covid-19. Pediatr Crit Care Med. 2020; 21(8):e538-546.

Feldshein LR, Rose EB, Horwitz SM, Collins JP, Newhams MM, Son MBF, Newburger JW, Kleinman LC, Heidimann SM, Marton AA, Singh AR, Li S, Tarquinio KM, Jaggi P, Oster M, Zackai SP, Ratner AJ, Walsh RF, Fitzgerald JC, Keenaghan MA, Alharash H, Doymaz S, Clouser KN, Giuliano JS, Gupta A, Parker RM, Maddux AB, Havalad V, Ramsingh A, Bukulmez H, Bradford TT, Smith LS, Tenforde MW, **Carroll CL**, Riggs BJ. Getz SJ, Daube A, Lansell A, Munoz AC, Hobbs CV, Marohn KL, Halasa NB, Patel MM, Randoplf AG for the Overcoming Covid-19 Investigators. Multisystem inflammatory syndrome in United States children and adolescents. N Engl J Med. 2020; 383:334-346.

Camporesi A, Díaz-Rubio F, **Carroll CL**, González-Dambrauskas S. Protecting children from iatrogenic harm during Covid-19 pandemic. J Paediatr Child Health. 2020; 56(7):1010–1012.

Baker AK, **Carroll CL**, Grindle C, Sala KA, **Cowl AS**. Assessing frequency of respiratory complications in children undergoing adenotonsillectomy. Pediatr Crit Care Med. 2020; 21(7):e426-430.

Carroll CL. SCAMP-ering toward improved quality of care in children with status asthmaticus. Pediatr Crit Care Med. 2020; 21(5):499-500.

Hymel KP, Lee G, Boos S, Karst WA, Sirotnak A, Haney SB, Laskey A, Wang M for the PediBIRN Investigators. Estimating the relevance of historical red flags in the diagnosis of abusive head trauma. J Pediatr. 2020; 218:178-183.

Sneller H, **Carroll CL**, Welch K, Sturm J. Differentiating non-responders from responders in children with moderate and severe asthma exacerbations. J Asthma. 2020; 57(4):405-409.

Weiss SL, Peters MJ, Alhazzani W, Agus MSD, Flori HR, Inwald DP, et al, (**Carroll CL**, 14/51). Surviving sepsis campaign international guidelines for the management of septic shock and sepsis-associated organ dysfunction in children. Pediatr Crit Care Med. 2020; 21(2): e52-106.

Weiss SL, Peters MJ, Alhazzani W, Agus MSD, Flori HR, Inwald DP, et al. (**Carroll CL**, 14/51). Executive summary: surviving sepsis campaign international guidelines for the management of septic shock and sepsis-associated organ dysfunction in children. Pediatr Crit Care Med. 2020;21(2):186-195.

Carroll CL, Kaul V, Sala KA, Dangayach NS. Describing the digital footprints or "sociomes" of asthma for stakeholder groups on Twitter. ATS Scholar. 2020; 1(1):55-66.

Dahmer MK, Flori H, Sapru A, Kohne J, Weeks HM, Curley MAQ, Matthay MA, Quasney MW, Bateman ST, Berg MD, Borasino S, Bysani GK, **Cowl AS**, et al. Surfactant protein D is associated with severe pediatric ARDS, prolonged ventilation, and death in children with acute respiratory failure. Chest. 2020; 158(3);1027-1035.

Kudchadkar SR, Nelliot A, Awojoodu R, Vaidya D, Traube C, Walker T, Needham DM, for the Prevalence of Acute Rehabilitation for Kids in the PICU (PARK-PICU) Investigators and the Pediatric Acute Lung Injury and Sepsis Investigators (PALASI) Network. Physical rehabilitation in critically ill children: a multicenter point

prevalence study in the United States. Crit Care Med. 2020 May;48(5): 634-644.

Baker AK, **Carroll CL**, Grindle CR, Sala KA, **Cowl AS**. Assessing frequency of respiratory complications in children undergoing adenotonsillectomy. Ped Crit Care Med. 2020 Jul;21(7):e-426-e430.

Creedon JK, Vargas S, Asaro LA, Wypij D, Paul R, **Melendez E**. Timing of antibiotic administration in pediatric sepsis. Pediatr Emer Care. 2020 Oct;36(10):464-467.

Melendez E, Dwyer D, Donelly D, Currier D, Nachreiner D, Miller DM, Hurlbut J, Pepin MJ, Agus MSD, Wong J. Standardized protocol is associated with a decrease in continuous albuterol use and length of stay in critical status asthmaticus. Pediatr Crit Care Med. 2020 May;21(5):451-460. doi: 10.1097/PCC.0000000000002239.

Baiu I, **Melendez E**. Periorbital and orbital cellulitis. JAMA. 2020; 323(2):196. doi:10.1001/jama.2019.18211.

STAFF

Elliot Melendez, MD, *Division Chief*

Kenneth Banasiak, MD
Christopher Carroll, MD
Leonard Comeau, MD
Allison Cowl, MD
Daniel Fisher, MD
Robert Parker, DO
Rosanne Salonia, MD
Heather Schlott, MD
Adam Silverman, MD

Petronella Stoltz, APRN

DEVELOPMENTAL & REHABILITATION MEDICINE

The division's mission is to provide comprehensive and compassionate diagnosis and management for children with neurodevelopmental and behavioral problems that range from normative deviations to rare disorders; to educate health care professionals and trainees about these problems; to add to existing knowledge by researching relevant questions in the field; and to offer advocacy and influence public policy.

The Division of Developmental and Rehabilitation Medicine is composed of a diverse faculty of developmental-behavioral pediatricians, an integrative medicine (IM) pediatrician, and advanced practice registered nurses (APRN). Our clinical services occur in a number of settings – outpatient, inpatient, and in the community (e.g., schools, Connecticut Birth-to-Three system, and other agencies). We provide direct consultation, optimal clinical care, and consultative services to schools and agencies across the state.

NEW CLINICAL STAFF

- **Ana Garnecho, MD**, joined the division in January 2020 to become the primary developmental-behavioral pediatrician at the Norwalk Developmental Center, a joint venture between Connecticut Children's and Norwalk Hospital, which is part of Nuvance Health™. Dr. Garnecho brought with her nearly a decade of clinical subspecialty experience as well as clinical site management skills.
- **Dana Eisenberg, APRN,** joined the division in January 2020. Her background is in early childhood education, with particular Montessori expertise.

NEW CLINICAL STAFF ROLES

- After a decade as division chief, **Ann Milanese, MD**, transferred that leadership role to **Sarah Schlegel, MD**, in July 2020.
- Dr. Garnecho assumed the role of Norwalk site director from **Susan Dellert, MD**.
- Robert Keder, MD, became the division's education director. He had been the division's core faculty liaison for the residency program, but also managed formal division education opportunities at all training/learning levels (undergraduate, graduate, and continuing medical education). In addition, Dr. Keder has become one of the main "physician faces" at Connecticut Children's during the pandemic, dedicating countless hours to pandemic-related marketing and communication efforts. He is also very engaged in legislative advocacy.
- Thyde Dumont-Mathieu, MD, MPH, became the autism spectrum disorder (ASD) program director. She has worked to design a sustainable, efficient autism spectrum disorder evaluation algorithm within the division amidst pandemic turmoil.
- Ana Verissimo, MD, became the integrative medicine director. She balances outpatient and inpatient integrative medicine consultation.

ONGOING CLINICAL PROGRAMS

- Dr. Keder continues as an embedded developmental-behavioral pediatrician in two of Connecticut Children's primary care settings, serving the goal of enhancing collaboration and co-management with primary care providers as well as improving access to care for our highest risk patients and families.
- The Transition to Adulthood with Developmental Services Clinic, directed by Dr. Schlegel and serving patients 15 to 26 years of age and their families, celebrated two years of operation. Absolutely unique to Connecticut, only a few other similar programs exist in the United States.
- For years, integrative medicine consultation provided by Dr. Verissimo has been an integral component of Connecticut Children's Nuss procedure protocol.

CLINICAL HIGHLIGHTS/ACCOMPLISHMENTS

- Following the abrupt Covid-19 pandemic "shut-down" in mid-March 2020, the division rapidly (within weeks) and efficiently converted from 100 percent clinic-based outpatient services to fully functioning, entirely-telemedicine service provision. At the height of pandemic disruption, only the integrative medicine inpatient consultation services had a brief hiatus; daily general pediatrics consultation to the Institute of Living inpatient child psychiatric unit has continued uninterrupted.
- During spring/summer 2020, the division uncoupled with the Speech/Language Department for joint evaluations for autism spectrum disorders and developed a novel telemedicine-based autism spectrum disorder evaluation process. The Show Me Video Assessment for Telehealth was developed by Dr. Garnecho; Jennifer Twachtman-Bassett, MS, CCC-SLP, CCRP; and Dr. Dumont-Mathieu so the division could continue to conduct effective assessments of children between 18 months and 11 years of age who may have autism spectrum disorders.
- Dr. Verissimo's integrative medicine consultation has been incorporated into two clinical pathways: scoliosis and somatic symptom and related disorders.

ONGOING COMMUNITY-BASED CONSULTATION PROGRAMS

- For 20 years, Dr. Milanese has been medical advisor for many school districts all over Connecticut, this year renewing contracts with 13, including the Connecticut Technical High School system.
- Dr. Milanese has been the medical advisor for Connecticut's Early Intervention program, Birth-to-Three, for nearly 20 years.
- Dr. Milanese has been providing daily general pediatrics consultation to the Institute of Living inpatient child psychiatric unit since 1997.
- Dr. Schlegel continues to direct the decade-old School Consultation Service, conducting individual evaluations of medically and developmentally complex students within their school districts.

NEW COMMUNITY-BASED CONSULTATION PROGRAMS/ROLES

- Dr. Milanese acquired medical advisor contracts for two more Connecticut school districts.
- Dr. Schlegel became the first medical director for Cheshire Fitness Zone in October 2020.
- Dr. Milanese was appointed by Connecticut Gov. Ned Lamont to the Connecticut Interagency Birth-to-Three Coordination Council.

EDUCATION HIGHLIGHTS/ACCOMPLISHMENTS

- Dr. Keder presented "The Curbside Consult Podcast: All About ADHD [Attention-Deficit/Hyperactivity Disorder]" and "*Ask the Experts*: Effects of Covid on Child Development" in April 2020 and "Pediatricians in PJs: Management of Screen-Time Use in Children in the 2020s: A Toolkit for Pediatric Primary Care."
- Drs. Dumont-Mathieu and Garnecho co-presented "Autism Assessments During the Covid-19 Pandemic" to Birth-to-Three in June 2020.
- Dr. Dumont-Mathieu was interviewed on National Public Radio's "Where We Live" for an episode entitled "Teachable Moments: Discussing Racial Bias With Our Children" in September 2020.
- Due to the virtual modality in which it was provided this year, the Society for Developmental and Behavioral Pediatrics (SDBP) Annual Meeting (October 2020) was attended by nearly the entire division.
  - » At the SDBP Annual Meeting, Dr. Keder, who is a SDBP Advocacy Committee co-chair, presented two workshops ("Come Play With Us! Teaching the Art of Play for Developmental Promotion, Evaluation, and Community Engagement in the Face of a Pandemic" and "Advocacy in the Wake of a Pandemic: Finding Creative Opportunities in Crisis and Speaking Up for the Voiceless"), led a discussion session, and facilitated two professional networking activities.
- In October 2020, Dr. Keder hosted a parent talk for the ASPEN Network entitled "Managing Screen Time in the 2020s: A Toolkit for Families with Neurodiverse Children."
- Drs. Keder and Garnecho co-presented "Navigating Autism in 2020: A Toolkit for Pediatric Primary Care" for the Andrulonis Child Mental Health Evening Lecture Series in October 2020.
- Dr. Verissimo co-presented "Sickle Cell Disease Self-Management, Education, Coping, and Resilience: Building a Toolbox Together" in the Division of Hematology-Oncology in November 2020.
- In February 2020, a peer-reviewed poster presentation entitled "Parent Perspectives: Strategies to Promote Developmental Screening, Referral to Early Intervention, and Service Provision Across the Care Continuum" was presented at the Maine Osteopathic Association Research Forum by medical student Joanna Sajdlowska (mentored by Dr. Dumont-Mathieu), and in December 2020, Dr. Dumont-Mathieu presented a poster from that same large dataset at the Administration for Children and Families' National Research Conference on Early Childhood.

ONGOING RESEARCH

- Supported by research assistant Rosalie Lyons, BS, from the Division of Research, Dr. Dumont-Mathieu continues work on five research projects, two of which are grant-funded:
  - » Bridging the Gap
  - » Strategies to Promote Culturally Effective Screening, Referral and Service Provision in Primary Care Practices and Birth-to-Three Programs
  - » Decision-Making Process and Experiences with Genetic Testing in Autism Spectrum Disorder: Pilot Study With a Clinically Derived, Diverse Sample of Participants (Co-I: Louisa Kalsner, MD, Division of Neurology)
  - » Early Detection of Pervasion Developmental Disorders
  - » Connecting the Dots: An RCT Relating Standardized ASD Screening, Intervention Access, and Long-Term Outcomes.

NEW RESEARCH

- Dr. Dumont-Mathieu was awarded a grant from the Connecticut Office of Early Childhood to begin January 2021.

ACCOLADES

- Dr. Milanese was awarded "Outstanding Physician of the Year" from the Connecticut Children's medical staff and was given the Department Citizenship Award by Connecticut Children's Physician-in-Chief Juan Salazar, MD, MPH.

PUBLICATIONS

Dai YG, Porto KS, Skapek M, Barton ML, **Dumont-Mathieu T**, Fein DA, et al. Comparison of the Modified Checklist for Autism in Toddlers, Revised With Follow-up (M-CHAT-R/F) positive predictive value by race. J Autism Dev Disord. 2020 Mar 3;10.1007/s10803-020-04428-0. doi: 10.1007/s10803-020-04428-0. Epub ahead of print.

Eigsti IM, Fein DA, **Dumont-Mathieu T** 3rd. [response] Questioning a previous autism spectrum disorder diagnosis: can you 'lose' the diagnosis? J Dev Behav Pediatr. 2020;41(6):499.

STAFF

Ann Milanese, MD, *Division Chief (until June 30, 2020)*
Sarah Schlegel, MD, *Division Chief (from July 1, 2020)*

Susan Dellert, MD
Thyde Dumont-Mathieu, MD, MPH
Paul H. Dworkin, MD
Ana Garnecho, MD
Robert D. Keder, MD
Ana Maria Verissimo, MD
Dana Eisenberg, APRN
Keith Ellis, APRN
Mariel Zeccola-Swan, APRN
Jennifer Twachtman-Bassett, MS, CCC-SLP, CCRP

DIGESTIVE DISEASES, HEPATOLOGY & NUTRITION

The Division of Digestive Diseases, Hepatology, and Nutrition is committed to cutting edge and innovative clinical care of infants, children and adolescents; pioneering clinical, translational, and basic research; and the education of the next generation of physicians.

In 2020, the division was challenged by the unprecedented SARS-CoV-2 pandemic to continue to meet its lofty standard of excellence in clinical care, research, and education. Through the efforts of a dedicated and talented staff, we met these standards.

By quickly pivoting to telemedicine in March, our clinicians continued to serve the needs of the children of Connecticut and the surrounding states. Over the ensuing months, we flexed back to a mixture of in-person and televisits. Our tradition of educating students, residents, and fellows continued through increasing reliance on Zoom meetings. Clinical trials initially stopped but were resumed by early fall.

Given the increasingly large number of clinicians and our seven active care sites, we appointed Bella Zeisler, MD, as medical director of the Greater Hartford campus activities, and Donna Zeiter, MD, as medical director of our South Hadley, MA, program. Division chief Jeffrey Hyams, MD, continues to oversee the Fairfield County program.

Our Center for Pediatric Inflammatory Bowel Disease (IBD), the largest program in the region between Boston and New York, continues to provide care to over 800 children with Crohn's disease and ulcerative colitis. Pioneering research at Connecticut Children's and its collaborating institutions funded by the National Institutes of Health (NIH) and the Crohn's & Colitis Foundation unravels some of the mysteries underlying the genesis of bowel inflammation and provides tools to utilize precision medicine in its treatment. Dr. Hyams, holder of the Mandell Braunstein Family Endowed Chair in Pediatric Inflammatory Bowel Disease, completed work on a five-year, $10.4 million NIH-funded project developing predictors of disease course in children with ulcerative colitis, and, in collaboration with pre-eminent IBD investigators throughout North America, submitted a potentially groundbreaking new initiative to the NIH. Partnering with the division of Infectious Diseases at Connecticut Children's and with the Jackson Laboratory (JAX) in Farmington, CT, Dr. Hyams and research staff began examining the immune response of patients with IBD to SARS-CoV-2.

Our Center for Pediatric Liver Care, directed by Karan Emerick, MD, continues its excellent work in providing care to children with hepatic disorders ranging from chronic hepatitis B and C, metabolic liver disease, autoimmune disease, and acute and chronic liver failure. It provides pre- and post-transplant care to 40 children. Samantha Lee, APRN, under the guidance of Dr. Emerick, coordinates the program caring for children with non-alcoholic fatty liver disease (NAFLD) and works closely with other divisions in the hospital. Fibroscan® technology, started a year ago, now allows the non-invasive evaluation of liver fibrosis in children with chronic liver disorders. Dr. Emerick serves as an attending physician on the hepatic transplant service at Yale New Haven Hospital six to eight weeks yearly.

Our Multidisciplinary Intestinal Rehabilitation Team (MIRT) is the only one of its kind in the state. Co-directed by Jasmeet Mokha, MD, and Christine Rader, MD, from Pediatric Surgery, this group focuses on the care of children with intestinal failure of all causes. Phyllis Bebyn, RN, and Kate Samela, RD, are integral parts of this team, which also facilitates the transition of patients from hospital to home.

Corey Baker, MD, who joined our faculty a year ago, has ably developed our Center for Neurogastroenterology program and has established anorectal manometry and esophageal motility capability. Dr. Baker, along with Victoria Grossi, DO, and Dr. Zeisler, serve as the gastroenterologists in the Aerodigestive Disease Program. This coordinated program of otolaryngologists, pulmonologists, gastroenterologists, and speech therapists cares for children with complex airway, pulmonary and gastrointestinal disorders.

The medical education team within our department includes Drs. Zeisler, Mokha, Melissa Fernandes, Pete Townsend, and Katherine Baldwin. Dr. Zeisler remains the fellowship program director, with Dr. Fernandes the associate program director. Dr. Baldwin is responsible for organizing the fellowship didactics curriculum. Drs. Zeisler and Townsend are the GI clinical faculty leads for the residency. Dr. Fernandes is the GI lead for University of Connecticut medical students rotating through inpatient and outpatient service. Dr. Mokha is in charge of the Quinnipiac University medical students who rotate through the GI outpatient clinic. All GI faculty remain engaged in teaching different learners as they rotate through the various GI clinical opportunities. The great depth in our pediatric surgical and radiology programs as well as the great variety of clinical disorders and the intimate involvement of our faculty make our educational programs particularly attractive.

Logan Jerger, MD, has been appointed as the division's quality improvement officer. Dr. Townsend has been appointed our medical director of endoscopy.

Under the leadership of Dr. Zeiter, and supported by Sarita Singhal, MD, our South Hadley campus was the first in that region to provide full telehealth capabilities for pediatric subspecialists. In September 2020, the GI practice welcomed a large influx of patients from another pediatric GI practice that had closed permanently. The Connecticut Children's practice is well-positioned to provide personal, safe, and accessible gastroenterology care to the children of western Massachusetts, southern Vermont, and New York state.

Brad Jerson, PhD, our division's pediatric psychologist, provides fully embedded psychological evaluation and intervention services. He has partnered with other institutional departments and regional community mental health agencies for development of psychosocial programming to address GI symptoms from an evidence-based perspective. Specifically, he has partnered with the Division of Pain and Palliative Medicine to implement "Comfort Ability," a full-day skills-building workshop for adolescents and their parents for coping with chronic pain. Additionally, he has presented at national and regional conferences and workshops about the importance of conceptualizing GI conditions from a biopsychosocial perspective.

PUBLICATIONS

Jerger L, Hyams JS. Special considerations for biologic medications in pediatric ulcerative colitis. Expert Opin Biol Ther. 2020 Apr;20(4):429-4357.

Turner D, Griffiths AM, Wilson D, Mould DR, Baldassano RN, Russell RK, Dubinsky M, Heyman MB, de Ridder L, **Hyams J**, Martín de Carpi J, Conklin L, Faubion WA, Koletzko S, Bousvaros A, Ruemmele FM. Designing clinical trials in pediatric inflammatory bowel diseases: a PIBDnet commentary. Gut. 2020:69:32-34.

Cozijnsen MA, Ben Shoham A, Kang B, Choe BH, Choe YH, Jongsma MME, Russell RK, Ruemmele FM, Escher JC, de Ridder L, Koletzko S, Martín-de-Carpi J, **Hyams J**, Walters T, Griffiths A, Turner D. Development and validation of the mucosal inflammation noninvasive index for pediatric Crohn's disease. Clin Gastroenterol Hepatol. 2020 Jan;18(1):133-140.

Duleba M, Yamamoto Y, Neupane R, Rao W, Xie J, Qi Y, Liew AA, Niroula S, Zhang Y, Mahalingam R, Wang S, Goller K, Ajani JA, Vincent M, Ho KY, Hou JK, **Hyams JS**, Sylvester FA, Crum CP, McKeon F, Xian W. Cloning of ground-state intestinal stem cells from endoscopic biopsy samples. Nat Protoc. 2020 May;15(5):1612-1627.

Kerur B, Benchimol EI, Fiedler K, Stahl M, **Hyams J**, Stephens M, Lu Y, Pfefferkorn M, Alkhouri R, Strople J, Kelsen J, Siebold L, Goyal A, Rosh JR, LeLeiko N, Van Limbergen J, Guerrerio AL, Maltz R, Karam L, Crowley E, Griffiths A, Heyman MB, Deneau M, Benkov K, Noe J, Mouton D, Pappa H, Galanko JA, Snapper S, Muise AM, Kappelman MD. Natural history of very early onset inflammatory bowel disease in North America: a retrospective cohort study. Inflamm Bowel Dis. 2020 May 9:izaa080. doi: 10.1093/ibd/izaa080.

Grossi V, Hyams JS, Glidden NC, Knight BE, Young EE. Characterizing clinical features and creating a gene expression profile associated with pain burden in children with inflammatory bowel disease. Inflamm Bowel Dis 2020; Jul 17;26(8):1283-1290. doi: 10.1093/ibd/izz240.

Haberman Y, Minar P, Karns R, Dexheimer PJ, Ghandikota S, Tegge S, Shapiro D, Shuler B, Venkateswaran S, Braun T, Ta A, Walters TD, Baldassano RN, Noe JD, Rosh J, Markowitz J, Dotson JL, Mack DR, Kellermayer R, Griffiths AM, Heyman MB, Baker SS, Moulton D, Patel AS, Gulati AS, Steiner SJ, LeLeiko N, Otley A, Oliva-Hemker M, Ziring D, Gokhale R, Kim S, Guthery SL, Cohen SA, Snapper S, Aronow BJ, Stephens M, Gibson G, Dillman JR, Dubinsky M, **Hyams JS**, Kugathasan S, Jegga AG, Denson LA. Mucosal inflammatory and wound healing gene programs reveal targets for stricturing behavior in pediatric Crohn's disease. J Crohns Colitis. 2020 Aug 8:jjaa166. doi: 10.1093/ecco-jcc/jjaa166. Epub ahead of print. PMID: 32770196.

Sayej WN, Isakoff MS, DiGiuseppe JA, Moote D, Balarezo F, Finck C, **Hyams JS**. Primary cutaneous follicle center lymphoma in a 16-year-old boy with Crohn disease exposed to infliximab and methotrexate. J Pediatr Gastroenterol Nutr. 2019 Dec;70(2):e49-e50.

Fondell AW, Mosha MH, Frank CR, Brangi JM, **Hyams JS**. Health care cost for children newly diagnosed with inflammatory bowel disease. Inflamm Bowel Dis. 2020 Mar 4;26(4):635-640.

Mack DR, Saul B, Boyle B, Griffiths A, Sauer C, Markowitz J, LeLeiko N, Keljo D, Rosh JR, Baker SS, Steiner S, Heyman MB, Patel AS, Baldassano R, Noe J, Rufo P, Kugathasan S, Walters T, Marquis A, Thomas SM, Denson L, **Hyams J**; PROTECT Study Group. Analysis of using the total white blood cell count to define severe new-onset ulcerative colitis in children. J Pediatr Gastroenterol Nutr. 2020 Sep;71(3):354-360.

Colman RJ, Tsai YT, Jackson K, Boyle BM, Noe JD, **Hyams JS**, D'Haens GRAM, van Limbergen J, Rosen MJ, Denson LA, Minar P. Achieving target infliximab drug concentrations improves blood and fecal neutrophil biomarkers in Crohn's disease. Inflamm Bowel Dis. 2020 Sep 18:izaa241. doi: 10.1093/ibd/izaa241. Epub ahead of print.

Bhave S, Arciero E, **Baker C**, Ho WL, Guyer RA, Hotta R, Goldstein AM. Pan-enteric neuropathy and dysmotility are present in a mouse model of short-segment Hirschsprung disease and may contribute to post-pullthrough morbidity. J Pediatr Surg. 2020 Apr 17. S0022-3468(20)30260-8. doi: 10.1016/j.jpedsurg.2020.04.002. Epub ahead of print.

Jayawardena ADL, Miller LE, Hirner L, Sorbo J, Zar-Kessler C, **Baker C**, Hartnick CJ. Modified external approach to the pediatric cricopharyngeal myotomy: a case series. Int J Pediatr Otorhinolaryngol. 2020 May;132:109899. doi: 10.1016/j.ijporl.2020.109899. Epub 2020 Jan 24.

Grover N, **Zeisler B**, Wilson JD. Hemorrhagic tonsillitis in an infant: a case report. Int J Pediatr Otorhinolaryngol. 2020 Sep;136:110190. doi: 10.1016/j.ijporl.2020.110190. Epub 2020.

Baker C, Ahmed M, Cheng K, Arciero E, Bhave S, Ho WLN, Goldstein AM, Hotta R. Hypoganglionosis in the gastric antrum causes delayed gastric emptying. Neurogastroenterol Motil. 2020 May;32(5):e13766. doi: 10.1111/nmo.13766. Epub 2019 Nov 26.

BOOKS

Wyllie R, **Hyams J**, Kay M. Pediatric gastrointestinal liver disease. 6th ed. Philadelphia: Elsevier; 2021.

CHAPTERS

Mayer R, **Zeiter D.** Nutrition and feeding for children with developmental disabilities. In: Wyllie R, Hyams J, Kay M. Pediatric liver and gastrointestinal disease. 6th ed. Philadelphia: Elsevier; 2021.

Mohr F, **Baldwin K.** Other diseases of the esophagus. In: Wyllie R, Hyams J, Kay M. Pediatric liver and gastrointestinal disease. 6th ed. Philadelphia: Elsevier; 2021.

Samela K, Vance K, Goodine S, Chatfield B, Gitt D. Nutritional assessment. In: Wyllie R, **Hyams J**, Kay M. Pediatric liver and gastrointestinal disease. 6th ed. Philadelphia: Elsevier; 2021.

Loomes K, **Emerick K.** Pediatric cholestatic liver disease. In: Wyllie R, **Hyams J**, Kay M. Pediatric liver and gastrointestinal disease. 6th ed. Philadelphia: Elsevier; 2021.

Townsend P, Fernandes M. Diarrhea. In: Wyllie R, **Hyams J**, Kay M. Pediatric liver and gastrointestinal disease. 6th ed. Philadelphia: Elsevier; 2021.

Mokha J. Vomiting and nausea. In: Wyllie R, Hyams J, Kay M. Pediatric liver and gastrointestinal disease. 6th ed. Philadelphia: Elsevier; 2021.

STAFF

Jeffrey Hyams, MD, *Division Chief*

Corey Baker, MD
Katherine Baldwin, MD
Karan Emerick, MD
Melissa Fernandes, MD
Victoria Grossi, DO
Logan Jerger, MD
Brad Jerson, PhD
Jasmeet Mokha, MD
Sarita Singhal, MD
Peter Townsend, MD
Bella Zeisler, MD
Donna Zeiter, MD

Fellows

Joelynn Dailey Fitz, DO
Chelsea Lepus, DO
Mariyam Hashmi, MD

DIVISION OF EXCELLENCE IN PATIENT SAFETY & CLINICAL QUALITY

The Division of Excellence in Patient Safety and Clinical Quality strives to support the mission of Connecticut Children's to partner with patients, families and communities using evidence-based models resulting in zero-harm, highest quality, world-class outcomes in a culture based on continual improvement and compassionate care, through the integration of patient safety and quality across the institution. The division's goal is to drive our culture of safety to the standard of zero-harm, to provide the highest quality care, to teach methods of improvement, and to use research to inform our programmatic efforts and innovations.

The faculty of the Division of Excellence in Patient Safety and Clinical Quality achieved many substantial milestones and accomplishments this year, both despite the unique challenges that the Covid-19 pandemic brought and as a direct result of this impact. Division director Lori Pelletier, PhD, MBA, has been and continues to be a principal co-leader in the response of Connecticut Children's to the emerging and ongoing pandemic. Dr. Pelletier and members of the division helped to lead the efforts of initial modifications and response to the Covid pandemic, followed by the safe resumption of operations and the planning and operations of the second-wave response. Part of the fundamental framework of this response has been the development of clinical pathways for the multiple phases and aspects of caring for our patients, keeping our team members safe, and providing essential resources and guidance for our community partners. This work has been co-led by division faculty member Ilana Waynik, MD, along with the rest of the Clinical Pathways Team. In recognition of these critical efforts, Dr. Waynik was a co-recipient of the Quality Cup Award from the Medical Staff Office this year, accepting the award with Grace Hong, APRN, another member of the Clinical Pathways Team.

The Simulation Team, under the direction of Carla Pruden, MD, MPH, played a critical role in the design and testing of Covid-related processes, as well as the adaptation for safe conduct of ongoing educational and training curriculum for routine simulation sessions, via virtual and hybrid models. Mariann Kelley, MD, who also supports the Simulation Program, helped to develop and test protocols related to resuscitation and care of critically ill patients with known or concern for Covid-19, in conjunction with the Emergency Response Committee of which she is a co-chair.

The practice changes and diversion of attention to Covid-19-related planning led to some concern for increasing patient safety events early in the pandemic. The Safety Taskforce was formed in the spring to address this, co-led by Heather Tory, MD, MPH, with work streams addressing the issues of highest priority and concern. Through the partnerships and work of the task force and team members across the organization, Connecticut Children's had a robust response to these safety concerns and saw a reduction in safety events with harm throughout 2020. Many division members contributed to the work of this task force and to the commitment of reduction of actual and potential patient safety events, primarily related to medication safety. This included: Daniel Fisher, MD, with his work as a co-chair of the Medication Safety Management Committee to reduce medication safety errors; Sherene Mason, MD, MBA, with ongoing efforts to reduce nephrotoxic-medication-associated acute kidney injury and ensure highest quality and safest care for the complex patients seen in the new Dialysis Center, which opened in April 2020; Eric Hoppa, MD, who continued work on initiatives to improve medication delivery and safety in the Emergency Department, with publication of two related manuscripts during the year; Natalie Bezler, MD, with implantation of protocols for safely and effectively treating patients with sickle cell pain crisis, including goals for reduction in readmissions for this population; Logan Jerger, MD, working to improve safety of delivery of infusion medications; Jennifer Girotto, PharmD, championing the Antimicrobial Stewardship Program and participating in implementation of changes to ordering practices for antimicrobials in response to multiple safety-event-related concerns; and Alex Golden, MD, MMM, working with the Continual Improvement Team to support many of these ongoing efforts. Drs. Tory and Bezler also have continued to lead the resident quality improvement educational curriculum, with incorporation of resident involvement in real-time safety event investigations this year as part of a partnership with the UConn Graduate Medical Education (GME) Office.

Despite the pandemic, Connecticut Children's has continued to provide exceptional care for all patients, with many quality improvement initiatives led by faculty members of the division. Under the leadership of Brendan Campbell, MD, MPH, we participate in the American College of Surgeons' National Surgical Quality Improvement Program and the Children's Surgery Verification Program. These collaborations have resulted in multiple quality improvement initiatives with excellent results, such as work to improve response and outcomes for button battery ingestions, and work on reduction in our rate of hospital acquired conditions such as surgical site infection and central line-associated blood stream infection (CLABSI) rate.

Connecticut Children's also continued to develop our Care Alliance Partnerships and David Sink, MD, worked to enhance communication and alignment of care practices and quality improvement initiatives across our geographically diverse sites.

The work of the faculty of the Division of Excellence in Patient Safety and Clinical Quality, with multidisciplinary partnership, has been instrumental in the efforts to continue providing highest quality and safest care to our patients throughout the Covid-19 pandemic, and we look forward to ongoing efforts to promote the quality of care for patients throughout the region in the coming year.

PUBLICATIONS

Dulek DE, Fuhlbrigge RC, Tribble AC, Connelly JA, Loi MM, El Chebib H, Chandrakasan S, Otto WR, Diorio C, Keim G, Walkovich K, Jaggi P, **Girotto JE**, Yarbrough A, Behrens EM, Cron RQ, Bassiri H. Multidisciplinary guidance regarding the use of immunomodulatory therapies for acute Covid-19 in pediatric patients. J Pediatr Infect Dis Soc. 2020 Aug 18: piaa098. doi:10.1093/jpids/piaa098. Epub ahead of print.

Kasmire KE, Cerrone C, **Hoppa EC.** Reducing antibiotic

prescription errors in the emergency department: a quality improvement initiative. Pediatr Qual Saf. 2020; 5(4):1-7.

Lewis E, **Waynik I**, Mackey S. Decreasing pain experienced by hospitalized pediatric patients by increasing the use of topical anesthetics for peripheral intravenous (PIV) line placement. BMJ Open Qual. Dec 2019; 8(S2)A16-A19; doi:10.1136/bmjoq-2019-ihi.10.

Pelletier L, Johnson S, Strong D, Tulu B, I, Garber L. Applying a standardization lens to enhance electronic health records systems. [conference paper] Proceedings of the 2020 IISE Annual Conference, New Orleans, LA. 2020 Oct 31.

Pruden C, Beecham GB, Waseem M. Human factors in medical simulation. [Updated 2020 Sep 17]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2020 Jan. Available from: https://www.ncbi.nlm.nih.gov/books/NBK559226/.

Pruden C, Wadhwa R. Medical simulation center director as a system improvement leader. [Updated 2020 Apr 22]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2020 Jan. Available from: https://www.ncbi.nlm.nih.gov/books/NBK557688/.

Sneller H, Keenan K, **Hoppa E.** A quality improvement initiative to improve the administration of systemic corticosteroids in the pediatric emergency department. Pediatr Qual Saf. 2020 Jun 8; 5(3):e308. doi: 10.1097/pq9.0000000000000308. eCollection May-Jun 2020.

Tory HO, Zurakowski D, Kim S. Patient and physician discordance of global disease assessment in juvenile dermatomyositis: findings from the Childhood Arthritis & Rheumatology Research Alliance Legacy Registry. Pediatr Rheumatol. 2020;18(1):5. doi: 10.1186/s12969-020-0402-x.

Tribble AC, Lee BR, Flett KB, Handy LK, Gerber JS, Hersh AL, Kronman MP, Terrill CM, Sharland M, Newland JG; Sharing Antimicrobial Reports for Pediatric Stewardship (SHARPS) Collaborative (**Girotto J**). Appropriateness of antibiotic prescribing in United States children's hospitals: a national point prevalence survey. Clin Infect Dis. 2020 Nov 5;71(8):e226-e234. doi: 10.1093/cid/ciaa03.

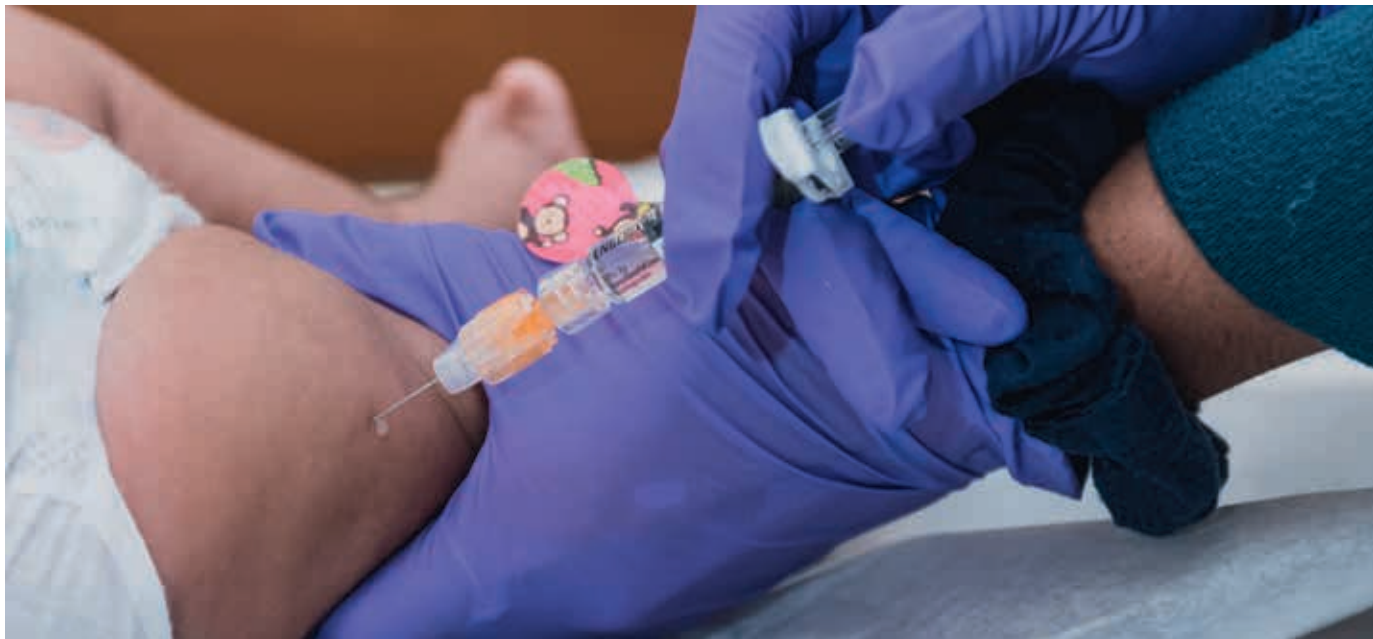
Doucette ML, Dayton H, Lapidus G, Borrup KT, **Campbell BT.** Firearms, dementia, and the clinician: development of a safety counseling protocol. J Am Geriatr Soc. 2020 Sep; 68(9):2128-2133.

Duncan TK, Weaver JL, Zakrison TL, Joseph B, **Campbell BT**, Christmas AB, Stewart RM, Kuhls DA, Bulger EM. Domestic violence and safe storage of firearms in the Covid-19 era. Ann Surg. 2020; 272(2):e55-e57.

Kuhls DA, Falcone RA Jr, Bonne S, Bulger EM, **Campbell BT**, Cooper Z, Dicker RA, Duncan TK, Kuncir EJ, Lamis DA, Letton RW Jr, Masiakos PT, Stewart RM, Knudson MM. Prevention of firearm injuries: it all begins with a conversation. J Trauma Acute Care Surg. 2020 Feb;88(2):e77-e81.

Campbell BT, Thaker S, Fallat ME, Foley DS, McClure E, Sakran JV, Nasr IW, Ziegfeld S, Ehrlich PF, Snodgrass M, Levy M, Naik-Mathuria BJ, Johnson B, Demello AS, Jones S, Watters JM, Burke P, Allee L, Kozyckyj T, Letton RW, Kuhls DA, Bulger EM, Stewart RM. A multicenter evaluation of a firearm safety intervention in the pediatric outpatient setting. J Pediatr Surg. 2020 Jan;55(1):140-145.

Hagadorn JI, Johnson KR, Hill D, **Sink DW.** Improving the quality of quality metrics in neonatology. Semin Perinatol. 2020;44(4):151244. doi:10.1016/j.semperi.2020.151244. PMID: 32248956.



EMERGENCY MEDICINE

The Division of Emergency Medicine is committed to sustained, safe, normal operations through the pandemic and the future post-pandemic era. We achieve this through staying up to date on pandemic measures and evidence-based clinical decision-making. In addition to a robust clinical response to the Covid-19 epidemic, we participated and continue to participate in various counter measures to flex operationally during this challenging time. Our team has remained diligent in our regular contributions to teaching, clinical care, and research. This is seen in numerous division, institution, and external committees and advisory boards with regional through national audiences. Connecticut Children's was awarded Magnet® status by the American Nurses Credentialing Center (ANCC) in 2019, and along with that honor, Magnet reviewers praised the Emergency Department for its low wait times.

In 2020, the Emergency Department of Connecticut Children's treated 47,078 patients. This volume is reflective of a nationwide trend during the pandemic with sustained high acuity and mental health patients. The Division of Emergency Medicine is composed of 18 Pediatric Emergency Medicine (PEM) board-certified/eligible fellowship-trained faculty, three per diem pediatric emergency medicine- and emergency medicine-trained providers, six PEM fellows, 15 advanced practice providers (APP's), and two per diem APP's.

The Trauma Program is verified as a Level I Pediatric Trauma Center by the American College of Surgeons, which recognizes the program's dedication to providing optimal care for injured patients. Verified trauma centers must meet the essential criteria that ensure trauma care capability and institutional performance.

We welcomed a new division chief, Michele McKee, MD, MS, FAAP, in February 2020. She brings decades of experience in pediatric emergency medicine. She also brings expertise in disaster preparedness to complement Connecticut Children's highly talented and diverse team. John Brancato, MD, FAAP, FACEP, serves as associate chief and medical director for the division. Together, they have been able to lead the division through a challenging pandemic, promoting not only changes associated with Covid-19, but the myriad of endeavors undertaken by a robust group of academic physicians and advanced practice providers.

The front line staff in the emergency department answered the call of the pandemic with vigor and grace. Rapidly, the ED stood up a partitioned unit to accommodate all patients with respect to risk for having Covid-19 and possible transmission of the virus. Early adoption of enhanced personal protective equipment, geographic separation within our footprint, updated staffing models, and pandemic-specific clinical education were and are critical components within this equation. This includes care of patients with multi-system inflammatory syndrome in children (MIS-C), and an unprecedented mental health surge outside of typical seasonal variation. We are able to meet the evolving needs of our patient population through ongoing quality evaluations and frequent rapid-cycle improvements. Our focus on the safety of patients, parents, and team members guides each iteration of this new reality.

Members of the Division of Emergency Medicine play an integral role in many areas of the hospital. Education and research are core parts of our mission. Faculty members teach and mentor 60 pediatric residents and 54 emergency medicine residents as well as family practice residents, medical students, dental students, and advanced practitioner students. Lana Friedman, MD, and Mariann Kelley, MD, share responsibility for orienting, scheduling and evaluating these learners. The fellowship in pediatric emergency medicine (a subspecialty of both Emergency Medicine and Pediatrics) is now in its 21st year, led by program director Matt Laurich, MD. We completed another highly successful match, adding two new PEM fellows per academic year. Dr. Laurich also leads the ED Sepsis Working Group and is a member of a nationwide sepsis learning collaborative. The Undergraduate Research Assistant Program, which was developed by Sharon Smith, MD, and is taught by our faculty, supports the research productivity of our division. Dr. Smith teaches two honors-level undergraduate courses at the University of Connecticut. She also serves as the division's director of research and is the medical director of Pediatric Advanced Life Support (PALS) for the institution. Research projects covering topics such as violence prevention, mental health, simulation, point-of-care ultrasound, ultrasound-guided IV placement, lethal means restriction and firearm safety, implicit bias, social determinants of health, nutrition, and asthma are ongoing.

We have two leaders in simulation education within our team. Carla Pruden, MD, director of Simulation for Connecticut Children's, showed academic prowess as she rapidly pivoted simulation training to address Covid-related health needs and remote learning with audio and video capabilities. Dr. Kelley is the director of Simulation Education at the UConn School of Medicine. Together they lead bimonthly simulation sessions for the Pediatric Emergency Medicine attendings and fellows, monthly sessions for the trauma team, monthly sessions for residents and fellows, and ad hoc sessions for the medical school and hospital using high fidelity manikins.

Members of the Division of Emergency Medicine continue to be highly involved in leadership and committees at Connecticut Children's. Dr. Brancato serves on numerous committees throughout the institution. His highlights include chairing the medical staff peer review committee and serving as medical editor of *Connecticut Children's Medical News*, a publication that goes to all referring provider practices in the state. He was instrumental in launching the Connecticut Children's Urgent Care facility in Farmington as well as contributing foundational work in connection with Connecticut Children's expansion to western Connecticut. Henry Chicaiza, MD, developed the point-of-care ultrasound curriculum for the fellows, and the formal ultrasound credentialing and quality program for the attending staff. Eric Hoppa, MD, and Kristin Welch, MD, are members of the Clinical Effectiveness Committee and have led the production of many pathways that help create standard work and improve the quality of care.


Pediatric Emergency Medicine

Michael Soltis, MD, is the medical director of the Pediatric Critical Care Transport team and is the ED coordinator for Clinical Forensics and Child Abuse Services. He was appointed vice chair of the North Central Connecticut EMS Medical Advisory Committee, a distinction that is rarely afforded to pediatric specialists. Andrew Heggland, MD, leads our continuing education program and our efforts in medical informatics, improving our ability to document and communicate both internally and externally. Michele McKee, MD, arrived just as the pandemic kicked off in the United States. She served and continues to serve on numerous Covid-related and operational committees. She brings expertise to disaster preparedness and readiness, trauma care, and harnessing informatics in clinical operations.

Connecticut Children's Emergency Department (ED) continues to be an innovator in caring for all patients, including those with mental health needs. Steve Rogers, MD, medical director of Emergency Mental Health Services, and Carol Erickson, APRN, have partnered with key institutional stakeholders to evaluate core areas for service enhancement. This exemplifies the commitment to growth and expansion of services for this vulnerable population. The strong interplay between the ED team and social work continues to be a treasured dynamic. We'd like to acknowledge both Jessica St. Louis and Allison Matthews-Wilson for their tireless devotion to our patients. The institution of universal suicide screening in 2019 continues to identify at-risk patients aged 10 and older. Access to the Transitions Clinic for urgent mental health stabilization remains in place for urgent referrals to mental health specialists.

Two members of our team hold dual clinical appointments. They bring clinical expertise to our group with natural bridges to other divisions. Jesse Sturm, MD, is the head of the Sedation Service, and Adam Silverman is primarily based in Critical Care.

Our two newest faculty members of the division are Noah Jablow, MD, and Ashley Notartomaso, MD. Dr. Jablow has already proven himself a gifted educator, winning two awards, the Timothy W. Kelly Award for Excellence in Teaching Acute Care and the PEM Teacher of the Year, from the Connecticut Children's pediatric residency program and the UConn emergency medicine residents respectively. Dr. Notartomaso has successfully taken on mentoring a student through a UConn course taught by Dr. Sharon Smith.

Our advance practitioner group is a vital part of our team. They rose to the challenges associated with Covid-19 by expanding clinical responsibilities and patient education. Meanwhile, their devotion to institutional work is broad. Carol Erickson, APRN, leads a vibrant group of advanced practice providers while participating in several institutional endeavors. She serves on medicine reconciliation, medical observation status, and numerous behavioral health committees. Rachel Caplan, APRN, and Sarah Orlando, PA-C, coordinate student trainees. Sarah Orlando, PA-C, and Chelsea Byrd, PA-C, are active in formulating an advanced practitioner residency program (Office of Advance Practice Providers - OAPP). Lisa Tryon, PA-C, is a crucial member of the child protection team. Garry Lapidus, PA-C, MPH, has worn several institutional hats over the years. This year, he was appointed co-director of the OAPP as well as director of Research Operations & Development. He is the recipient of the American Public Health Association's Distinguished Career Award for his work in injury and violence prevention. Nicole Chaves, PA-C, received well-deserved kudos and an award from the residents as the most helpful person in the ED. Ryan Keenan, APRN, was selected to be acknowledged during APRN Week given his longstanding commitment to Connecticut Children's as a tech, then an RN on his path to becoming an APRN.

The division continues to be productive with many poster presentations at national conferences, publications in peer-reviewed journals, and book chapters.

PUBLICATIONS

Adams M, Green C, Beebe R, DiVietro S, Jiwani A, **Lapidus G**, Gates J. Characterization and impact of substance use screening and intervention practices at a Level I trauma center. Conn Med. 2020;84(4);149-156.

Hellstrand K, **Rogers SC**, Divietro S, **Sturm J.** Prevalence of cyberbullying in patients presenting to the pediatric emergency department. Pediatr Emerg Care. 2020 Sep 21. doi: 10.1097/PEC.0000000000002243. Epub ahead of print.

Keenan R, Lovanio K, **Lapidus G**, Chenard D, **Smith S.** Improved concussion discharge instructions in a pediatric emergency department. Adv Emerg Nurs J. 2020;42(1):63-70.

Larsen GY, Brilli RJ, Macias CG, Niedner M, Auletta JJ, Balamuth F, et al, Improving Pediatric Sepsis Outcomes (IPSO) Collaborative Investigators, (**Laurich VM**). Development of a quality improvement learning collaborative to improve pediatric sepsis outcomes. Pediatrics. 2021 Jan; 147(1):e20201434. doi: 10.1542/peds.2020-1434. Epub 2020 Dec 16.

Malia L, Sivitz A, **Chicaiza H.** A novel approach: point-of-care ultrasound for the diagnosis of retropharyngeal abscess. Am J Emerg Med. 2020 Jul 30: S0735-6757(20)30657-4. doi: 10.1016/j.ajem.2020.07.060. Epub ahead of print. PMID: 33046324.

Malia L, Strumph K, **Smith S**, **Brancato J,** Johnson ST, **Chicaiza H.** Fast and sensitive: automated point-of-care urine dips. Pediatr Emerg Care. 2020 Oct; 36(10):486-488. doi: 10.1097/PEC.0000000000001357. PMID: 29189595.

O'Dea N, Clough M, Beebe R, DiVietro S, **Lapidus G**, Grasso DJ. Using child protective services case record data to quantify family-level severity of adversity types, poly-victimization, and poly-deprivation. Child Abuse Negl. 2020;108:104688.

Patel P, **Laurich VM**, **Smith S, Sturm JJ.** Point of care influenza testing in the pediatric emergency department. Pediatr Emerg Care. 2020 Nov; 36(11):515-518. PMID: 33065674.

Kasmire KE, Cerrone C, **Hoppa EC**. Reducing antibiotic prescription errors in the emergency department: a quality improvement initiative. Pediatr Qual Saf. 2020;5(4):e314.

Pruden C, Beecham GB, Waseem M. Human factors in medical simulation. [Updated 2020 Sep 17]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2020 Jan. Available from: https://www.ncbi.nlm.nih.gov/books/NBK559226/.

Pruden C, Wadhwa R. Medical simulation center director as a system improvement leader. [Updated 2020 Apr 22]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2020 Jan. Available from: https://www.ncbi.nlm.nih.gov/books/NBK557688/.

Scott HF, Brilli RJ, Paul R, Macias CG; Niedner M, Depinet H, et al, Improving Pediatric Sepsis Outcomes (IPSO) Collaborative Investigators (**Laurich VM**). Evaluating pediatric sepsis definitions designed for electronic health record extraction and multicenter quality improvement. Crit Care Med. 2020 Oct; 48(10):e916-e926. PMID 32931197.

Sneller H, **Keenan K**, **Hoppa E.** A quality improvement initiative to improve the administration of systemic corticosteroids in the pediatric emergency department. Pediatr Qual Saf. 2020; 5(3):e308.

Wing R, Tsao HS, Toomey V, Mercurio L, Carillo M, Brown L, **Kelley MN**. Excellence in Communication and Emergency Leadership (ExCEL): Pediatric first five minutes workshop for residents. MedEdPORTAL. 2020;16:10980

BOOK CHAPTERS

Hoppa E. Red eye. In: Hoffman RJ, Wang VJ, Scarfone RJ, Godambe SA, Nagler J, editors. Fleisher & Ludwig's 5-minute pediatric emergency medicine consult. 1st and 2nd eds. Philadelphia, PA: Wolters Kluwer; 2019.

Hoppa E. Stridor. In: Hoffman RJ, Wang VJ, Scarfone RJ, Godambe SA, Nagler J, editors. Fleisher & Ludwig's 5-minute pediatric emergency medicine consult. 1st and 2nd eds. Philadelphia, PA: Wolters Kluwer; 2020.

Hoppa E. Subdural hematoma. In: Hoffman RJ, Wang VJ, Scarfone RJ, Godambe SA, Nagler J, editors. Fleisher & Ludwig's 5-minute pediatric emergency medicine consult. 1st and 2nd eds. Philadelphia, PA: Wolters Kluwer; 2019.

Lelyveld S, **McKee M.** Patent ductus arteriosus. In: Rosen & Barkin's 5-minute emergency medicine consult. 6th ed. Philadelphia, PA: Wolters Kluwer/Lippincott Williams & Wilkins; 2019. p. 822-824.

McKee M. Henoch-Schönlein purpura. In: Rosen & Barkin's 5-minute emergency medicine consult. 6th ed. Philadelphia, PA: Wolters Kluwer/Lippincott Williams & Wilkins; 2019. p. 514-516.

Nocera Kelley M. Firearm safety. In: Talwalkar JS, Fenick AM, editors. Yale primary care pediatrics curriculum. 14th ed. 2020.

Pena B, **Heggland A.** Colitis. In: Fleisher & Ludwig's 5-minute pediatric emergency medicine consult. 2nd ed. Philadelphia, PA: Wolters Kluwer Health/Lippincott Williams & Wilkins. 2019.

Pruden CM, McAneney CM. Chapter 48: Neck masses. In: Fleisher & Ludwig's textbook of pediatric emergency medicine. 8th ed. 2020.

Rogers SC, Heggland A. Chapter 57: Palpitations. In: Shaw KN, Bachur RG, editors. Fleisher & Ludwig's Textbook of Pediatric Emergency Medicine. 8th ed., Philadelphia, PA: Wolters Kluwer; 2020.

Rogers SC, Laurich VM. Chapter 72: Tachycardia. In: Shaw KN, Bachur RG, editors. Fleisher & Ludwig's textbook of pediatric emergency medicine. 8th ed. Philadelphia, PA: Wolters Kluwer; 2020. p. 525-528.

STAFF

ATTENDINGS

Michele McKee, MD, MS, FAAP, *Division Chief*

John Brancato, MD, FAAP, FACEP, *Associate Chief and Medical Director*

Henry Chicaiza, MD
Lana Friedman, MD
Andrew Heggland, MD
Eric Hoppa, MD
Noah Jablow, MD
Mariann Kelley, MD
V. Matt Laurich, MD
Ashley Notartomaso, MD
John Peng, MD
Carla Pruden, MD
Steven Rogers, MD
Adam Silverman, MD (ED/PICU)
Sharon Smith, MD
Michael Soltis, MD
Jesse Sturm, MD (ED/Sedation)
Kristin Welch, MD

PER DIEM ATTENDINGS

Zoe Casey, MD
James Parker, MD
James Wiley, MD

APRN'S & PA's

Carol Erickson, APRN, *Lead APP*

Mandi Boisvert, APRN
Chelsea Byrd, PA-C
Rachel Caplan, APRN
Nicole Chaves, PA-C

Katelyn Claudomir, APRN
Jessica Fett, APRN
Ann Gorjanc, PA-C
Jessica Haggett, APRN
Ryan Keenan, APRN
Garry Lapidus, PA-C
Sarah Orlando, PA-C
Lisa Tryon, PA-C
Alexis Veith, PA-C
Lauren Wellner, APRN

PER DIEM APRNs / PA's

Lauren Cohen, PA-C
Christopher Scheinberg, APRN

PEDIATRIC EMERGENCY MEDICINE FELLOWS

Shaheen Andreas, DO / PGY-4
Candice Jersey, DO / PGY-5
Ruchika Jones, MD / PGY-6
Owen Kahn, MD / PGY-5
Kathryn Schissler, DO / PGY-4
Rahul Shah, MD / PGY-6

ENDOCRINOLOGY & DIABETES

In 2020, the Division of Pediatric Endocrinology and Diabetes continued to grow in its clinical programs and research endeavors, expanding its breadth to incorporate the Glycogen Storage Disease Program within its realm. The overriding mission of the division continues to be focused on improving the health and quality of life of patients through our clinical expertise, compassionate care, and research investigations aimed at the development of new treatments. The division's research endeavors were innovative in 2020, and they include investigating mice that we sent to the International Space Station to study bone and muscle loss, and heading the largest multinational gene therapy trial for patients with Glycogen Storage Disease Type Ia.

This past year was highlighted by geographic growth and innovation. Our outpatient clinics in Farmington, Glastonbury, Hartford, and Shelton continued to run full-time during the pandemic, enabled by the rapid ramp-up of our telehealth capabilities. Our expansion into Danbury also has been running at full force since its initiation last year. The subspecialty clinics within the division have continued to grow as well. We have active international centers for several rare disorders including glycogen storage diseases and rare bone disorders of all types, and although most national and international travel was not possible due to the pandemic, care was maintained through emergency license approvals for telehealth in other states, as well as through telephone communications. The division is now ranked 36th in the nation by *U.S. News & World Report* with 12 faculty currently devoted to patient care and to the education of medical students, residents, and fellows. Several faculty members are recognized year after year in *Connecticut* and *Hartford* magazine's Best Doctors issues. In addition, all of our faculty members have given local, national, and/or international presentations in the educational and research arenas, and most are involved in clinical, translational, and/or bench research.

The division is led by Emily Germain-Lee, MD, professor of Pediatrics at the University of Connecticut School of Medicine and adjunct faculty at the Jackson Laboratory. In addition to her clinical and administrative roles as division chief, she is chair of the Senior Research Advisory Council at Connecticut Children's and chair of the Research Council at the University of Connecticut School of Medicine, enabling her to be actively involved in overseeing the research mission at both institutions. Cem Demirci, MD, the Chase Family Chair of Juvenile Diabetes and assistant professor, continues as director of our very large and successful Diabetes Program, which he has overseen for the past 10 years and expanded greatly. The incorporation this year of the Glycogen Storage Disease & Disorders of Hypoglycemia Program into our division has widened our breadth, with Rebecca Riba-Wolman, MD (assistant professor), as the director. Dr. Riba-Wolman is also the director of the division's very active fellowship program, which is currently in its twenty-third year. With the additional joint efforts of the fellowship's associate director, Christine Trapp, MD (assistant professor), and Susan Ratzan, MD, (professor and prior division chief), the fellowship program is thriving.

SUMMARY OF SUBSPECIALTIES WITHIN THE DIVISION OF PEDIATRIC ENDOCRINOLOGY AND DIABETES

The Division of Pediatric Endocrinology and Diabetes is unique in that it has a wide array of subspecialty clinics within it, including those that are interdisciplinary and multidisciplinary, as well as the Glycogen Storage Disease & Disorders of Hypoglycemia Program.

Diabetes Program: A large focus in the division is our Diabetes Program, directed by Dr. Demirci, which cares for approximately 1,200 children and adolescents with diabetes. This year, diabetes clinics were added within our Fairfield County satellites in Danbury and Shelton, both directed by Nordie Bilbao, MD, assistant professor. All of the pediatric endocrinologists in the division are involved in providing care for diabetes of all types, including type 1 and type 2 DM, monogenic diabetes, maturity onset diabetes of the young (MODY), permanent neonatal diabetes, cystic fibrosis-related diabetes, and steroid-induced diabetes. The Division of Endocrinology and Diabetes is accredited by the American Association of Diabetes Educators (AADE) and has a multidisciplinary team of 11 staff including advanced practice practitioners, registered nurses, registered dietitians, certified pediatric diabetes educators, an administrative assistant, and a pediatric social worker. This year Dr. Demirci was recognized for his incredible dedication and service to the Diabetes Program, both at Connecticut Children's and throughout the state, by being awarded the Connecticut Lions Club Knight of the Blind Award.

Gender Program: This program continues to grow tremendously under the direction of Priya Phulwani, MD, who provides unique care to children and adolescents with gender incongruence, and also offers support to families. Dr. Phulwani has accomplished a great deal this year not only through her clinical care but also through a multitude of presentations given locally and regionally. She is also very active in advocacy for the patients within this program.

Clinic for Variations of Sexual Development: This clinic, co-directed by Dr. Phulwani, has evolved into a truly interdisciplinary model with visits involving joint meetings of the parents (or parent) with their child for evaluations by a pediatric urologist, a family support provider, and Dr. Phulwani. The providers build upon each other's experiences to achieve a common shared goal of providing comprehensive compassionate care to infants, children, adolescents, and their families. The joint patient visits enable better coordination of care and allow for open, clear and consistent communication. By providing ongoing age-appropriate education, the patients are empowered to be involved in the decision-making process. Dr. Phulwani actively participates with members of Medical Genetics, Urology, Plastic Surgery, Adolescent Gynecology, and Psychology. She also advocates extensively for these patients at local, regional, and state levels.

Center for Rare Bone Disorders: This center was established at Connecticut Children's by Dr. Germain-Lee, and it has built upon more than two decades of her clinical care and translational laboratory research in this area. The center combines both clinical care and basic science research to help patients with rare bone disorders, while at the same time working to discover potential new therapies. Dr. Germain-Lee gives talks and webinars

nationally and internationally on rare bone disorders and serves on the Scientific Advisory Panel of the Rare Bone Disease Alliance as well as the International Expert Consensus Panel on Pseudohypoparathyroidism and Related Disorders. Through her work as vice president of the Human Growth Foundation, she focuses on expanding education and research for those rare bone disorders that impair growth. She is a long-time advocate for patients with rare bone disorders at the local, regional, national, and international levels.

Under the umbrella of the Center for Rare Bone Disorders are two subcenters:

- **Albright Center:** This is the first and only center dedicated to Albright hereditary osteodystrophy (AHO), which includes two subtypes called pseudohypoparathyroidism type 1A and pseudopseudohypoparathyroidism. Dr. Germain-Lee has evaluated the largest population of patients with AHO worldwide, and patients travel from throughout the USA and from other countries

  to the Albright Center. She also has developed a translational research program focused on her patients as well as her knockout mouse model for AHO.
- **Osteogenesis Imperfecta (OI) Center:** This center is co-directed by Drs. Germain-Lee and Nancy Dunbar, MD, MPH (assistant professor). The Connecticut Children's OI Center is recognized officially by the OI Foundation and is a premier site in New England and the mid-Atlantic for patients with OI to be evaluated and treated. This center provides clinical care to OI patients, as well as quarterly education and support sessions. Dr. Germain-Lee has an established translational research program that includes both clinical research studies as well as basic science laboratory investigations utilizing mouse models of OI, and she is working toward developing new treatments for this condition.
  - » Additional rare bone disorders are seen extensively by Drs. Dunbar and Germain-Lee including hypophosphatemic rickets, hypophosphatasia, and a wide array of skeletal dysplasias (among a multitude of other genetic bone diseases).

Metabolic Bone Clinic: Dr. Dunbar continues to direct and expand this clinic at Connecticut Children's and Shriners Hospitals for Children® in Springfield, MA. The clinic focuses on all forms of bone disorders as well as disorders of mineral metabolism. Dr. Dunbar has developed a focus on bone loss in children with various physical impairments. She is a certified clinical densitometrist through the International Society for Clinical Densitometry, permitting her to provide official interpretations of scans evaluating bone mineral density (DXA scans) using the state-of-the-art DXA machine at Connecticut Children's. She also provides these services to all other divisions. Dr. Dunbar was honored with an invitation to serve on the editorial board of the *Journal of the Endocrine Society*.

Global Health: Dr. Dunbar has been crucial in developing a type 1 diabetes clinic in Haiti, and she, along with Comalita Elliott, a nurse and diabetes educator in our division, have been working with local pediatric staff at Hôpital Sacré Coeur in Milot. Their ongoing fundraising efforts support 100 percent of the needs of the program. Dr. Dunbar has made a tremendous impact in the improvement of diabetes care within this program based on quantitative measures, and even in the midst of the pandemic, she maintains communication with the staff at Hôpital Sacré Coeur.

Lipid Disorders Clinic: Sunitha Sura, MD, assistant professor, has headed up this clinic, which has been fully running with a specialized nutritionist over the past two years. This clinic has continued to expand greatly. It is one of the few lipid clinics in the country that is within a pediatric endocrinology division and is focused solely on the management of childhood lipid disorders. Dr. Sura is a member of the National Lipid Association and has given grand rounds and other talks educating practitioners on the management of lipid disorders.

Turner Syndrome Clinic: Karen Rubin, MD, an international expert in Turner Syndrome, serves as director. She is involved in global consensus statements for Turner Syndrome as well as the Turner Syndrome Foundation Medical Advisory Board. This clinic involves a highly specialized interdisciplinary team including a nutritionist as well as a psychologist and nurse who both have expertise specifically in this disorder.

Thyroid Center: A multidisciplinary program for treating thyroid nodules and thyroid cancer, which involves Endocrinology, Pediatric Surgery, Pathology, Radiology, and Nuclear Medicine, is headed up by Dr. Nordie Bilbao and Connecticut Children's Surgeon-in-Chief, Christine Finck, MD, FACS. Dr. Bilbao has been involved with Drs. Riba-Wolman and Finck in building this center even further.

Cancer Survivorship: Dr. Riba-Wolman is the endocrinologist for the REACH for the STARS Cancer Survivorship Program, a multidisciplinary clinic in the Hematology-Oncology division for long-term survivors of childhood cancer. She also is involved in the Neuro-Oncology Program, a multidisciplinary clinic involving Oncology, Neurosurgery, and Endocrinology. She has embarked on clinical research in areas involving the endocrine disorders observed in children with cancer and is a member of the New England Childhood Cancer Consortium.

Obesity: Dr. Phulwani serves as the endocrinologist in the multidisciplinary Bariatric and Weight Management Clinic overseen by members of the Pediatric Surgery department. In addition, within our division, Dr. Trapp has expertise in caring for children with co-morbidities secondary to obesity as well as those with early onset obesity, and her research interests lie in this area. She was elected co-chair of the national Obesity Special Interest Group for the Pediatric Endocrine Society.

Prader-Willi Clinic: Dr. Trapp has initiated a Prader-Willi clinic this year based on her work on early onset obesity. She is broadening the multidisciplinary aspects of this specialized clinic with the goal of early intervention, and she is also involved in advocacy for this disorder.

GLYCOGEN STORAGE DISEASE (GSD) & DISORDERS OF HYPOGLYCEMIA PROGRAM

The mission of the Glycogen Storage Disease & Disorders of Hypoglycemia Program is to provide dedicated care and diagnostic evaluation for patients with disorders of hypoglycemia and also provide the best evidence-based care of patients with glycogen storage diseases. The pursuit of research to advance the diagnosis and treatment of these disorders is a central goal.

A dedicated team provides comprehensive care to patients with multiple forms of hypoglycemic disorders, with special attention to patients with glycogen storage diseases and ketotic hypoglycemia, both regionally and beyond. This is the first year under the leadership of Dr. Riba-Wolman, with additional expansion into a newly developed ambulatory program, as well as a broader disease focus.

INFORMATION TECHNOLOGY

Bethany Peri, MD, PhD, (assistant professor), is a specialist in information technology for health systems and is continually keeping our division and other areas of Connecticut Children's up-to-date with the optimal methods for streamlining our clinical care and documentation.

BASIC SCIENCE AND TRANSLATIONAL RESEARCH (INCLUDING CLINICAL TRIALS)

Bone Loss and Muscle Wasting

Research efforts have extended even beyond Earth with a grant awarded by the International Space Station U.S. National Laboratory (NASA) and the Jackson Laboratory. Dr. Germain-Lee and her collaborator, Dr. Se-Jin Lee, MD, PhD, from the Jackson Laboratory and University of Connecticut School of Medicine in Farmington, sent mice to the International Space Station from December of 2019 to January of 2020. The goal of this expedition was to test a novel experimental agent that was created by Dr. Lee that can increase both muscle and bone mass. Microgravity causes both muscle and bone loss, as is evident in astronauts during space travel. This mimics the same phenomenon observed in patients who have bone disease, muscle wasting, and chronic illnesses, as well as in those who are elderly. By giving this experimental drug to mice exposed to systemic microgravity, the goal was to see whether bone and muscle loss were prevented. This has the potential for therapeutic use not only in astronauts in space but also in many patients here on Earth who suffer from either muscle-wasting disorders, bone fragility disorders, or both.

In spite of the pandemic, the scientific investigations were completed, and the work successfully revealed that, indeed, the novel experimental agent was able to improve bone and muscle mass in spite of microgravity. The research results were published by the scientific team headed by Drs. Lee and Germain-Lee, as well as the three American astronauts who conducted the experiments performed at the International Space Station. The results were published in the *Proceedings of the National Academy of Sciences* in September 2020, and the publication was covered by 176 news outlets throughout the world, including the *New York Times*, the *Washington Post*, CNN, BBC, PBS, and *Scientific American*, *Esquire*, and *Smithsonian* magazines. The story was featured in interviews on national NPR's "Morning Edition," "All Things Considered," and "Short Wave" as well as BBC radio, NASA TV, and various other television outlets – it was even lampooned by the host of "Late Night With Conan O'Brien!"

Rare Bone Disorders

Dr. Germain-Lee was elected to the Connecticut Academy of Science and Engineering in recognition of her long-standing research efforts in the clinic and the laboratory on rare bone diseases, specifically Albright hereditary osteodystrophy (AHO), for which she has developed a mouse model, and also osteogenesis imperfecta (OI, brittle bone disease), for which she conducts translational and basic science research involving both patients and mouse models. Her laboratory is within the Center for Regenerative Medicine and Skeletal Development at UConn Health. One focus of this research program has been to investigate the pathogenesis of AHO and to develop new treatments. One of the key findings by Dr. Germain-Lee has been the identification of growth hormone (GH) deficiency in approximately two-thirds of AHO patients, and GH treatment has now become well established for patients with AHO who are GH deficient. Another major area of this research program has been to understand the hormonal control of bone development and homeostasis through investigation of rare bone disorders, specifically understanding the basis for bone and related abnormalities in AHO, including effects on both bone mineral density and the development of heterotopic ossifications. With respect to the latter, the development of heterotopic ossifications has been recapitulated in Dr. Germain-Lee's laboratory through use of her mouse model for AHO and is under investigation currently. A second disorder that has been a focus of this research program is osteogenesis imperfecta (OI), and her investigations showed that blocking the activin/myostatin signaling pathway in a mouse model of OI can lead to increases in both bone and muscle mass, raising the possibility of a new therapeutic strategy in OI patients.

Patrick McMullan, an MD/PhD student from the University of Connecticut School of Medicine, is pursuing his PhD in Dr. Germain-Lee's laboratory (under a T90 NIH/NIDCR pre-doctoral training grant). Along with Dr. Neetu Krishnan, one of the division's endocrinology fellows, further investigations of the bone abnormalities in AHO are underway. Two research assistants are part of these efforts as well.

Glycogen Storage Disease (GSD)

Laboratory Research: Under the direction of Youngmok Lee, PhD, assistant professor at the University of Connecticut School of Medicine and basic science coordinator of laboratory research in GSD, investigations are being conducted in the laboratory facilities at the University of Connecticut Cell and Genome Sciences building. The laboratory mainly focuses on two types of pre-clinical research for GSD-Ia, GSD-Ib, GSD-VI, and GSD-IX using disease model animals, including, 1) the elucidation of pathological mechanisms underlying the complications of GSDs, including liver cancer, steatosis, and fibrosis as well


Face shield
Connecticut Children's

as immune cell dysfunctions; and 2) the development of new gene therapy technology and evaluation of its efficacy and safety. The goal of the research is to understand the pathogenesis in GSDs and to develop new therapeutic strategies for treatment. The main areas of research include:

- Development of kidney-direct gene therapy in GSD-Ia
- Research to improve the efficacy of AAV-mediated gene therapy in GSD-Ia
- Evaluation of the strategy for autophagy normalization to prevent HCA/HCC in GSD-Ia
- Development of gene therapy and a cure for neutropenia for GSD-Ib
- Characterization of GSD-IX mice (Phkb knockout mice)
- Whole exome and genome sequencing of untyped GSD

Clinical Research – Gene Therapy: After 20 years of research, the first trial of gene therapy for Glycogen Storage Disease Type Ia began with the Connecticut Children's/University of Connecticut team as the lead site under the direction of David Weinstein, MD, MMSc. In July 2018, the first GSD-Ia patient was treated with gene therapy at the University of Connecticut Health Center. Our site, now headed by Dr. Riba-Wolman, remains the largest in this multinational trial and the patients have entered the follow-up phase of this work. Phase III trials are anticipated to commence in 2021 run by the Connecticut Children's/University of Connecticut GSD team under the leadership of Dr. Riba-Wolman.

Other clinical research studies and repositories, under the direction of Dr. Emily Germain-Lee, Katherine Herbst, MS, and Dr. David Weinstein, include:

- Natural history study assessing impact of treatments on GSD
- Biorepository for GSD samples
- Characterization of untyped forms of GSD

The current clinical research team includes research nurses, clinical nurses, a metabolic dietitian, and several clinical research coordinators. In addition, one of our pediatric endocrinology fellows, Komal Parmar, MD, is involved in related research within this area. The laboratory research team includes Youngmok Lee, PhD, a laboratory manager, and several laboratory technicians.

Diabetes

Dr. Demirci is collaborating with Derya Unutmaz, MD, a researcher at the Jackson Laboratory, to investigate the intestinal microbiome and the link between food, microbes, and diabetes with the ultimate goal of finding which genes are turned on and off as a result of the interaction between the microbiome and the immune system. Whei Ying Lim, MD, who finished her endocrinology fellowship with us in June 2020, was actively involved in these research endeavors.

Dr. Germain-Lee is also working on basic science research in diabetes. She is currently collaborating on investigations with Dr. Se-Jin Lee of the Jackson Laboratory and University of Connecticut School of Medicine. Their studies are aimed at discovering new strategies to improve the body's ability to control blood sugar levels. The goals of this project, which is being partly supported by a grant from the National Institutes of Health (NIH), are to enhance the ability of the pancreas to produce insulin as well as to improve the responsiveness of peripheral tissues to insulin. The focus is to understand the role of secreted proteins belonging to the transforming growth factor-ß superfamily of signaling molecules in regulating metabolism.

FEDERAL GRANTS

NIH

R21 HD078864 – Principal investigator: Emily L. Germain-Lee, MD. The Role of G Protein-coupled Signaling in Neurocognitive and Psychosocial Abnormalities. 3/1/16 – 2/29/20 (includes no-cost extension).

R01 AG052962 – Co-investigator: Emily L. Germain-Lee, MD; (PI: Se-Jin Lee, MD/PhD). TGF-ß Family Members and Their Binding Proteins in Aging Skeletal Muscle. 9/15/17 – 5/31/21.

NASA

International Space Station U.S. National Laboratory/ The Jackson Laboratory – Co-investigator: Emily L. Germain-Lee, MD; (PI: Se-Jin Lee, MD/PhD). Mighty Mice in Space: Preclinical Evaluation of a Broad Spectrum Myostatin Inhibitor to Prevent Muscle Wasting and Bone Loss Due to Disuse. 3/1/19 – 10/5/20.

State Grants

Convergence Awards for Research in Interdisciplinary Centers – Principal investigator on multi-PI grant: Emily Germain-Lee, MD, David Rowe, MD, Sumit Yadav, MDS, PhD, Dong-Guk Shin, PhD. Bed to Bench Collaboration for Skeletal Research. 3/1/19 – 7/31/20.

PH RFP Award for Connecticut Newborn Screening – Principal investigator: Karen Rubin, MD. Provision of a Diagnostic and Treatment Network for Connecticut's Newborn Screening Program Utilizing a Population Health Approach. 7/1/18 – 6/30/21.

PUBLICATIONS

Lim WY, Riba-Wolman R. Intravenous formulation of desmopressin delivered via oral and g tube routes for the treatment of central diabetes insipidus: first experience in infants. Clin Endocrinol. 2020; 92(2):179-181. Epub 2019 Nov 25. PMID: 31715009. doi: 10.1111/cen.14125. Epub 2019 Nov 25.

Sura SR, Germain-Lee EL. Treatment of rickets and dyslipidemia in twins with progressive familial intrahepatic cholestasis type 2. Intl J Pediatr Endocrinol. 2020;9. Epub 2020 May 26. PMID: 32508937. doi: 10.1186/s13633-020-00079-1. Epub 2020 May 26.

Mantovani G, Bastepe M, Monk D, de Sanctis L, Thiele S, et al. (**Germain-Lee EL**, 14/43). Recommendations for diagnosis and treatment of pseudohypoparathyroidism and related disorders: an updated practical tool for physicians and patients. Horm Res Paediatr. 2020;93(3):182-196. Epub 2020 Aug 5. PMID: 32756064. doi: 10.1159/000508985.

Lim WY, Germain-Lee EL, Dunbar NS. Legg-Calve-Perthes disease in an 8-year-old girl with Acrodysostosis type 1 on growth hormone therapy. Int J Pediatr Endocrinol. 2020;15. Epub 2020 Aug 7. PMID: 32782451. doi: 10.1186/s13633-020-00085-3.

Gherlone N, Schifano ED, Blodgett A, Hollenbach JP, **Trapp C**, Cloutier M. Support from key individuals prolongs breastfeeding duration in a low-income, predominantly Latina sample. AMSRJ. 2020 (fall);7(1).

Lee SJ, Lehar A, Meir JU, Koch C, Morgan A, et al. (**Germain-Lee EL**, 15/15). Targeting myostatin/activin A protects against skeletal muscle and bone loss during spaceflight. Proc Natl Acad Sci USA. 2020;117(38):23942-23951. Epub 2020 Sep 8. PMID: 32900939. doi: 10.1073/pnas.2014716117. (Covered by 176 news outlets and also featured in "This Week in PNAS," "PNAS in the News," and a PNAS "Science Sessions" podcast.)

Lee SJ, Lehar A, Liu Y, Ly CH, Pham QM, et al. (**Germain-Lee EL**, 11/12). Functional redundancy of type I and type II receptors in the regulation of skeletal muscle growth by myostatin and activin A. Proc Natl Acad Sci USA. 2020;117(49):30907-30917. Epub 2020 Nov 20. PMID: 33219121. https://doi.org/10.1073/pnas.2019263117.

Glycogen Storage Disease Program

Cho JH, **Lee YM**, Bae SH, Chou JY. Activation of tumor-promoting pathways implicated in hepatocellular adenoma/carcinoma, a long-term complication of glycogen storage disease type Ia. Biochem Biophys Res Commun. 2020;522(1):1-7. Epub 2019 Nov 15. PMID: 31735334. doi: 10.1016/j.bbrc.2019.11.061.

Sim SW, Weinstein DA, **Lee YM**, Jun HS. Glycogen storage disease type Ib: role of glucose-6-phosphate transporter in cell metabolism and function. FEBS Lett. 2020;594(1):3-18. Epub 2019 Nov 22. PMID: 31705665. doi: 10.1002/1873-3468.13666.

Jeon EH, Park TS, Jang Y, Hwang E, Kim SJ, et al. (**Lee YM**, 8/10). Glucose-6-phosphate transporter mediates macrophage proliferation and functions by regulating glycolysis and mitochondrial respiration. Biochem Biophys Res Commun. 2020;524(1):89-95. Epub 2020 Jan 21. PMID: 31980167. doi: 10.1016/j.bbrc.2020.01.043.

Cho JH, Weinstein DA, **Lee YM.** Emerging roles of autophagy in hepatic tumorigenesis and therapeutic strategies in glycogen storage disease type Ia: A review. J Inherit Metab Dis. 2021 Jan;44(1):118-128. doi: 10.1002/jimd.12267. Epub 2020 Jul 2. PMID: 32474930. doi: 10.1002/jimd.12267.

STAFF

Emily L. Germain-Lee, MD, *Division Chief*

Cem Demirci, MD, *Director, Diabetes Program*

Rebecca Riba-Wolman, MD, *Director, Glycogen Storage Disease & Disorders of Hypoglycemia Program; Fellowship Director of Endocrinology and Diabetes*

Christine Trapp, MD, *Associate Fellowship Director, Endocrinology and Diabetes*

Youngmok Lee, PhD, *Basic Science Coordinator, Glycogen Storage Disease Program*

Raul Arguello, MD
Nordie Bilbao, MD
Nancy Dunbar, MD, MPH
Bethany Peri, MD, PhD
Priya Phulwani, MD
Susan Ratzan, MD
Karen Rubin, MD
Sunitha Sura, MD
Angela Verardo, MD
Carey Driscoll, PNP
Maureen Fearon, PNP
Elena Schneider, PA

Fellows

Laura Forero, MD
Neetu Krishnan, DO
Whei Ying Lim, MD
Ana Menendez, MD
Komalben Parmar, MD

GENERAL PEDIATRICS

The Division of General Pediatrics is committed to fostering optimal health and well-being of children, families and communities.

To realize this mission, we provide exceptional clinical care in partnership with families, teach evidence-based clinical pediatrics to the next generation of pediatric health-care providers, and pursue original research and vigorous advocacy around issues important to children, families and the public. Our activities place special emphasis on caring for children with special health-care needs, including disadvantaged children, children growing up in low-income families, and children with complex and chronic health conditions.

The Division of General Pediatrics continues to provide the majority of pediatric primary care to Hartford's children through the ambulatory and primary care clinics at Connecticut Pediatrics at Community Health Center (CHC), Inc., Connecticut Children's Primary Care East/West, and the Burgdorf/Bank of America Health Center. This year our West Hartford primary care site relocated to Farmington. Primary Care West is now housed in a beautiful new Connecticut Children's facility, along with Adolescent Medicine. Members of the Division of General Pediatrics provide ambulatory care to infants, children, and adolescents, and inpatient care in the newborn nurseries at Hartford Hospital in Hartford, CT, and John Dempsey Hospital/University of Connecticut Health Center in Farmington, CT, and at Connecticut Children's for children with lead poisoning. Our ambulatory services include health supervision, behavioral health care, chronic disease management, and urgent care using a medical home model. The division houses innovative, community-wide clinical programs such as the Hartford Regional Lead Poisoning Treatment Center and the Reach Out and Read literacy program. Division faculty have gained regional and national prominence for clinical research, education, and program development in the fields of lead poisoning and prevention, integrated behavioral health, early obesity prevention and emergent literacy promotion.

In 2020, the division welcomed two talented new faculty members: Abraham Khorasani, MD, and Erin Pastor, DO, MS. Dr. Khorasani is a former Connecticut Children's resident and chief resident with special interests in medical education and urgent care. He sees primary care patients and teaches at the CHC primary care site in Hartford. Dr. Pastor is also a former Connecticut Children's resident. She sees patients and teaches at the Burgdorf site. Christine Chew, PhD, joined our Farmington site as an integrated primary care health psychologist. This year also marked the retirement of Patricia Joyce, MD, after many years of service to the University of Connecticut School of Medicine, and roles as clerkship director of ambulatory pediatrics and medical director of St. Francis/UConn Primary Care Services.

Faculty members in the division play a central role in education in the University of Connecticut system by providing the majority of pediatric primary care and newborn nursery educational experiences for medical students and pediatric residents in the region. Rotating learners from UConn and other institutions include family practice residents, dental residents, psychiatry residents, and students from nurse practitioner, physician assistant and medical assistant programs. Division members serve on a wide variety of hospital, university and state committees. Membership on national committees includes the National Center for Culture Competence Advisory Group (Alberto Cohen-Abbo, MD), the Reach Out and Read National Medical Advisory Committee (division chief Catherine Wiley, MD) and the Society for Pediatric Dermatology Education Committee (Keri Wallace, MD). Dr. Wallace was appointed as core faculty lead to develop and restructure the pediatric dermatology rotation and curriculum. Research interests in the division include emergent literacy, cultural competence, immunization, obesity, and screening in primary care. Division members collaborate in a wide variety of projects, including the Asthma Center's Easy Breathing© program and various co-management protocols with Connecticut Children's pediatric subspecialists.

In response to the SARS CoV-2 pandemic, primary care launched a highly successful telehealth program across all sites. Faculty members incorporated residents and medical students into this clinical experience. Andrew Carlson, MD, was appointed as a core faculty lead by the pediatric residency program to develop a formal primary care telehealth curriculum.

Melissa Held, MD, and Patricia Joyce, MD, have continued to transform the highly regarded mDelta Ambulatory Pediatrics Clerkship, now in its fourth year. Grael O'Brien, MD, MPH, continues as site director for CORNET (Continuity Clinic Research Network) of the Academic Pediatric Association and has been active on the UConn School of Medicine Curriculum Reform Committee. Dr. Wiley continues her advocacy work in the area of emergent literacy and is medical director of Reach Out and Read Connecticut. She also serves as co-chair of the Department of Public Health State Health Improvement Project (Healthy Connecticut 2020) Immunization Committee. Jody Terranova, DO, was appointed to the Science Subcommittee of the Governor's Covid-19 Vaccine Advisory Group.

Jennifer Haile, MD, received a continuing grant from the Connecticut Department of Public Health for the Hartford Regional Lead Poisoning Treatment Center. Nancy Trout, MD, MPH, and Stacy Chandna, MS, CIP, continue their early childhood obesity prevention project, "Start Childhood Off Right," funded by the Kohl's Cares foundation. Dr. Trout also completed a practice-based quality improvement intervention and co-management guideline for early childhood obesity prevention supported by the Child Health and Development Institute (CHDI). In partnership with the Village for Families and Children, Drs. Wiley, Karen Rubin, MD, and Larry Scherzer, MD, MPH, completed a three-year grant from United Health Foundation, "Two Generation Pediatrics: Integrating Intergenerational Family Services into Primary Care," which developed a sustainable model of interdisciplinary primary-behavioral health care and care coordination at the East/West primary care sites.

STAFF

Catherine Wiley, MD, *Division Chief*

Anton Alerte, MD
Caroline Amin, MD
Andrew Carlson, MD
Alberto Cohen-Abbo, MD
Glenn Flores, MD
Jennifer Haile, MD
Shannon Hogan, DO, MPH
Jaye Ladinsky Horowitz, MD
Patricia Joyce, MD
Abraham Khorasani, MD
Douglas MacGilpin, MD
Lisa Menillo, MD
Amira Mohamed-Ahmed, MD
Grael O'Brien, MD, MPH
Chinyere Okoronkwo, MD
Aruna Ramanan, MD
Marie Sanford, MD
Larry Scherzer, MD, MPH
Jody Terranova, DO
Latesha Dawson Thomas, MD, CLC
Nancy Trout, MD, MPH
Keri Wallace, MD
Caleb Wasser, DO

Lisa Backus, PhD
Christine Chew, PhD
Amy Signore, PhD

Darlene Abbate, APRN
Julia Christofori, APRN
Sheryl Combs, APRN
Keith Ellis, APRN
Kimberly Griffith, PA-C
Kara Haladyna, APRN
Monica Joyce-Montaudy, APRN
Dianne Powers, APRN

HEMATOLOGY–ONCOLOGY

The year 2020 was a most challenging time for Connecticut Children's and the rest of the world. Like all divisions at the hospital, the Division of Hematology-Oncology had to continuously adapt to the various measures necessary to keep our clinic and inpatient ward a safe place for our patients and their families as well as for our staff. Thanks to the unwavering commitment from all our providers and staff, Hematology-Oncology turned out to be one of the hospital's most Covid-resistant divisions with essentially no reduction in the volume of patients that we took care of during the pandemic. In fact, despite the pandemic, we successfully launched our Hemophilia Treatment Center (HTC) and associated 340b program, which was officially approved in April 2020. In conjunction with that, we also opened the Shelton satellite, catering to hemophilia patients in Fairfield and New Haven counties. The 340b program is important as it allows the various factors for hemophilia treatment to be obtained at a discount from manufacturers with the resultant net revenue used to support and enhance services provided to our HTC patients. To support this expanded service, we recruited two new providers, Laura McKay, MD, who completed her fellowship in Hematology and Oncology at the University of Michigan and who was a former chief resident at Connecticut Children's, along with a nurse practitioner, Emily Bisson, APRN.

In early March, right before strict social distancing measures were imposed in response to the pandemic, we celebrated the dedication of the new inpatient adolescent and young adult (AYA) lounge. The development of the lounge is part of a partnership plan with Teen Cancer America. On the same day, we also dedicated the newly renovated Teen Lounge in our outpatient clinic with the generous support of Lyman Orchards of Middlefield, CT.

Despite the challenges posed by the pandemic, many of our staff received recognitions throughout the year:

- Natasha Frederick, MD, MPH, was elected co-chair of the Children's Oncology Group (COG) Sexual Health Task Force.
- Joanna Gell, MD, was elected co-leader of the Basic Biology Section of the MaGIC (Malignant Germ Cell International Consortium).
- Eileen Gillan, MD, was honored as recipient of the CT Brain Tumor Alliance Award for Pediatric Oncology Excellence for development of the Pediatric Neuro-oncology Program for the State of Connecticut.
- Michael Isakoff, MD, was the recipient of the Heart of Gold Award from the National Pediatric Cancer Foundation at their annual summit. In addition, he was also elected president of the Connecticut Children's Medical Staff.
- Barbara Cohen, RN, BSN, CPON, was awarded the Daisy Award for Extraordinary Nurses.
- Mary Keller, MSN, RN, CPHON, was elected to the COG Nursing Nominating Committee.
- Megan Coco, APRN, received the Association of Pediatric Hematology/Oncology Nurses Counts Writing Award.
- Mary Laliberte, LCSW, was elected treasurer of the Association of Pediatric Oncology Social Workers representing Connecticut Children's.
- Jeanne Walczak, RN, BSN, CPON, was recognized as one of the Connecticut Children's Health Care Heroes.

In addition, a number of us were invited to be grand round speakers on topics including:

- Fertility Preservation for Pediatric, Adolescent and Young Adult Patients (Dr. Frederick, Victoria Pohl, APRN, and Hayley Shaw, RN, BSN, CPHON)
- The 20/20 Perspective of Pediatric Oncology (Division chief Ching Lau, MD, PhD)
- Assessment and Management of Abnormal Uterine Bleeding in Adolescents (Amanda Zuse, APRN)
- We're Done! Now What? Family Members' Satisfaction and Preparedness When the End of Cancer Treatment Is Reached. (Andrew Needham, RN, BSN, BA, Ms. Keller, and Kelly Foy, MS, CCLS)

In terms of research, we have made significant progress in several areas. In particular, we discovered the molecular mechanism of action of the fusion protein C11orf95/RELA in a rare pediatric brain tumor, ependymoma. Because this is a very common fusion found in this type of tumor, for which there currently is no effective chemotherapy, we can now make use of this finding to explore the various options for developing novel targeting therapy. To facilitate this type of therapeutic research, we have also successfully developed a new genetically engineered mouse model harboring the identical human fusion gene. With another rare brain tumor, craniopharyngioma, for which there is also no effective treatment, we are making use of in-silico drug screening to find compounds that could target an activated pathway (WNT) that is commonly found in this type of tumor. Our early results indicate that we have identified some compounds that have activity against such a pathway. We are grateful that in recognition of this exciting ongoing research we received a generous philanthropic gift of $1 million in support of this research. In addition, we continue to be successful in attracting external grants including:

- Grace A. and George L. Long Foundation grant and Johnson Family Foundation grant to Natalie Bezler, MD, MPH
- ATHN Data Quality Counts grant to Donna Boruchov, MD
- NAPNAP Foundation grant to Megan Coco, APRN
- Teen Cancer America grant to Dr. Frederick
- Connecticut Brain Tumor Alliance grant to Eileen Gillan, MD
- Lea's Foundation for Leukemia Research grant and National Pediatric Cancer Foundation grant to Dr. Isakoff
- Reid R. Sacco Adolescent and Young Adult Cancer Alliance grant to Dr. Isakoff
- National Pediatric Cancer Foundation grant to Dr. Isakoff
- Jackson Laboratory Director Innovation Fund grant to Dr. Lau

- Pediatric Brain Tumor Foundation grant to Kimberley Roche, APRN
- APHON grant to Ms. Keller, Courtney King, RN, CPON, Leigh Hart, RN, BSN, CPON, Elizabeth Holden, RN, BSN, CPHON, Mr. Needham, Karina Engelke, APRN, Ms. Foy, Lauren Ayr-Volta, PhD, and Elizabeth Marconi, LCSW, MSc

Our fellowship program continues to thrive under the leadership of Andrea Orsey, MD, MSCE. For the third year in a row, we successfully filled our position through the competitive national match. Dianna Hardatt, MD, joined our two other fellows, John Norko, MD, and Tatiana Lara-Ospina, MD, in July.

PUBLICATIONS

Goode E, **Boruchov D**, Oliveira JL, **Lau CC**. Hemoglobin S/hemoglobin Quebec-Chori presenting as sickle cell disease: a case report. J Pediatr Hematol Oncol. 2020 Nov;42(8):e775-e777. doi: 10.1097/MPH.0000000000001882. PMID: 32657857.

Antwi-Boasiako C, Andemariam B, Colombatti R, Asare EV, Strunk C, Piccone CM, Manwani D, **Boruchov D**, Farooq F, Urbonya R, Wilson S, Boatemaa GD, Perrotta S, Sainati L, Rivers A, Rao S, Zempsky W, Ekem I, Sey F, Segbefia C, Inusa B, Tartaglione I, Campbell AD. A study of the geographic distribution and associated risk factors of leg ulcers within an international cohort of sickle cell disease patients: the CASiRe group analysis. Ann Hematol. 2020 Sep;99(9):2073-2079. doi: 10.1007/s00277-020-04057-8. Epub 2020 May 6. PMID: 32377816; PMCID: PMC7430152.

Campbell AD, Colombatti R, Andemariam B, Strunk C, Tartaglione I, Piccone CM, Manwani D, Asare EV, **Boruchov D**, Farooq F, Urbonya R, Boatemaa GD, Perrotta S, Sainati L, Rivers A, Rao S, Zempsky W, Sey F, Segbefia C, Inusa B, Antwi-Boasiako C. An analysis of racial and ethnic backgrounds within the CASiRe international cohort of sickle cell disease patients: implications for disease phenotype and clinical research. J Racial Ethn Health Disparities. 2020 May 16. doi: 10.1007/s40615-020-00762-2. Epub ahead of print. PMID: 32418182.

Frederick NN, Fine E, Michaud A, Recklitis CJ, Bober SL. Pediatric hematology and oncology fellow education in sexual and reproductive health: a survey of fellowship program directors in the United States. Pediatr Blood Cancer. 2020 May;67(5):e28245. doi: 10.1002/pbc.28245. Epub 2020 Mar 8. PMID: 32147938.

Gell JJ, Liu W, Sosa E, Chialastri A, Hancock G, Tao Y, Wamaitha SE, Bower G, Dey SS, Clark AT. An extended culture system that supports human primordial germ cell-like cell survival and initiation of DNA methylation erasure. Stem Cell Reports. 2020 Mar 10;14(3):433-446. doi: 10.1016/j.stemcr.2020.01.009. Epub 2020 Feb 13. PMID: 32059791; PMCID: PMC7066331.

Oesterheld JE, Reed DR, Setty BA, **Isakoff MS**, Thompson P, Yin H, Hayashi M, Loeb DM, Smith T, Makanji R, Fridley BL, Wagner LM. Phase II trial of gemcitabine and nab-paclitaxel in patients with recurrent Ewing sarcoma: a report from the National Pediatric Cancer Foundation. Pediatr Blood Cancer. 2020 Jul;67(7):e28370. doi: 10.1002/pbc.28370. Epub 2020 May 9. PMID: 32386107.

Reed DR, Metts J, Pressley M, Fridley BL, Hayashi M, **Isakoff MS**, Loeb DM, Makanji R, Roberts RD, Trucco M, Wagner LM, Alexandrow MG, Gatenby RA, Brown JS. An evolutionary framework for treating pediatric sarcomas. Cancer. 2020 Jun 1;126(11):2577-2587. doi: 10.1002/cncr.32777. Epub 2020 Mar 16. PMID: 32176331; PMCID: PMC7318114.

Sayej WN, **Isakoff MS**, DiGiuseppe JA, Moote D, Balarezo F, Finck C, Hyams JS. Primary cutaneous follicle center lymphoma in a 16-year-old boy with Crohn disease exposed to infliximab and methotrexate. J Pediatr Gastroenterol Nutr. 2020 Feb;70(2):e49-e50. doi: 10.1097/MPG.0000000000002578. PMID: 31978035.

Negri GL, Grande BM, Delaidelli A, El-Naggar A, Cochrane D, **Lau CC**, Triche TJ, Moore RA, Jones SJ, Montpetit A, Marra MA, Malkin D, Morin RD, Sorensen PH. Integrative genomic analysis of matched primary and metastatic pediatric osteosarcoma. J Pathol. 2019 Nov; 249(3):319-331.

Nan X, Wang J, Cheng H, Sheng J, Yin Z, Qiu B, **Lau CC**, Yustein JT, Zhao H, Wong STC. Imatinib revives the therapeutic potential of metformin on Ewing sarcoma by attenuating tumor hypoxic response and inhibiting convergent signaling pathways. Cancer Lett. 2020 Jan 28;469:195-206. doi: 10.1016/j.canlet.2019.10.034. Epub 2019 Oct 28.

Amin SB, Anderson KJ, Boudreau CE, Martinez-Ledesma E, Kocakavuk E, Johnson KC, Barthel FP, Varn FS, Kassab C, Ling X, Kim H, Barter M, **Lau CC**, Ngan CY, Chapman M, Koehler JW, Long JP, Miller AD, Miller CR, Porter BF, Rissi DR, Mazcko C, LeBlanc AK, Dickinson PJ, Packer RA, Taylor AR, Rossmeisl JH Jr, Woolard KD, Heimberger AB, Levine JM, Verhaak RGW. Comparative molecular life history of spontaneous canine and human gliomas. Cancer Cell. 2020 Feb 10;37(2):243-257.e7. doi: 10.1016/j.ccell.2020.01.004. PMID: 32049048; PMCID: PMC7132629.

Dahlin AM, Wibom C, Andersson U, Bybjerg-Grauholm J, Deltour I, Hougaard DM, Scheurer ME, **Lau CC**, McKean-Cowdin R, Kennedy RJ, Hung LT, Yee J, Margol AS, Barrington-Trimis J, Gauderman WJ, Feychting M, Schüz J, Röösli M, Kjaerheim K; Cefalo Study Group, Januszkiewicz-Lewandowska D, Fichna M, Nowak J, Searles Nielsen S, Asgharzadeh S, Mirabello L, Hjalmars U, Melin B. A genome-wide association study on medulloblastoma. J Neurooncol. 2020 Apr;147(2):309-315. doi: 10.1007/s11060-020-03424-9. Epub 2020 Feb 13. PMID: 32056145. PMCID: PMC7136185.

Zhu JJ, Jillette N, Li XN, Cheng AW, **Lau CC**. C11orf95-RELA reprograms 3D epigenome in supratentorial ependymoma. Acta Neuropathol. 2020 Sep 9. doi: 10.1007/s00401-020-02225-8. Epub ahead of print. Erratum in: Acta Neuropathol. 2020 Oct 23. PMID: 329091512.

Ali MW, Patro CPK, Zhu JJ, Dampier CH, Plummer SJ, Kuscu C, Adli M, **Lau C**, Lai RK, Casey G. A functional variant on 20q13.33 related to glioma risk alters enhancer activity and modulates expression of multiple genes. Hum Mutat. 2020 Nov 10. doi: 10.1002/humu.24134. Epub ahead of print. PMID: 33169458.

Hyslop S, Tomlinson D, Baggott C, Dix D, Gibson P, Johnston DL, **Orsey AD**, Portwine C, Price V, Vanan M, Kuczynski S, Spiegler B, Tomlinson GA, Dupuis LL, Sung L. Feeling scared or worried self-report in children receiving cancer treatments using the Symptom Screening in Pediatrics Tool (SSPedi). Support Care Cancer. 2020 Oct 17. doi: 10.1007/s00520-020-05818-x. Epub ahead of print. PMID: 33067767.

Dupuis LL, Robinson PD, van de Wetering MD, Tissing W, Seelisch J, Digout C, Sung L, Phillips R; members of the iPOG Network (**Orsey A**). Lexicon for guidance terminology in pediatric hematology/oncology: a white paper. Pediatr Blood Cancer. 2020 Apr;67(4):e28170. doi: 10.1002/pbc.28170. Epub 2020 Jan 23. PMID: 31975542.

Sood D, **Tang-Schomer M**, Pouli D, Mizzoni C, Raia N, Tai A, Arkun K, Wu J, Black LD 3rd, Scheffler B, Georgakoudi I, Steindler DA, Kaplan DL. 3D extracellular matrix microenvironment in bioengineered tissue models of primary pediatric and adult brain tumors. Nat Commun. 2019 Oct 4;10(1):4529. doi: 10.1038/s41467-019-12420-1. PMID: 31586101; PMCID: PMC6778192.

Weiss AR, Chen YL, Scharschmidt TJ, Chi YY, Tian J, Black JO, Davis JL, Fanburg-Smith JC, Zambrano E, Anderson J, **Arens R**, Binitie O, Choy E, Davis JW, Hayes-Jordan A, Kao SC, Kayton ML, Kessel S, Lim R, Meyer WH, Million L, Okuno SH, Ostrenga A, Parisi MT, Pryma DA, Randall RL, Rosen MA, Schlapkohl M, Shulkin BL, Smith EA, Sorger JI, Terezakis S, Hawkins DS, Spunt SL, Wang D. Pathological response in children and adults with large unresected intermediate-grade or high-grade soft tissue sarcoma receiving preoperative chemoradiotherapy with or without pazopanib (ARST1321): a multicentre, randomised, open-label, phase 2 trial. Lancet Oncol. 2020 Aug;21(8):1110-1122. doi: 10.1016/S1470-2045(20)30325-9. Epub 2020 Jul 20. PMID: 32702309.

Zerr DM, Milstone AM, Dvorak CC, Adler AL, Chen L, Villaluna D, Dang H, Qin X, Addetia A, Yu LC, **Conway Keller M**, Esbenshade AJ, August KJ, Fisher BT, Sung L. Chlorhexidine gluconate bathing in children with cancer or those undergoing hematopoietic stem cell transplantation: a double-blinded randomized controlled trial from the Children's Oncology Group. Cancer. 2020 Jan 1;127(1):56-66. doi: 10.1002/cncr.33271. Epub 2020 Oct 20. PMID: 33079403.

Conway Keller M, Ruiz T, Needham A, King C, Hart L, Holden E, Lucas R. Development and content validation of end of treatment questionnaires for children with cancer. J Pediatr Oncol Nurs. 2020 Mar/Apr;37(2):128-135. doi: 10.1177/1043454219878392. Epub 2019 Oct 9. PMID: 31596172.

Conway Keller M, King C, Hart L, Engelke K, Needham A, Holden E, Foy K, Lucas R. The end of cancer treatment experience for children, adolescents, and their parents: a systematic review of the literature. J Psychosoc Oncol. 2020 Sep-Oct;38(5):573-591. doi: 10.1080/07347332.2020.1769795. Epub 2020 Jun 30. PMID: 32602790.

BOOK CHAPTER

Roche K, Coco M, Engelke K, Meadows-Oliver M. Hematologic guidelines. In: Meadows-Oliver M, Banasiak NC, editors. Pediatric practice guidelines. Springer Publishing Co; 2020. p.361-370.

STAFF

Ching Lau, MD, PhD, Division Chief

Michael Isakoff, MD, Clinical Director
Natalie Bezler, MD
Donna Boruchov, MD
Natasha Frederick, MD, MPH
Joanna Gell, MD
Eileen Gillan, MD
Laura McKay, MD
Kerry Moss, MD
Andrea Orsey, MD, MSCE
Lauren Ayr-Volta, PhD
Siddika Mulchan, PhD
Min Tang-Schomer, PhD

Emily Bisson, APRN
Tara Boyd, APRN
Megan Coco, APRN
Keri Curtis, PA
Jennifer Grande, APRN
Meredith Lake, APRN
Christine Longyear, APRN
Karina Engelke, APRN
Morgan McCarthy, APRN
Victoria Pohl, APRN
Kimberly Roche, APRN
Katherine Steven, APRN
Amanda Zuse, APRN

Fellows

John Norko, MD
Tatiana Lara-Ospina, MD
Dianna Hardatt, MD

HOSPITAL MEDICINE

The Division of Pediatric Hospital Medicine (PHM) provides top quality, family centered care for the hospitalized children of our region. Now spanning four inpatient sites, we emphasize an evidence-based approach, driven by best practice. We lead in educational excellence, as the primary teachers for medical students and residents in the inpatient pediatric setting, serving two medical schools, our own pediatric residency program, and three family medicine residency programs. As our young field evolved in 2019 into a formal subspecialty, we enjoyed our first year in 2020 as board-certified pediatric hospitalists, with a 100 percent pass rate for our 12 faculty who sat for the first-ever PHM board exam. The field of PHM continues to grow and thrive, and at Connecticut Children's, we help to shape that growth through our own academic scholarship.

The year 2020 was unlike any other – for our division, for Connecticut Children's, and for the world. As pediatric hospitalists, we led the front line charge against Covid-19 and the related diagnosis of multisystem inflammatory syndrome in children (MIS-C). A second effect of the Covid-19 pandemic has been the explosion in behavioral health challenges for our society's young people. Our division, in collaboration with our psychiatry and psychology colleagues, has been on the front lines of caring for these children when they require medical hospitalization. Amidst these new challenges, we continue to focus on our key areas of impact – clinical work, medical education, quality improvement, scholarly activity, and hospital leadership.

On the clinical front, we again had our busiest year ever, despite the massive changes caused by the Covid-19 pandemic. Patient volume increased over the prior year, and has nearly doubled within the past five years. We continue to provide inpatient care in four locations — at our main campus in Hartford, in our 12-bed satellite unit in Waterbury, as well as within the inpatient units and newborn nurseries of Danbury and Norwalk hospitals. We have brought to these practice sites our own brand of care, with an emphasis on family centered rounds, clinical pathways, and coverage models that promote strong communication with our community partners. Our hospitalists now cover 100 percent of general pediatric inpatients in all of these locations.

As a division, we are particularly proud of our clinical partnership with our advanced practice provider (APP) colleagues. The lead APP, Basia Adams, with a new doctor of nursing practice (DNP) degree in hand, was appointed in 2020 as co-director of the Advanced Practice Providers for all of Connecticut Children's. This group has increased to over 180 members and remains an essential and valued part of our clinical work force. Christina Giudice, APRN, joined Cathy Sullivan, MD, to present nationally and in a regional grand rounds on the topic of somatic symptom disorders. Ms. Giudice joined Ilana Waynik, MD, in a national presentation on viral croup, and was also honored to receive the American Academy of Pediatrics PHM Travel Grant Award, one of just a few recipients nationally. We realize that fostering the talents of our APPs will help their growth while also benefiting Connecticut Children's and the patients we serve.

In the realm of medical education, we led the institution on many levels. The pediatric residents awarded Patricia Garcia, MD, the 2020 Milton Markowitz/Edwin Zalneraitis Award for Outstanding Contribution to House Staff Education and Career Development. PHM again enjoyed the greatest number of nominations for the 2020 Faculty Award for Excellence in Teaching. Drs. Joanne Crowley, Patricia Garcia and Allyson McDermott were all given that honor. Melanie Rudnick, MD, was runner-up for the Timothy N. Kelly Award for Excellence in Teaching Acute Care. PHM division members won the monthly McNeil Teaching Award from the pediatric residents more often than members of any other division. The honor went to Drs. McDermott, Rudnick, Garcia, Hayley Wolfgruber, and Hareem Park.

Members of the division led in numerous educational positions. Dr. Crowley continues as director of Undergraduate Pediatric Education for the University of Connecticut, assisted by Dr. McDermott in her new role as assistant inpatient clerkship director. Dr. Rudnick leads the Quinnipiac University Netter School of Medicine pediatric clerkship at Connecticut Children's. Marta Neubauer, MD, assists that role, spearheading the highly regarded Netter medical student experience at the St. Mary's unit in Waterbury. Our APP group has taken on a role to help educate the Netter students, and that experience has been a model of collaborative interdisciplinary education. Christine Skurkis, MD, continues in her prominent role as associate director of the pediatric residency program. She also has a new national role as chair of the curriculum learning group for the Association of Pediatric Program Directors. As a division, we continue to pursue a goal of establishing our first Pediatric Hospitalist Medicine Fellowship program, which Dr. McDermott would lead. She already leads in this area as a member of the National Council of Pediatric Hospital Medicine fellowship directors.

On the quality improvement front, the year was dominated by Covid-19, and we are proud that one of our own, Dr. Ilana Waynik, leveraged the strengths of our Clinical Pathways Program to help lead us all. She oversaw the rapid development of over 14 new Covid-19-related clinical pathways at Connecticut Children's. These were invaluable in guiding us in daily patient, staff and family care. Ever-evolving policies and changing clinical approaches mandated the use of these standardized pathways to provide the highest level of care for our Covid-19 and MIS-C patients. For this incredible accomplishment, she shared with Grace Hong, APRN, the Physician's Quality Cup Safety Award. Dr. Waynik is the first recipient of this award from our division. The Clinical Pathways Program continued to evolve in non-Covid-19 ways as well. We achieved a major milestone as the program moved to an Internet site. It has since received over 31,000 hits, as providers from all over the country and the world benefit from the 45 to 50 evidence-based clinical pathways. This development extends the impact of Connecticut Children's far beyond our doors.

There were great academic strides in the past year, despite the inability to travel for our numerous national presentations. Multiple faculty members were able to deliver talks or lead workshops virtually at the national level for a number of organizations: Pediatric Academic Society, Pediatric Hospital Medicine, the Association of Pediatric Program Directors, the Council on Medical

Student Education in Pediatrics, and the American Academy of Pediatrics. An exciting year was concluded with wonderful academic news. We learned that Connecticut Children's was one of eight sites nationally to receive a multimillion dollar grant to study Covid-19-related MIS-C. Our division member and pipeline researcher Alex Hogan, MD, is a co-investigator for this award, and will assist Physician-in-Chief Juan Salazar, MD, MPH, in this project to look for biomarkers for MIS-C and Kawasaki's disease. Our division will help to ensure the success of this study, as the majority of inpatients will be from our inpatient service.

Fostering leadership across local, regional and national spheres has been a priority for our division for many years. Division chief Anand Sekaran, MD, served on the 12-member American Academy of Pediatrics PHM PREP editorial board. This group created the first national exam for pediatric hospital medicine, and it will continue to provide this primary learning tool for the PHM board exam. Dr. Sekaran also served as associate editor for the PHM core competencies, which helped to determine the knowledge and skills that are inherent to being a pediatric hospitalist. Kathy Kalkbrenner, MD, took the group to new levels of cohesiveness and engagement in her critical role as the division's clinical director. Dr. Neubauer further evolved her leadership role as site director of our St. Mary's unit, bringing a higher level of quality and positive movement in expanding our partnership with Trinity Health of New England. Beth Natt, MD, MPH, in her role as regional director of the division, oversees expansion of PHM to other locations, ensuring the highest quality of care close to home for our patients. MacDara Tynan, MD, MBA, served as senior director of practice operations for Connecticut Children's Specialty Group. Jane Im, MD, and Jill Herring, APRN, brought their expertise to roles within Information Solutions, working innovatively to improve efficiency.

As pediatric hospitalists, we continue to evolve in how we provide value to our patients and families, educate trainees, and improve inpatient care. Our goal is not only to measure our performance against national standards but to be at the top of those benchmarks. Yet as we continue to grow, we strive to maintain our greatest core value of putting patients and families first in all we do.

PUBLICATIONS

Andrews AL, Williams DC, **Hogan AH**. Clinical progress note: Care of children hospitalized for acute asthma exacerbation. J Hosp Med. 2020;8-10. doi:10.12788/jhm.3382.

Hogan AH, Flores G. Social determinants of health and the hospitalized child. Hosp Pediatr. 2020;10(1):101-103. doi:10.1542/hpeds.2019-0289.

Lewis E, **Waynik I**, Mackey S. Decreasing pain experienced by hospitalized pediatric patients by increasing the use of topical anesthetics for peripheral intravenous (PIV) line placement. BMJ Open Quality. Dec 2019;8(S2)A16-A19. doi:10.1136/bmjoq-2019-ihi.10.

McMahon E, Fried A, **Rudnick M**, Corden M. Intraventricular hemorrhage in a term neonate. Ped Rev. 2020 Jan;41(1):31-33. doi.org/10.1542/pir.2018-0156.

Silver AH, Andrews AL, Azzarone G, Bhansali P, Hjelmesth E, **Hogan AH**, O'Connor KM, Romo N, Parikh K. Engagement and leadership in firearm-related violence prevention: the role of the pediatric hospitalist. Hosp Pediatr. 2020;10(6). doi:10.1542/hpeds.2019-0327.

STAFF

Anand Sekaran, MD, *Division Chief*

Kathy Kalkbrenner, MD, *Clinical Director*
Joanne Crowley, MD
Patricia Garcia, MD
Alex Hogan, MD
Jane Im, MD
Kathy Kalkbrenner, MD
Allyson McDermott, MD
Marta Neubauer, MD
Hareem Park, MD
Melanie Rudnick, MD
Christine Skurkis, MD
Catherine Sullivan, MD
MacDara Tynan, MD, MBA
Ilana Waynik, MD
Hayley Wolfgruber, MD

Basia Adams, APRN, DNP, *lead APP*
Kara Denz-Fluck, PA-C
Christine Giudice, APRN
Jill Herring, APRN

St. Mary's Health Providers

Kayla Ingram, PA-C, *lead PA*
Kalin Balides, PA-C
Lauren Dale, PA-C
Marisa Shaker, PA-C

Nuvance Health Providers

Beth Natt, MD, MPH, *Regional Director*
Donald Sampson, MD
Alicia Briggs, MD
Amanda Begley, MD

Jacqueline Talbot, PA-C, *lead PA, Danbury*
Beth Cross, PA-C
Alexandra Pavain, PA-C
Alexis D'Aloisio, PA-C
Lauren Smith, PA-C

Pamela Fanning, PA-C, *lead PA, Norwalk*
Jennifer Napolitano, PA-C
Nora Croll, PA-C
Kimberly Orzech, PA-C
Jacquelyn Brown, PA-C

INFECTIOUS DISEASES & IMMUNOLOGY

The Division of Infectious Diseases and Immunology provides outstanding care for children with infections and immune deficiencies and for children and families who require travel advice. Members of the division are also involved in several NIH-funded research projects including spirochetal infection, Covid-19-related inflammatory disorders, as well as antimicrobial resistance and vaccine development.

CLINICAL PROGRAMS

In normal times, the Division of Infectious Diseases and Immunology provides extensive inpatient and outpatient consultation and primary services for children and youth with common and complex infectious diseases, congenital and acquired immunodeficiencies, including HIV, and those requiring travel medicine.

During the Covid-19 pandemic, the division dramatically expanded its responsibilities to include taking on a variety of critical clinical roles:

1. SARS CoV-2 pathways for clinical care of infected children: Numerous clinical care pathways for the management of SARS CoV-2-infected children were created and used for patient care management under the leadership of Grace Hong, APRN, and Ilana Waynik, MD, of the Division of Hospital Medicine.
2. SARS CoV-2 pathways for employees and their families: Numerous pathways for the protection of employees pre- and post-exposure to Covid-19 infections were created and used as policy by the organization under the leadership of Grace Hong, APRN, and Dr. Waynik.
3. Covid physician on call for the organization: Every week during the pandemic, from 8:30 a.m. to 4:30 p.m., Monday through Friday, one of the Infectious Diseases physicians was on call to answer faculty, community physician, and provider questions about Covid-19, and to provide back-up to the One Call Center.
4. Inpatient consultation: Inpatient consultations continued unabated during the pandemic and increased over the last few weeks of 2020 due to an increase in admissions of SARS CoV-2-infected children with acute Covid-19 infection as well as multisystem inflammatory syndrome (MIS-C). Due to the pandemic and stay-at-home directives for two of the faculty, the division was short-staffed. Special mention goes to Ed Kim, MD, and Hassan El Chebib, MD, for taking extra inpatient call, as well as to Melissa Held, MD, Alberto Cohen-Abbo, MD, and Connecticut Children's Physician-in-Chief and division member Juan C. Salazar, MD, MPH.
5. Telemedicine for ambulatory patients: The division pivoted to telemedicine visits to ensure that our patients had continued access during the height of the pandemic. We conducted more than 980 telemedicine visits for the year. We also had 724 ambulatory in-person visits and 56 travel clinic visits.
6. Employee Covid monitoring (occupational health by our family medicine physician and nurses) for employees exposed to and /or infected with SARS CoV-2, to include telemedicine follow-up: Under the leadership of Hank Feder, MD, who is board-certified in both Pediatrics and Family Medicine, he and the division nursing staff managed employees with positive Covid-19 tests via telemedicine and phone to ensure proper care, treatment and monitoring. In collaboration with Infection Control, follow-up of potentially exposed team members was also done.
7. *Ask the Experts*: Interim division chief John Schreiber, MD, MPH, gave weekly updates on the Continuing Medical Education (CME) webinar platform *Ask the Experts*, which was created in response to the Covid-19 pandemic. The weekly webinars help to keep members of our community informed of the latest scientific and clinical updates. This lecture series has maintained strong ratings particularly in the Clinically Integrated Network, and it reaches on average 200 participants weekly.

ANTIMICROBIAL STEWARDSHIP PROGRAM

Under the leadership of Drs. Jennifer Girotto, Schreiber and El Chebib, the Antimicrobial Stewardship Program at Connecticut Children's continued to implement new quality initiatives to improve appropriate usage of antimicrobials. These included improving the 48-hour Best Practice Alert based on provider feedback to ensure provider documentation of 48-hour time-out, implementation of duration into all antimicrobials, and reporting antimicrobial usage to the National Health and Safety Network section of the Centers for Disease Control and Prevention. Additionally, the institution continues to show commitment to patient safety and improved clinical outcomes by supporting a second post-graduate, year-two infectious diseases pharmacy resident, which allows the Antimicrobial Stewardship Program to provide daily support of restrictions, antimicrobial use evaluation, and feedback to clinicians. Vancomycin usage was also closely tracked with reductions in usage.

HIV PROGRAM AND SERVICES

Despite the pandemic, the Pediatric and Youth HIV Program at Connecticut Children's, which is comprised of a multidisciplinary team of physicians, case managers, nurses and health advocates, continued to provide timely, family centered, and culturally sensitive care to children, adolescents, and parents infected and affected by HIV. The program has been continuously funded through the Ryan White program for almost three decades, having been awarded over $20 million from the federal government for the provision of direct HIV patient care services. The Ryan White-funded medical case management team stays abreast of cutting edge, innovative and evidence-based practice modalities, augmenting their skills by participating in professional development opportunities through trainings and workshops such as Motivational Interviewing, Couples Testing, Functional Behavioral Assessment, Adolescent Opioid Screening, Brief Intervention and Referral to Treatment (S-BIRT), and Youth Mental Health First Aid.

The HIV team has established and implemented an evidenced-informed psycho-educational peer-to-peer group that enhances the overall mental health of our

patients. The peer-to-peer model has been known to be effective, cost-efficient and looked upon favorably by the Health Resource Services Administration (HRSA). We are finishing our first year of the DPH two-year Integrated HIV Testing and PrEP Navigation Project. The utilization of pre-exposure prophylaxis (PrEP) as a prevention tool has been incorporated into both the medical treatment side and the Hartford Youth HIV Identification and Linkage (HYHIL)/HIP prevention efforts at our program. Our HYHIL program continues to coordinate with and collaborate in community efforts with participating agencies. The Ryan White Program plans to implement the Hartford Teen Pregnancy Prevention Project in the coming year and will continue to provide the Health Interactive Project to Connecticut's high schools.

FELLOWSHIP

Under the direction of Drs. Salazar and El Chebib, the division restarted the Infectious Diseases Fellowship. Numerous excellent applications were received. Although the division did not match a fellow in 2020, a Medicine/Pediatrics fellow matched to UConn and plans on also doing a Pediatric Infectious Diseases Fellowship beginning in 2022.

RESEARCH

Research in the division was challenged by the ongoing Covid-19 pandemic. However, significant achievements continued unabated.

In an exciting development at the end of 2020, a new multicenter international project led by Dr. Salazar was funded by the National Institutes of Health (NIH). The project is focused on the epidemiologic, clinical and laboratory predictors of progression toward severe forms of acute infection with SARS-CoV-2 and multisystem inflammatory syndrome in children (MIS-C) and are thus urgently needed in the fight against Covid-19 in this population. As defined in the NIH Rapid Acceleration of Diagnostics (RADx) program, biomarker discovery can enable risk stratification and guide interventional studies to target Covid-19 patients at enhanced risk of developing complications and/or severe disease. To target this discovery initiative, Dr. Salazar and his team will use a battery of biological, immunological and molecular tests, including Grating-Coupled Fluorescence Plasmonic (GCFP) and advanced flow cytometry, to study children and young adults (under 21 years of age) with mild, moderate or severe SARS-CoV-2 infection. GCFP allows the use of disposable biosensor chips that can be mass-produced at low cost and spotted in microarray format to greatly increase multiplexing capabilities. In addition, the team will use a similar biomarker approach for rapid differentiation of patients with MIS-C versus other pediatric infectious or inflammatory conditions where the clinical presentation resembles MIS-C, most importantly Kawasaki disease. Dr. Salazar and his fellow researchers hypothesize that a child's biomarker profile in response to SARS-CoV-2 infection enables a timely and accurate prediction of severity of Covid-19 and diagnosis of MIS-C, and it will help guide treatment strategies and predict patient outcomes.

The Spirochetal Research Labs co-directed by Justin Radolf, MD, and Dr. Salazar, entered the second year of a five-year $11 million award from the National Institute of Allergy and Infectious Diseases (NIAID) at the NIH to develop a vaccine for syphilis. The international study team is comprised of researchers from UConn School of Medicine, Connecticut Children's, the Duke Human Vaccine Institute, the University of North Carolina (UNC) at Chapel Hill Institute for Global Health and Infectious Diseases, UNC Project-Malawi, CIDEIM in Cali, Colombia, Masaryk University in the Czech Republic, and Southern Medical University in Guangzhou, China.

The second project, directed by Dr. Salazar and Arlene Seña, MD, MPH, associate professor of medicine at UNC-Chapel Hill, includes Kelly Hawley, PhD, a research scientist in the Division of Pediatric Infectious Diseases at Connecticut Children's. It involves mapping the global diversity of various Treponema pallidum strains to determine outer membrane protein variation in preparation for a proper vaccine formulation.

The third project leverages technology developed for HIV research at the Duke Human Vaccine Institute. Armed with knowledge of the structures of the syphilis bacterium outer-membrane proteins generated at UConn Health and Connecticut Children's, the Duke team, led by Anthony Moody, MD, can identify B cells that produce antibodies directed against extracellular loops.

The division continues to publish in a wide area of research, including clinical reports and reviews and book chapters.

ACTIVE RESEARCH GRANTS

1U19AI144177 (PIs: J. Radolf and T. Moody) Sexually Transmitted Infections (STI) Cooperative Research Centers (CRC): Vaccine Development (NIAID-NIH). PI: Juan C. Salazar, MD, MPH – Project II (Sub 5933) – (Co-PI Dr. Arlene Seña). Global sequence and surface antigenic diversity of Treponema pallidum outer membrane proteins. 4/2019 – 3/ 2024. Total costs for Project II year 1: $738,383. (Direct costs year 1: $620,736)

R01 AI029735 (Radolf/Caimano) – 09/19/2018-08/31/2023, NIH/NIAID, $330,974.
RpoS Regulation of Borrelia burgdorferi Genes in Vivo.

1R61HD105613 (PI: Juan Salazar, MD, MPH) – 01/01/2021-11/30/2022, NIH/NIAID, $1,685,063. Identifying biomarker signatures of prognostic value for multisystem inflammatory syndrome in children (MIS-C).

PUBLICATIONS

Dulek DE, Fuhlbrigge RC, Tribble AC, Connelly JA, Loi MM, **El Chebib H**, Chandrakasan S, Otto WR, Diorio C, Keim G, Walkovich K, Jaggi P, **Girotto JE**, Yarbrough A, Behrens EM, Cron RQ, Bassiri H. Multidisciplinary guidance regarding the use of immunomodulatory therapies for acute Covid-19 in pediatric patients. J Pediatr Infect Dis Soc. 2020 Aug 18; piaa098. doi: 10.1093/jpids/piaa098. Epub ahead of print.

Tribble AC, Lee BR, Flett KB, Handy LK, Gerber JS, Hersh AL, Kronman MP, Terrill CM, Sharland M, Newland JG. Sharing Antimicrobial Reports for Pediatric Stewardship (SHARPS) Collaborative. Appropriateness of antibiotic prescribing in United States Children's Hospitals: a national point prevalence survey. Clin Infect Dis. 2020 Nov 5;71(8):e226-e234. doi: 10.1093/cid/ciaa03.

Feder HM Jr, Kennedy T. A herpes type1 skin infection in a neonate. BMJ. 2020;368:17076. doi: https://doi.org/10.1136/bmj.l7076.

Feder HM Jr, Rezuke W. Infectious mononucleosis diagnosed by Downey cells: sometimes old ways are better. Lancet. 2020 Jan 18;395(10219):225. doi: 10.1016/S0140-6736(19)32962-9.

Manthiran K, Preite S, Dedeoglu F, Demir S, Ozen S, Edwards KM, Lapidus S, Katz AE, Genomic Ascertainment Cohort, **Feder HM Jr**, et al. Common genetic susceptibility loci link PFAPA syndrome, Behçet's disease, and recurrent aphthous stomatitis. Proc Natl Acad Sci USA. 2020 Jun 23;117(25): 14405-14411. doi: 10.1073/pnas.2002051117. Epub 2020 Jun 9.

Feder HM Jr, Telford S, Goethert HK, Wormser GP. Powassan virus encephalitis following brief attachment of Connecticut deer ticks. Clin Infect Dis. 2020 Aug 16. https://doi.org/10.1093/cid/ciaa1183.

Abid Q, Asmar B, **Kim E**, Molloy L, Gregory M, Valentini RP. Intraperitoneal vancomycin treatment of multifocal methicillin-resistant Staphylococcus aureus osteomyelitis in a patient on peritoneal dialysis. Am J Health-Sys Pharm. 2020 Oct 14;77(21):1746-1750.

Kim E, Feder H. Roseola. BMJ Best Pract. 2020 Apr. https://bestpractice.bmj.com/topics/en-us/756.

Kim E, Asmar B, Thomas R, Abdel-Haq N. Cytomegalovirus viremia and resistance patterns in immunocompromised children: an 11-year experience. Pediatr Hematol Oncol. 2020 Mar;37(2):119-128.

Luthra A, Montezuma-Rusca JM, La Vake CJ, LeDoyt M, Delgado KN, Davenport TC, Fiel-Gan M, Caimano MJ, Radolf JD, **Hawley KL.** Evidence that immunization with TP0751, a bipartite Treponema pallidum lipoprotein with an intrinsically disordered region and lipocalin fold, fails to protect in the rabbit model of experimental syphilis. PLoS Pathog. 2020 Sep 16;16(9):e1008871. doi: 10.1371/journal.ppat.1008871. eCollection 2020 Sep. PMID: 32936831

STAFF

John R. Schreiber, MD, MPH,
Interim Division Chief

Alberto Cohen-Abbo, MD
Hassan El Chebib, MD
Henry M. Feder, Jr., MD
Melissa Held, MD
Ed Kim, MD
Hillary Hernandez-Trujillo, MD
Juan C. Salazar, MD, MPH
Gavin Schwarz, MD

Melissa J. Caimano, PhD
Kelly Hawley, PhD
Jennifer Girotto, PharmD

Grace Hong, APRN

MEDICAL GENETICS

The Division of Medical Genetics resides jointly in the Department of Genetics and Genome Sciences, the Department of Obstetrics and Gynecology, and the Department of Pediatrics. The mission of the division is to provide high quality, timely and state-of-the-art genetic consultations, counseling, and interventions for patients from the prenatal period through childhood, adolescence, and into adulthood.

This past year Karen Rubin, MD, was appointed interim division chief of the Pediatric Clinical Genetics Program at Connecticut Children's to lay the groundwork for building a contemporary pediatric genetics/genomics program. Recognizing the large administrative burden of genetic testing, a new job description and position, genetic counselor assistant, was approved to offload administrative tasks from geneticists and genetic counselors.

Divisional Structure and Staffing:

A multidisciplinary Genetics Care Team comprised of clinical geneticists, genetic counselors, and metabolic dieticians provides genetics/genomics expertise and services across the life continuum at UConn Health and Connecticut Children's. The consolidated care team is comprised of 2.0 FTE clinical medical geneticists, 2.0 FTE prenatal genetic counselors, 0.8 FTE general genetic counselor, 0.8 FTE newborn screening (NBS) genetic counselor, 1.8 FTE hereditary cancer genetic counselors, 1.0 FTE teratology counselor, and 0.8 FTE metabolic dietitians. The academic, administrative, and clinical offices reside at 11 South Road, Farmington. Pediatric-aged general genetic patients and metabolic patients are seen at the Connecticut Children's office at that location, and adult general genetics patients are seen at a UConn Health office at the same address. Prenatal and hereditary cancer genetic counseling services are provided in the outpatient pavilion on the main UConn Health campus. MotherToBaby CT, our teratogen-counseling program, provides additional prenatal counseling services at 195 Farmington Ave., Farmington, CT.

Educational mission:

The division's teaching responsibilities begin in the first year of medical school and extend through the postgraduate years. A substantial number of medical students, residents, fellows, and genetic counselor learners rotate through Genetic clinics and/or attend educational sessions provided by Genetics faculty.

Participation on a national committee:

Sharon Voyer Lavigne, MS, LGC, serves on the board of directors for the Organization of Teratology Information Services (OTIS). (She also serves as vice president of the board of directors for Postpartum Support International, Connecticut Chapter.)

Collaborations within UConn Health:

The Medical Genetics division supports UConn's Maternal-Fetal Medicine Program and the Ray Neag Comprehensive Cancer Center in Farmington. Increased adoption of non-invasive prenatal genetic testing and of expanded and improved test offerings for patients with hereditary cancers continue to drive up patient volumes in the prenatal service and the hereditary cancer-counseling program. MotherToBaby CT expanded its statewide coverage over the past year.

Collaborations within Connecticut Children's:

Joseph Tucker, MD, continues in his role as an active member of the GUPPE program, which provides multidisciplinary care for children with disorders of sexual development. The program also includes members of Connecticut Children's Urology, Psychiatry, Psychology, and Endocrinology divisions.

Collaboration with the DPH Newborn Screening (NBS) Lab and the Connecticut Newborn Diagnosis and Treatment Network:

Connecticut Children's Genetics division has assumed an expanded role in newborn screening (NBS) since the statewide network model went live in 2019 with an electronic NBS Registry within Epic that links to the Department of Public Health (DPH) Lab's electronic system, Maven. The network, funded through the Connecticut DPH, is housed in the Pediatric Clinical Genetics Program at 11 South Road in Farmington. It was planned and implemented by Connecticut Children's under the leadership of Dr. Rubin, and it serves as the communication link between the DPH NBS laboratory, primary care providers or hospital-based medical providers, five subspecialty clinical care teams at both Connecticut Children's and Yale New Haven Hospital (Genetics, Endocrinology, Hematology, Neurology, and Immunology), and families. The network responds to all NBS results that are abnormal in the entire state of Connecticut. In coordination with the infant's health care providers (HCPs), the network initiates a diagnostic work-up and provides support to the HCP and family. If an infant confirms positive for a disorder, the network coordinates treatment and long-term follow-up, working with primary care physicians, hospitals, and specialists statewide. Connecticut now screens for more than 60 disorders. In the past year, the network received 386 referrals from the DPH NBS lab with 221 abnormal screens in genetics. Our geneticists provided real-time interpretation for these 221 cases, initiated further diagnostic testing, and ensured timely initiation of care. To support the expanded roles of our geneticists, the network provides genetic counseling services and metabolic dieticians to assist patients and their families identified through NBS as having metabolic disorders. The network team includes 1.0 FTE nurse coordinators, a 1.0 FTE Epic analyst who oversees the NBS Registry and related reporting and analytics, and a 0.8 FTE dedicated genetic counselor. The Connecticut Children's Metabolic Clinic now sees both adult and pediatric patients for purposes of continuity of care and care coordination.

NBS GRANTS

Connecticut DPH grant – For the provision of a diagnostic and treatment network for Connecticut's Newborn Screening Program (NBS) utilizing a population health approach. PI: Karen Rubin, MD. Annually for three years starting 7/1/18; total $1,797,531; $599,177 per year.

Federal grant, Association of Maternal and Child Health Programs (AMCHP) – Leveraging telehealth and the family voice to deliver on the promise of newborn screening. PI: Karen Rubin, MD. Award notification: 9/29/20, $100,000. The project goals are to improve access to families for health care and support in the pre-diagnosis phase and to expand access to genetic counseling services for the families affected by NBS. In addition, we will utilize this funding to support the development of the family voice in the network programs and activities by building and training a family advisory group to advise the network on how to improve educational outreach activities moving forward, and in particular to reach ethnically diverse families facing health inequities.

STAFF

Karen Rubin, MD, *Interim Division Chief of Pediatric Clinical Genetics Program, and Director of the NBS Network*

Medical Geneticists

Joseph Tucker, MD
Jaclyn Beirne, MD

Medical Genetic Counselors

Alicia Craffey, MS, LCGC
Brittany Gancarz, MS, LCGC
Jennifer Stroop, MS, LCGC
Sharon Voyer Lavigne, MS, LGC
Connor Linehan, MS, LGC

Pediatric Genetic Counselor

Virginia Casola, MS, LCGC

Metabolic Dietitians

Sherry Gray, MS, MPH, CD-N
Kaitlyn Ware, MS, RD, CNSC, CD-N

Newborn Screening Network Team:

Genetic Counselor

Ginger Nichols, MS, LCGC

RN Coordinators

Debra Ellis
Meghan Criscuolo

RN Epic Analyst

Katherine Raboin

NEONATAL-PERINATAL MEDICINE

The Division of Neonatal-Perinatal Medicine is anchored by our Level IV children's NICU (neonatal intensive care unit) in Hartford, CT. We're proud to once again be ranked among the best in the nation by U.S. News & World Report. *The division directs one of the largest and most diverse clinical services in New England and is a major perinatal regional center for Connecticut. The primary mission of the division is to provide high quality, state-of-the-art care to neonates in both our state and our region, in addition to advancing education, training, and cutting edge research.*

The division faculty provides care at multiple sites across our region including within Connecticut at Children's (Hartford), Connecticut Children's at the University of Connecticut Health Center (UCHC)/John Dempsey Hospital (JDH) in Farmington, St. Francis Hospital and Medical Center (SFHMC) in Hartford, Eastern Connecticut Health Network (ECHN) in Manchester, the Hospital of Central Connecticut (THOCC) in New Britain, MidState Medical Center in Meriden, William W. Backus Hospital in Norwich, St. Vincent's Medical Center in Bridgeport, Windham Hospital in Willimantic, and Nuvance Health™, which includes both Danbury and Norwalk hospitals in Connecticut. This year we have begun providing services in Eastern New York, through our partnership with Nuvance Health™. Our faculty members not only work collaboratively across these sites but also are leaders in the Connecticut Perinatal Quality Collaborative, helping to improve maternal and newborn care at the state level.

This year has been challenging for all of us. The impact of Covid-19 has been felt at every level of health care. In the Division of Neonatology across all of Connecticut Children's affiliated sites, we have managed the challenges of taking care of neonates and families with Covid-19. We are actively participating in the national registry for surveillance and epidemiology of perinatal Covid-19 infections, and while our research labs were idled for a period of time during the spring, they have come back strong, and our research and publications have been shared at meetings regionally and nationally. Among the year's highlights, we were pleased to expand our growing partnerships with Nuvance Health™ and Hartford HealthCare. We have expanded neonatal services into the three New York Hospitals owned by Nuvance Health. These include Vassar Brother's in Poughkeepsie, Northern Duchess in Rhinebeck, and Putnam Hospital in Carmel Hamlet, NY. We are increasing subspecialty support for these units and will be leveraging both in-person as well as virtual health to provide even greater access to Connecticut Children's subspecialists to fragile newborns in these areas. Our care alliance with Hartford HealthCare has seen growth in the NICU at St. Vincent's in Bridgeport and an increasing level of complexity at William H. Backus Hospital in Norwich. We are planning on growing our maternal and neonatal services at our flagship NICU in Hartford over the coming year.

The research mission of the Division of Neonatal-Perinatal Medicine focuses on several areas including the science of human milk and nutrition with multidisciplinary teams of professionals working within the Connecticut Children's Human Milk Research Center. We also have a core faculty group interested in inflammation biology and NEC (necrotizing enterocolitis) and how toll-like receptors (TLR) and pregnane X receptor (PXR) are involved within the development of or protection from NEC. Our division's continued partnership with UConn Storrs has focused on examining neuroprotection strategies after hypoxic-ischemic encephalopathy (HIE) from a translational perspective. Our Neonatal Neurodevelopment Follow-up Clinic (NNFP) is also involved in the New England Regional Follow-up Consortium and has been publishing outcomes data from our multiple NICUs.

As an academic section, education through teaching and mentoring neonatology fellows, pediatric residents, medical students, nurse practitioners, physician assistants and pharmacy students is a primary objective. The faculty continues to lecture and organize National Neonatology board review courses, present work at regional, national and international meetings, and publish textbooks in the field.

NEONATAL CRITICAL CARE TRANSPORT TEAM

The Neonatology division's dedicated Transport Team is responsible for the transport of critically ill neonates from referring hospitals across New England to a newborn intensive care unit (NICU) within our network that is appropriate for the baby's individualized medical needs. We believe in leveraging our regionalized clinical neonatal network to provide the right care, at the right place, at the right time, as close to home as possible.

The team also transports newborns requiring procedures or evaluations to and from Connecticut Children's Level IV NICU at the Hartford campus. In 2020, the Transport Team provided 680 transports (285 were neo; 395 were pedi). Neonatal-Perinatal medicine fellows (PGY4-6) are actively involved in the transport program. Fellows participate in transports during on-service rotations and during calls on nights and weekends. Our teams consist of a medical practitioner, neonatal fellow, neonatal nurse practitioner (NNP) or PA, neonatal nurse and respiratory therapist allowing for transport of the highest acuity neonates.

NEONATAL NEURODEVELOPMENTAL FOLLOW-UP PROGRAM

Connecticut Children's Neonatal Neurodevelopmental Follow-Up Program is a regional effort that provides services to all high-risk infants born and discharged from the NICUs across Connecticut. We are pleased to announce that in 2021 we will open a second Neonatal Follow-up Clinic at our subspecialty care center location in Danbury. These programs receive referrals from NICUs at Connecticut Children's in Hartford and Farmington, St. Francis Hospital, the Hospital of Central Connecticut, and Eastern Connecticut Health Network, as well as Connecticut Children's ECMO program, the medical center's Cardiology, Neurosurgery, and Pediatric Surgery divisions, and community pediatricians. With our two locations, we are now able to support neonatal follow-up across our Connecticut network and into western Massachusetts and eastern New York.


PINK
PINK

Our follow-up clinics provide multidisciplinary comprehensive assessment for growth and nutrition, as well as neurologic, and developmental and behavioral assessment using standardized developmental testing tools such as the Bayley Scales of Infant and Toddler Development®, Third Edition, and the Brief Infant-Toddler Social and Emotional Assessment (BITSEA). These assessments are conducted by trained providers including neonatologists, occupational and physical therapists, and nurses. Eligible children are seen at regular intervals, starting soon after discharge from the hospital to 3 years of age.

PUBLICATIONS

Fabrizio V, Trzaski JM, Brownell EA, **Esposito P, Lainwala S, Lussier MM, Hagadorn JI**. Individualized versus standard diet fortification for growth and development in preterm infants receiving human milk. Cochrane Database Syst Rev. 2020 Nov 23;11:CD013465. doi: 10.1002/14651858.CD013465.pub2.

Jarmoc Gt, Bar-Yam N, **Hagadorn JI, Tosi L**, Brownell EA. Demographics and geographic distribution of mothers donating to a non-profit milk bank. Breastfeed Med. 2020 Oct 21. Online ahead of print. 2021 Jan;16(1):54-58. doi: 10.1089/bfm.2020.0197. Epub 2020 Oct 21. PMID: 33090004. doi: 10.1089/bfm.2020.0197.

Caldwell J, Matson A, Mosha M, Hagadorn JI, Moore J, Brownell E. Maternal H-antigen secretor status is an early biomarker for potential preterm delivery. J Perinatol. 2020 Nov. doi: 10.1038/s41372-020-00870-1. PMID 33235282.

Hagadorn JI, Johnson KR, Hill D, **Sink DW.** Improving the quality of quality metrics in neonatology. Semin Perinatol. 2020;44(4):151244. doi:10.1016/j.semperi.2020.151244. PMID: 32248956.

Perrin MT, Belfort MB, **Hagadorn JI**, McGrath JM, Taylor SN, **Tosi LM**, Brownell EA. The nutritional composition of donor human milk in North America: a systematic review. Adv Nutr. 2020. Epub 2020 Mar 2. PMID: 32119744.

Jo DB, **Hagadorn JI**, Smith KC, **Esposito PA**, Brownell EA. Macronutrient content of donor milk labelled 24 kcal/oz from Human Milk Banking Association of North America milk banks. J Perinatol. 2020 Apr;40(4):666-671. Epub 2020 Feb 18. PMID: 32071366.

O'Callahan C, Te S, Husain A, Rosener SE, **Hussain N.** The effect of circumcision on exclusive breastfeeding, phototherapy, and hospital length of stay in term breastfed newborns. Hosp Pediatr. 2020;10:516-522.

Alur P, Kalikkot Thekkeveedu R, Meeks M, Hart KC, Desai J, Johnson M, **Hussain N**, et al. Calorie intake is associated with weight gain during transition phase of nutrition in female extremely low birth weight infants. Biol Sex Differ. 2020;11:16. PMID: 32293535. PMCID: PMC7160909. doi:10.1186/s13293-020-00295-7.

Ibrahim A, **Hussain N.** Brief report: Metabolic acidosis in newborn infants following maternal use of acetazolamide during pregnancy. J Neonatal Perinatal Med. 2020;13:419-425.

Lainwala S, Kosyakova N, Power K, **Hussain N, Moore JE, Hagadorn JI**, et al. Delayed achievement of oral feedings is associated with adverse neurodevelopmental outcomes at 18 to 26 months follow-up in preterm infants. Am J Perinatol. 2020;37:483-490. doi: 10.1055/s-0039-1681059.

Gehl B, Brownell EA, **Power K**, Feinn R, Haines K, **Lussier M, Moore J, Lainwala S.** Comparison of types of breast milk fortification at discharge from the neonatal intensive care unit and breast milk feeding rates and growth at 4 months corrected age. Breastfeed Med. 2020;10:655-661. doi: 10.1089/bfm.2020.0022. Epub 2020 Jul 31.

Litt JS, Edwards EM, **Lainwala S**, Mercier C, Montgomery A, O'Reilly D, Rhein L, Woythaler M, Hartman T. Opitimizing high-risk infant follow-up in nonresearch-based paradigms: the New England Follow-up Network. Pediatr Qual Saf. 2020;5:e287. doi: 10.1097/pq9.0000000000000287.

Paveglio S, Ledala N, Rezaul K, Lin Q, Zhou Y, et al., (**Matson AP**, 10/10). Cytotoxin-producing Klebsiella oxytoca in the preterm gut and its association with necrotizing enterocolitis. Emerg Microbes Infect. 2020;9(1):1321-1329. doi: 10.1080/22221751.2020.1773743.

Dvořák Z, Kopp F, Costello CM, Kemp JS, Li H, et al., (**Matson A**, 37/45). Targeting the pregnane X receptor using microbial metabolite mimicry. EMBO Mol Med. 2020;7:12(4):e11621.

Rhein L, White H, Simoneau T, Traeger N, Lahiri T, Kremer T, Sheils C, Meyer K, **Rosenkrantz T**, Krishnan S, Hartman T, Feldman HA, Abu Jawdeh EG. Transmitted home oximetry and duration of home oxygen in premature infants. Pediatrics. 2020;146(2). doi: 10.1542/peds.2020-0079.

White H, Berenson A, Mannan J, Feldman HA, Rhein L, and the RHO Study Group. Utilization trends of respiratory medication in premature infants discharged on home oxygen therapy. Pediatr Pulmonol. 2020 May. doi: 10.1002/ppul.24735.

Casavant SG, Li H, **Cong X**, Starkweather A, **Moore J, Rosenkrantz TS**, Fitch RH. Behavioral and neuroanatomical outcomes following altered serotonin expression in a hypoxic-ischemic injury neonate rodent model. J Neonatal Perinatal Med. 2020 Nov 4. doi: 10.3233/NPM-200418. Epub ahead of print.

BOOK CHAPTERS

Chaudhry S, Laudone J. Diabetic ketoacidosis. In: Rauch D, Osorio SN, editors. Challenging cases in pediatric hospitalist medicine. Illinois: American Academy of Pediatrics; 2020. p. 167-170.

Bruno CJ, **Pyle AK.** Chapter 2: Assisted reproductive technologies, multiple births, and pregnancy outcomes. In: Campbell D, editor. Neonatology for primary care. 2nd ed. American Academy of Pediatrics; 2020 Feb.

STAFF

James E. Moore, MD, PhD, *Division Chief*

Annmarie Golioto, MD, *Regional Clinical Director*
David W. Sink, MD, *Regional Clinical Director*
Jose Arias-Camison, MD
Tina Rita Bafumi, MD
Fadel Balawi, MD
James Belisle, MD
Arvin Bundhoo, MD
Sonia Chaudhry, MD
Brett Citarella, MD
Leonard I. Eisenfeld, MD
Veronica Fabrizio, DO
Nada Ghoneim, MD
Ahmet Gork, MD
James Hagadorn, MD
Catherine Hansen, MD
Victor C. Herson, MD
Naveed Hussain, MBBS, MD
Carla Jacobson-Kiel, MD
Kendall Johnson, MD
Isabella Knox, MD
Shabnam Lainwala, MD
Nancy Louis, MD
Kathleen Marinelli, MD
Adam Matson, MD
Arpana Mohnani, MD
Sandra Motta, MD
Mariann Pappagallo, MD
Indira Panthagani, MD
Alaina Pyle, MD
Ted S. Rosenkrantz, MD
Marilyn Sanders, MD
Shikha Sarkar, MD
Meltem Seli, MD
Julie Sheehan, MD
Morgan Spaight, MD
Jennifer Trzaski, MD
Aniruddha Vidwans, MD
Joseph Vitterito, MD
Ramindra Walia, MD
Leslie I. Wolkoff, MD

Allison Bailey, PA-C
Molly Berning, PA-C
Jillian Bouchard, PA-C
Amy Canino, PA-C
Heather Champagne, PA-C
Corey Champeau, PA-C
Gillian Carella, PA-C
Sabrina Colangelo, PA-C
Nora Croll, PA
Beth Cross, PA
Alexis D'Aloisio, PA
Shivani Desai, PA-C
Heather Diversi, PA-C
Pamela Fanning, PA
Denise Filosi, PA-C
James Gerace, PA
Kaitlyn Jones, PA-C
Brian Landry, PA-C
Erin Leishman, PA-C
Matthew Light, PA-C
Jessie Mangs, PA-C
Amy Messinger, PA-C
Kristen Moore, PA-C
Sandy Narciso-Owen, PA
Lucia Onofrio, PA-C
Alexandra Pavain, PA
Jamille Rancourt, PA-C
Philip Roach, PA
Meagan Sheakoski, PA-C
Lauren Smith, PA
Sharon Smith, PA
Devin Stimpson, PA
Jacqueline Talbot, PA
Jenna Trenbeath, PA-C
Danielle Waite, PA-C
Ashley Bourassa, APRN
Kimberly Bottone, APRN
Kate Boxberger, APRN
Mary Brennan-Centrella, APRN
Renee Brockett, APRN
Anna Camacho, APRN
Stephanie Capps, APRN
Jessica Cauchon, APRN
Karen Cleaveland, APRN
Julia Christofori, APRN
Caroline Dempsey, APRN
Nicole Dugay, APRN
Michelle Foell, APRN
Jeanne Franza, APRN
Connie Freeman, APRN
Jessica Gonzalez, APRN
Margarida Haar, APRN
Jill Herr, APRN
Debra Karinski, APRN
Krista Kusinski, APRN
Victoria Langer, APRN
Kelley Lavine, APRN
Lindsay Leighton, APRN
Laura Lissner, APRN
Jennifer Long, APRN
Niklos Markey, APRN
Karen McGuiness, APRN
Stephanie McGuire, APRN
Suanne Menick, APRN
Karen O'Brien, APRN
Kim Oski, APRN
Arti Patel, APRN
Wendy Petow, APRN
Wendy Pietruszkiewicz, APRN
Laura Pittari, APRN
Terry Poppiti, APRN
Christine Raymond, APRN
Heather Remy, APRN
Megan Richardson, APRN
Jennifer Rogers, APRN
Stacey Rubin, APRN
Jessica Simao, APRN
Patricia Trehey, APRN
Jenna Trenbeath, APRN
Lindsay Tucker, APRN
Rebecca Valentine, APRN
Laura Van Dyke, APRN
Erin Vlahakis, APRN
Alyssa Weiss, APRN
Mary Young, APRN

Fellows

Aditya Chhikara, MD
Mishika Malik, MD
Usha Prasad, MD
Hala Saneh, MD
Poonam Thakore, MD

NEPHROLOGY

In 2020, the Nephrology division continued to experience significant expansion with growth at satellites throughout the region. The division expanded its hypertension services and the ambulatory blood pressure monitoring (ABPM) program. We celebrated the grand opening of the Robert R. Rosenheim Foundation Dialysis Center, Connecticut's only pediatric, state-of-the-art dialysis facility, which is designed to ensure that children receive the best care in the most comfortable environment possible.

Despite Covid-19, the year was marked by many clinical successes, with the growth of Nephrology services in the Fairfield and western Massachusetts regions. The division has maintained a clinical presence at five satellites across Connecticut and Massachusetts, allowing children to access renal care close to home. The division continues to be robust with three board-certified pediatric nephrologists, a dietitian, two APRNs, three nurses, a dialysis RN manager, and a dedicated full-time social worker. Strong clinical relationships exist with the divisions of Urology and Transplant Surgery to provide seamless, comprehensive care for our patients, regardless of where they are located in our hospital.

The division continues to expand its ambulatory blood pressure monitoring program, which is co-managed by Robyn Matloff, MD, MPH. This program provides comprehensive hypertensive care not only in Hartford, but at all Connecticut Children's locations across Connecticut and western Massachusetts. Dr. Matloff serves as the physician liaison in Fairfield County, and she has helped spearhead growth for all Connecticut Children's specialties in the region. The Division of Nephrology experienced continued steady growth in outpatient visits for the year. These visits included pre-transplant, post-transplant, inpatient, and outpatient consults as well as acute and chronic dialysis. Our renal transplant service continued with three recipients for 2020, and our patients are now undergoing cutting-edge, steroid-free protocols. The division continues to work closely with the ICU on a regular basis to provide continuous veno-venous hemodiafiltration for our sickest patients.

PRESTIGIOUS RESEARCH & ACADEMIC EXCELLENCE

Nephrology continued to participate in prestigious research consortiums including the SCOPE (Standardizing Care to Improve Outcomes for Pediatric ESRD) Collaborative and the Midwest Pediatric Nephrology Consortium (MWPNC). These collaboratives produced quality- and research-driven outcomes in the department. The division continued its participation in multiple research initiatives and demonstrated high productivity with papers and abstract presentations at national and international meetings. The division has 18 active IRB-approved research studies as well as joint research collaborations with other divisions.

Our team continues to exhibit national and international academic excellence. Division chief Cynthia Silva, MD, FAAP, remotely presented her work on nephrogenic diabetes insipidus at the Pediatric Academic Societies National Conference.

Sherene Mason, MD, FAAP, MBA, joined the medical advisory board of the National Kidney Foundation, Connecticut and Greater New York chapter. She was invited to co-author the chapter on Pediatric Lupus Nephritis in the eighth edition of *Pediatric Nephrology*. She was elected to the board of Connecticut Children's Specialty Group, the board of directors for Read to Grow, and the board of directors of the New Haven Innovation Collaborative.

On an international level, two division members, Drs. Silva and Mason, were among the co-authors of the abstract "Access to Kidney Transplantation for Minority Children With End-Stage Renal Disease and Predictors of Outcomes." The abstract was selected for oral presentation at the 28th International Congress of the Transplantation Society (TTS 2020), which was originally scheduled for September in Seoul, South Korea, but was held virtually due to the Covid-19 pandemic.

THE FUTURE

As we look forward to the upcoming year, we will be welcoming a fourth nephrologist, Hanan Tawadrous, MD, and expanding services in Glastonbury and Enfield. We will continue our extensive research portfolio and increase IRB-approved, research-funded studies.

PUBLICATIONS

D'Alessandri-Silva C, Carpenter M, Ayoob R, Barcia J, Aftab Chishti A, Constantinescu A, Dell KM, Goodwin J, Hashmat S, Iragorri S, Kaspar C, **Mason S**, Misurac JM, Muff-Luett M, Sethna C, Shah S, Weng P, Greenbaum LA, D Mahan JD. Renal outcomes in children with nephrogenic diabetes insipidus: a Pediatric Nephrology Research Consortium Study. Front Pediatr. 2020 Jan 21; 7:550.

Thomlinson P, Carpenter M, **D'Alessandri-Silva C**. The evaluation and treatment of metabolic acidosis. Spring Nature Switzerland AG. 20 Apr 2020. https://rdcu.be/b3GhD.

Kudose S, Batal I, **D'Alessandri-Silva C**, Lin F, D'Agati VD, Markowitz GS. X-linked Alport syndrome with "empty capsule sign." Kidney Int. 2020; 97(2):426. https://doi.org/10.1016/j.kint.2019.08.025.

Herbst KW, Tomlinson P, Lockwood G, Mosha M, Wang Z, D**'Alessandri-Silva C.** Survival and kidney outcomes of children with an early diagnosis of posterior urethral valves. CJASN. 2019 Oct; CJN.04350419. https://doi.org/10.2215/CJN.04350419.

STAFF

Cynthia D'Alessandri-Silva, MD, FAAP, *Division Chief*

Sherene Mason, MD, FAAP, MBA
Robyn Matloff, MD, MPH

Sonal Fisco, APRN
Susanne Johnson, APRN

NEUROLOGY

The division continued to expand its services in 2020, welcoming Lila Worden, MD, a new faculty member who is working with the Epilepsy Center to further develop the ketogenic diet program, and Mr. Niall Mitchell, APRN, who was hired to support the EEG monitoring unit and the epilepsy service. The Epilepsy Center continued to collaborate with the Division of Neurosurgery to further develop the epilepsy surgery program. The neuromuscular service continued to perform gene therapy on infants with spinal muscular atrophy (SMA) and has already treated the first SMA patient screened by the neonatal screening program. Jennifer Madan Cohen, MD, continues to serve as medical director of the Neurology division. Division member Elizabeth Ng, MD, began a neuromuscular fellowship program at the Hospital for Special Surgery and will be absent for most of 2021.

The Neurology Division evaluates and treats pediatric patients with all types of neurological diseases including headaches, epilepsy, neurocutaneous, neurodevelopmental and other neurogenetic disorders and diseases, cerebral palsy, nerve and muscle diseases, movement disorders, and neuroimmunology conditions. Epilepsy patients receive comprehensive care in the Epilepsy Center directed by Dr. Madan Cohen. The treatment options include ketogenic diet and epilepsy surgery in collaboration with the Neurosurgery division. Mark Schomer, MD, is conducting electrophysiology research on epilepsies and collaborates with UConn Storrs. The Autism Genetic Research Program, led by Louisa Kalsner, MD, continues to enroll established autistic patients for genetic studies. William Graf, MD, diagnoses and follows patients with neurodevelopment conditions and also serves on the bioethics committees of both the American Academy of Neurology and the Child Neurology Society. Francis DiMario, MD, directs the Neurogenetics Clinic, which is focused on the evaluation and care of patients with neurocutaneous disorders. This clinic is recognized by the TS Alliance (TSA) as a specialty care clinic that provides advanced treatment for patients with tuberous sclerosis complex (TSC) and is also recognized by the Children's Tumor Foundation as part of the Neurofibromatosis Clinic Network (NFCN). The Neuromuscular Disease program, led by division chief Gyula Acsadi, MD, is one of the few pediatric Center of Excellence sites for pediatric Charcot-Marie-Tooth disease as part of the Inherited Neuropathy Consortium supported by the National Institutes of Health (NIH) Rare Diseases Research Center and the Muscular Dystrophy Association (MDA). The center's clinicians collaborate with Sylvia Õunpuu, MSc, of the Center for Motion Analysis (CMA), and Kristan Pierz, MD, of Orthopaedics. The neuromuscular program also has received designation as an SMA Care and Treatment Center by the "Cure SMA" organization. In collaboration with the Center of Procedural Excellence, this activity includes intrathecal administration of a drug to treat SMA. Dina Conley, APRN, and Richard Young, MD, are active in the headache and concussion treatment program.

The division members have presented their work at numerous national and international conferences remotely. We have been involved in several clinical trials for tuberous sclerosis, autism, epilepsy, muscular dystrophy, and spinal muscular atrophy.

Dr. Madan Cohen was made a member of the American Epilepsy Society EEG Committee.

Dr. DiMario is the American Academy of Neurology (AAN) and Child Neurology Society (CNS) representative on the Infectious Diseases Society of America's Clinical Practice Guideline Panel for Lyme Disease.

AWARDS & HONORS

Dr. Madan Cohen was the recipient of a 2019 Didactics Teaching Award from the University of Connecticut School of Medicine Pediatrics Residency Program. Dr. Young was the recipient of the 2019 Didactics Teaching Award for Excellence in Resident Teaching. His topic was "Diagnosis and Management of Progressive Neurological Disorders of Childhood." The award is bestowed by the University of Connecticut's Department of Pediatrics.

PUBLICATIONS

Fridman V, Sillau S, **Acsadi G**, Bacon C, Dooley K, Burns J, et al. A longitudinal study of CMT1A using Rasch analysis based CMT neuropathy and examination scores. Inherited Neuropathies Consortium—Rare Diseases Clinical Research Network (INC-RDCRN). Neurology. 2020 Mar 3;94(9):e884-e896.

Rivera SR, Jhamb SK, Abdel-Hamid HZ, **Acsadi G**, Brandsema J, Ciafaloni E, et al. Medical management of muscle weakness in Duchenne muscular dystrophy. PLoS One. 2020 Oct 19;15(10):e0240687.

Õunpuu S, Pierz KA, **Acsadi G**, Wren TAL. Changes in walking velocity and stride parameters with age in children with Charcot-Marie-Tooth disease. Neuromuscul Disord. 2020 Oct;30(10):825-832.

Pogemiller K, Garibay E, Pierz K, **Acsadi G**, Õunpuu S. Comparison of gait patterns and functional measures between Charcot-Marie-Tooth disease type I and II in children to young adults. Gait Posture. 2020 Mar;77: 236-242.

Graf WD, Shprintzen RJ. "Retrofitting" established genetic disorders and diseases through big data and phenomics. Neurol Clin Pract. 2020 Oct;10(5):375-376. doi: 10.1212/CPJ.0000000000000784.

Russell JA, Epstein LG, Bonnie RJ, Conwit R, **Graf WD**, Kirschen M, et al; Ethics, Law, and Humanities Committee (a joint committee of the AAN, ANA, and CNS). In defense of the AAN position on lawful physician-hastened death. Neurology. 2020 Mar 16. pii:10.1212/WNL.0000000000009237.

Graf WD. Beyond autism: advocacy for neurodevelopmental differences. Am J Bioeth. 2020;20(4):30-33. doi: 10.1080/15265161.2020.1730503. Epub 24 Mar 2020. PMID: 32223626.

Graf WD, Epstein LG, Pearl PL. Practical bioethics during the exceptional circumstances of a pandemic.

Pediatr Neurol. 2020 Apr 22;S0887-8994(20)30141-7. doi:10.1016/j.pediatrneurol.2020.04.011. PMID: 32381278.

Ng BG, Eklund EA, Shiryaev SA, Dong YY, Abbott MA, et al., (**Graf WD**, 17/50), Undiagnosed Diseases Network, University of Washington Center for Mendelian Genomics (UW-CMG), Wolfe LA, Rosenfeld JA, Rhodes L, Freeze HH. Predominant and novel de novo variants in 29 individuals with ALG13 deficiency: clinical description, biomarker status, biochemical analysis and treatment suggestions. J Inherit Metab Dis. 2020 Jul 18. doi: 10.1002/jimd.12290. Online ahead of print. PMID: 32681751.

Zahra Q, Çakmak Ç, Koprulu M, Shuaib M, Sobreira N, **Kalsner L**, et al. Biallelic ZNF407 mutations in a neurodevelopmental disorder with ID, short stature and variable microcephaly, hypotonia, ocular anomalies and facial dysmorphism. J Hum Genet. 2020 Jul 31. doi: 10.1038/s10038-020-0812-0. PMID: 32737394.

Slavotinek A, van Hagen JM, **Kalsner L**, Pai S, Davis-Keppen L, Ohden L, et al. Jumonji domain containing 1C (JMJD1C) sequence variants in seven patients with autism spectrum disorder, intellectual disability and seizures. Eur J Med Genet. 2020 Apr;63(4):103850. PMID: 31954878.

Worden LT, Abend NS, Bergqvist AGC. Ketogenic diet treatment of children in the intensive care unit: safety, tolerability, and effectiveness. Seizure. 2020 Aug; 80:242-248. doi:10.1016/j.seizure.2020.07.003. Epub 2020 Jul 13. PMID: 32674044.

Skora CE, **Worden LT**, Oakley CB. Comprehensive migraine initiative in the pediatric emergency department improves treatment outcomes. J Child Neurol. 2020 Mar;35(3):235-241. doi: 10.1177/0883073819889711. Epub 2019 Dec 5. PMID: 31805806.

BOOK CHAPTERS

DiMario FJ. Tuberous sclerosis complex. [revision and update] In: E-Pocrates. London, England: BMJ; 2020 Jul.

DiMario FJ. Tuberous sclerosis complex. In: Harper's textbook of pediatric dermatology. 4th ed. 2020.

STAFF

Gyula Acsadi, MD, PhD, FAAN, *Division Chief*

Francis J. DiMario, Jr, MD
William D. Graf, MD, FAAN
Louisa Kalsner, MD
Jennifer Madan Cohen, MD
Elizabeth A. Ng, MD, FAAN
Mark Schomer, MD
Lila Worden, MD
William Yorns, DO
Richard Young, MD
Edwin Zalneraitis, MD
Constandina Conley, APRN

PAIN & PALLIATIVE MEDICINE

The mission of the Pain and Palliative Medicine Division is to utilize our multidisciplinary expertise to alleviate pain and stress in children afflicted with acute, chronic or terminal illness.

The year 2020 was certainly challenging, but our division continues to be blessed with success.

Emily Wakefield, PsyD, and division chief William Zempsky, MD, MPH, along with Siddika Mulchan, PhD, and Lauren Ayr-Volta, PhD, both of the Division of Hematology-Oncology, presented "Navigating Ethical Challenges for Pediatric Sickle Cell Pain Management in the Context of the Opioid Epidemic: Where Do Pediatric Psychologists Fit In?" at the Society of Pediatric Psychology Annual Conference in March 2020. Ms. Wakefield and Dr. Zempsky collaborated on a workshop entitled, "Pain-related Stigma in Adolescents With Primary Chronic Pain in the Medical Setting: What Is Getting Lost in Translation?" which was presented at the first conference of the United States Association for the Study of Pain (USASP).

Kerry Moss, MD, gave the keynote address for the Gold Humanism Honor Society (GHHS) induction ceremony at the University of Connecticut School of Medicine.

Taryn Hamre, APRN, DNP, was designated as a nurse commander by a nursing leadership organization.

PUBLICATIONS

LaVigne T, Laake L, Ibeziako P. Somatic symptom and related disorders in pediatric patients: associations with parent psychiatric and substance use histories. Clin Child Psychol Psychiatry. 2020;25(4):932-944.

Antwi-Boasiako C, Andemariam B, Colombatti R, Asare EV, Strunk C, Piccone CM, Manwani D, Boruchov D, Farooq F, Urbonya R, Wilson S, Boatemaa GD, Perrotta S, Sainati L, Rivers A, Rao S, **Zempsky W**, Ekem I, Sey F, Segbefia C, Inusa B, Tartaglione I, Campbell AA. Study of the geographic distribution and associated risk factors of leg ulcers within an international cohort of sickle cell disease patients: the CASiRe group analysis. Ann Hematol. 2020 Sep;99(9):2073-2079. doi: 10.1007/s00277-020-04057-8.

Campbell AD, Colombatti R, Andemariam B, Strunk C, Tartaglione I, Piccone CM, Manwani D, Asare EV, Boruchov D, Farooq F, Urbonya R, Boatemaa GD, Perrotta S, Sainati L, Rivers A, Rao S, **Zempsky W**, et al. An analysis of racial and ethnic backgrounds within the CASiRe international cohort of sickle cell disease patients: implications for disease phenotype and clinical research. J Racial Ethn Health Disparities. 2020 May 16;10.1007/s40615-020-00762-2.

Zempsky WT, Bhagat PK, Siddiqui K. Practical challenges-use of paracetamol in children and youth who are overweight or obese: a narrative review. Paediatr Drugs. 2020 Oct;22(5):525-534.

Brandow AM, Carroll CP, Creary S, Edwards-Elliott R, Glassberg J, Hurley RW, Kutlar A, Seisa M, Stinson J, Strouse JJ, Yusuf F, **Zempsky W**, Lang E. American Society of Hematology 2020 guidelines for sickle cell disease: management of acute and chronic pain. Blood Adv. 2020 Jun 23;4(12):2656-2701.

STAFF

William T. Zempsky, MD, MPH, *Division Chief*

Richelle deMayo, MD
Timothy LaVigne, PhD
Eapen Mathew, MD
Kerry Moss, MD
Clare Riotte, DO
Kalyani Raghavan, MD
Emily Wakefield, PsyD
Kelly Maynes, PhD

Taryn Hamre, APRN, DNP
Mallory Fossa, APRN

PEDIATRIC & ADOLESCENT GYNECOLOGY

The members of the Division of Gynecology at Connecticut Children's continue to provide state-of-the-art pediatric and adolescent gynecology consultative services in our four offices, the Connecticut Children's operating rooms, the Connecticut Children's emergency room, and in inpatient settings. In addition, outpatient consultations in all areas of pediatric and adolescent gynecology are available in our Farmington, Hartford, Glastonbury, and Rocky Hill offices of Gynecology and Obstetrics, a Division of Women's Health Connecticut.

The clinical services provided at Connecticut Children's and our offices include specialty care in all areas of medical and surgical gynecologic care for children and adolescents. These include reproductive health issues, vulvar and vaginal infections in children and adolescents, management of abnormal uterine bleeding and pelvic pain, adolescent endometriosis, congenital abnormalities of the reproductive tract, ovarian cysts and masses, and adolescent hormonal and contraceptive issues. Our team of gynecologists from Gynecology and Obstetrics, a Division of Women's Health, provides 24/7 coverage of the Connecticut Children's emergency room, operating room, and inpatient floors.

Our surgical services have continued to include da Vinci robotically assisted minimally invasive gynecologic procedures at Connecticut Children's for selected patients. Division director Frederick Rau, MD, continues to perform robotically assisted laparoscopic procedures for reproductive tract anomalies and other complex reproductive tract disorders.

Office evaluations of pediatric and adolescent patients are done at Gynecology and Obstetrics, a Division of Women's Health, by Drs. Rau, Emily Rosenbush, Kerrie Henry, Catherine Graziani, Kelley Sturrock, Erin Pickett, Marlaine Miller, Elizabeth Purcell, Ellen Lamb, and Ashley Young, and Jennifer Kiback, APRN, at locations in Hartford, Farmington, Glastonbury, and Rocky Hill.

Our extensive range of pediatric and adolescent-friendly providers has improved the ability of community physicians to refer families for age-appropriate gynecologic care. We work closely with the community pediatricians and Connecticut Children's subspecialty team members to provide best-practice care. While the Covid-19 pandemic posed extraordinary challenges in 2020, our division members continued to provide expert, safe care to our patients through a combination of in-person and telehealth visits.

Our physicians are members of the North American Society for Pediatric and Adolescent Gynecology, an international organization dedicated to the gynecologic care of children and teenagers. They collaborate at Connecticut Children's with the University of Connecticut School of Medicine obstetrics/gynecology and pediatrics residents and the University of Connecticut School of Medicine and Dartmouth Medical School medical students for inpatient, emergency room, and operating room patient care. Our physicians emphasize a supportive and minimally intrusive strategy while seeing children, adolescents, and families.

For 2021, the division will maintain and improve our patients' access to superior specialty care in pediatric and adolescent gynecology to promote reproductive health and wellness for our community's children and teenagers.

STAFF

Frederick J. Rau, MD, *Division Chief*

Catherine Graziani, DO
Kerrie Henry, MD
Ellen Lamb, MD
Marlaine Miller, MD
Erin Pickett, MD
Elizabeth Purcell, MD
Emily Rosenbush, MD
Kelley Sturrock, MD
Ashley Young, MD

Jennifer Kiback, APRN

PULMONOLOGY & SLEEP MEDICINE

The Division of Pulmonology and Sleep Medicine adapted to the unexpected pandemic that engulfed us in 2020, and our team continued to provide safe and effective clinical care by embracing virtual care encounters and providing safe screening and testing of patients who needed our sleep or pulmonary function studies.

AERODIGESTIVE CLINIC

We continued our active participation in the multidisciplinary Aerodigestive Ambulatory Clinics at both our Hartford and Farmington locations with our colleagues in Pediatric Otolaryngology, Gastroenterology, and Speech Therapy.

CYSTIC FIBROSIS CENTER

Connecticut Children's Central Connecticut Cystic Fibrosis (CF) Center continues to be one of the best in the country based on clinical outcomes of lung function, nutrition, and adherence to CF guidelines. CF newborn screening is mandated throughout the United States as early diagnosis is key to helping infants with CF do as well as possible. Our CF Center is the fastest in the country at screening, diagnosing, and then meeting with families to help provide the best possible care and to help during the difficult period when parents and families first learn about their child's diagnosis.

INTERSTITIAL LUNG DISEASE/PRIMARY CILIARY DISORDERS

In collaboration with our colleagues in Rheumatology, we see patients with interstitial and/or diffuse lung disease secondary to underlying rheumatologic conditions. We also are participating in the national Childhood Interstitial and Diffuse Lung Disease (chILD) network conferences. In collaboration with our colleagues in pediatric Hematology, we see sickle cell disease patients referred by Hematology for pulmonary evaluation and ongoing management.

We have established and operationalized genetic testing through Invitae to allow for comprehensive diagnosis of primary ciliary disorders (PCD), and we see patients for diagnosis and management as per the PCD Foundation Guidelines.

SLEEP MEDICINE PROGRAM

We started a Multidisciplinary Combined Sleep Clinic, a collaboration with Otolaryngology providers, a sleep physician, and a sleep psychologist to take care of our most complicated patients. The clinic has been very well received by our patients and supported by them.

We continue to expand our presence in Fairfield County by adding time and sessions for patients and families in need of both behavioral sleep and sleep medicine services. We welcomed a new sleep provider, Sabina Ahmad, MD, who sees patients at our new Connecticut Children's Specialty Care Center in Danbury.

To add to our educational contributions and depth as a division, we added Pulmonary fellows to our clinic on a longitudinal basis to round out their Pulmonary and Sleep educational experience.

We continue to expand our teaching contributions with the new opportunity for medical students to rotate with our Sleep psychologist, in addition to rotating with our Sleep Medicine Physicians.

PUBLICATIONS

Gomes A, **Lapin C**, Ziegler J. Weight gain and growth after fundoplication in the pediatric patient: a case report in the pediatric patient with cystic fibrosis and literature review. Nutri Clin Pract. 2020; 01-10. PMID: 32141133.

BOOK CHAPTER

Bieniek JM, **Lapin CD**, Jarvi KA. Genetics of CFTR and male infertility. Translational andrology and urology. http://dx.doi.org/10.21037/tau.2020.04.05.

STAFF

MacDara Tynan, MD, MBA, *Interim Division Chief*

Craig Schramm, MD, *Emeritus Division Chief*
Sabina Ahmad, MD
Mel Collins, MD, Director, *Pediatric Pulmonology Fellowship*
Umit Emre, MD
Jay Kenkare, MD, *Director, Sleep Medicine Program*
Craig Lapin, MD, *Director, CF Center*
Annie McLaughlin, MD
Lynelle Schneeberg, PhD
Natalie Shilo, MD

Tracy Allen, PA-C
Rosalyn Bravo-Cavoli, APRN
Amanda Filippelli, APRN
Abby Theriaque, APRN

PSYCHOLOGY

The year 2020 brought a lot of changes – from saying goodbye to a treasured former colleague, former division chief Barbara Rzepski, PhD, to welcoming new ones, all while standing up in the face of the Covid-19 pandemic. Throughout, members of the Division of Pediatric Psychology remained focused on improving the mental health of all of Connecticut's children.

DIVISION OVERVIEW

Our division is comprised of 13 pediatric psychologists spread across eight divisions at Connecticut Children's (Obesity, Pain & Palliative Medicine, GI, Consultation/ Liaison, Rheumatology, Hematology-Oncology, Primary Care, Sleep, and the NICU). We are dedicated to improving treatment options, testing new therapies, being the voice for mental health diagnosis and treatment in the state of Connecticut, and training the next generation of providers.

We are committed to increasing access to mental health care for families. Our psychologists in the Division of Pain and Palliative Medicine brought Comfort Ability to Connecticut Children's. This is a one-day, evidenced-based group intervention designed to increase the accessibility of psychological services for patients who live with chronic pain and for their families, especially those that live far away or are unable to attend frequent appointments. Siddika Mulchan, PhD, in the Sickle Cell Clinic, has created a similar monthly treatment group for youth to overcome transportation barriers. Lynelle Schneeberg, PsyD, created a bedwetting alarm loan program for families that have a child who experiences nocturnal enuresis so these families do not have to purchase this device. Melissa Santos, PhD, interim head of the Division of Pediatric Psychology and clinical director of the Pediatric Obesity Center, uses technology to engage families in treatment through weekly text messaging and by utilizing various forms of social media. Dr. Santos also launched an eight-week Facebook Live series on the Connecticut Children's Facebook page and discussed creating a coping toolkit while Dr. Schneeberg discussed improving sleep habits in young children.

We are committed to implementing new therapies and guidelines. Amy Signore, PhD, is working on bringing Parent-Child Interaction Therapy (PCIT) treatment to primary care with the goal of preventing and treating disruptive behaviors in an at-risk population. Similarly, Dr. Mulchan is utilizing PCIT in the Hematology-Oncology division as she completes her certification. Brad Jerson, PhD, of the Division of Digestive Diseases, Hepatology and Nutrition, has created a program to support transition of care and increased self-management within families of youth with inflammatory bowel disease as they graduate high school. Timothy LaVigne, PhD, in the Division of Pain and Palliative Medicine, is launching biofeedback services for youth with headaches. In collaboration with Richelle deMayo, MD, division chief of Biomedical Informatics, he is developing a multidisciplinary weekly headache treatment group that will highlight the intersection of psychological and medical approaches to headache management.

Lauren Ayr-Volta, PhD, is developing a new model for transition off oncology therapies to foster a more successful adjustment to life as a cancer survivor. Kelly Maynes, PsyD, works to update all the pathways within the consultation/liaison service to ensure the quality of care we provide. Dr. Santos directs the nationally accredited Adolescent Bariatric Surgery Program at Connecticut Children's, maintaining all required pathways and quality improvement initiatives.

Dr. Jerson is working with Corey Baker, MD, in the Gastroenterology division, to lead the creation of an interdisciplinary motility specialty clinic within the newly developed Center for Neurogastroenterology and Motility Disorders.

REACHING NEW POPULATIONS & CREATING NEW SERVICES

We are reaching new populations and creating new services. Our pediatric psychologists in Hematology-Oncology are leading efforts to develop a biopsychosocial assessment for adolescents who are seeking fertility preservation – an incredibly important consideration not only for patients in oncology but those with a host of other medical conditions as well as youth in our gender program. Dr. Ayr-Volta is bringing neuropsychology testing to children with brain tumors to identify cognitive risk factors and to ensure that patients are getting the correct supports in school and in the community. Dr. Reiss is creating a care pathway between the Pediatric Obesity Center and Endocrinology to make the Pediatric Obesity Center the medical home for youth with Prader–Willi Syndrome.

ESTABLISHING CONNECTICUT CHILDREN'S AS A NATIONAL LEADER IN PEDIATRIC PSYCHOLOGY

Members of our division are leading national work groups and establishing Connecticut Children's as a leader in pediatric psychology. Staff members are involved within the American Psychological Association (APA) and our national society, the Society of Pediatric Psychology (SPP). Dr. Signore is working as part of APA's Division 38's subcommittee on Addressing the Needs of Underserved Populations through Integrated Primary Care to understand the gaps in primary care providers' knowledge of assessing and treating behavioral health concerns among underserved populations. Dr. Wakefield is the education chair of the Pain SIG of Division 54. Dr. Mulchan is the policy co-chair of the Adolescent and Young Adult SIG of Division 54. Dr. Santos is on the board of directors of the SPP and is the clinical chair of the Obesity SIG of Division 54. She also leads the Anti-Racism work group for SPP. Dr. Jerson is the clinical member-at-large for the Pediatric GI SIG of Division 54.

Outside the APA and SPP, Mike Reiss, PsyD, is participating in a national work group to examine the effects of trauma in patients being seen at pediatric obesity clinics. Dr. Santos is on the governance board of the Pediatric Obesity Weight Evaluation Registry (POWER), the national registry for pediatric obesity, and is leading the committee writing the psychological guidelines for adolescents undergoing bariatric surgery. She serves on the Integrated Health Committee for the American Society of Bariatric and Metabolic Surgery. Dr. Jerson is the co-leader of the Patient and Family Education Committee of the Connecticut Chapter Medical Advisory Committee for the Crohn's and Colitis Foundation.

MENTORING THE NEXT GENERATION OF PEDIATRIC PROVIDERS

Our staff is actively involved in training the next generation of pediatric providers. Connecticut Children's Division of Pediatric Psychology is the training site for pediatric trainees at the Institute of Living. Dr. Signore focuses on measuring resident's knowledge/attitudes of treating behavioral health in primary care and training pediatric residents to assess and treat behavioral and mental health problems in primary care. Dr. Reiss provides training for medical students in motivational interviewing. Emily Wakefield, PsyD, provides mentoring for future pain researchers under the Pain in Child Health (PICH) Initiative. Dr. Schneeberg provides clinical and didactic training as part of the Behavioral Sleep Medicine rotation to residents of the UConn School of Medicine. Dr. Jerson participates in the GI Fellowship Training program by providing training on psychogastroenterology and conducting biopsychosocial assessments within medical evaluations.

THE VOICE OF PEDIATRIC PSYCHOLOGY IN CONNECTICUT

As part of the mission of the Division of Pediatric Psychology, our members strive to give voice to the needs of pediatric patients on both local and national levels, and we are committed to serving as a resource for a variety of news outlets and publications. Dr. Schneeberg is frequently viewed as an expert for her work in sleep. She has contributed to the *New York Times* Parenting section and *Psychology Today*, and is regularly featured on local television and quoted in national publications including the *Wall Street Journal* and *Parade*. Dr. Santos was featured on Connecticut Children's webinar series *Ask the Experts* to discuss the mental health impact of Covid-19.

ACADEMIC OUTPUT

Our staff is actively involved in soliciting grants, authoring publications, and presenting our work to show the value of psychology in terms of its relationship to the overall well-being of children, and the positive effects of medical care that integrates psychological assessment and therapy into treatment plans.

THE FUTURE

As we look forward to 2021, we do it in appreciation of the many years of service contributed by Dr. Barbara Rzepski, whose efforts were crucial to the formation and development of the Division of Pediatric Psychology. She built the foundation that we continue to use and expand on in servicing the many needs of Connecticut's children.

PUBLICATIONS

LaVigne T, Laake L, Ibeziako P. Somatic symptom and related disorders in pediatric patients: Associations with parent psychiatric and substance use history. Clin Child Psychol Psychiatry. 2020 Oct; 25(4):932-944. doi: 10.1177/1359104520931579. Epub 2020 Jun 9.

Mulchan SS. Where we should go from here: a brief commentary on the role of pediatric psychology in changing racial inequality. Progress Notes, Soc P ediatri Psychol. 2020; 44(3).

Guite J, **Reiss M.** Psychotherapy and cognitive behavioral therapy. In: Starkweather A, McCauley P, editors. Pain management for advanced practice: multimodal approaches. Philadelphia: Wolters Kluwer; 2020. pp. 61-81.

Santos M. The offspring of parents undergoing a weight loss surgery: a systematic review. [invited commentary] SOARD. 2020.

Santos M, Gorin A, Thaker S, Zempsky W. Pain and obesity: relationships and initial tool validation. Clin Pract Pediatr Psychol. 2020. Epub ahead of print. https://doi.org/10.1037/cpp0000376.

Santos M. The inclusion of mental health factors into the resumption of bariatric surgery. [commentary] Lancet Diabetes Endocrinol. 2020.

Santos M. [Co-guest editor] J Pediatr Psychol: Special Issue Addressing Health Disparities in Pediatric Psychology. 2020.

Santos M, Mackey E, Gaffka B, Ward W, Burton ET. Bariatric and metabolic surgery during and after the Covid-19 pandemic. Lancet Diabetes Endocrinol. 2020;8(9):742-743. https://doi-org.online.uchc.edu/10.1016/S2213-8587(20)30278-3.

Santos M. [Comment] The offspring of parents undergoing a weight loss surgery: a systematic review. Surg Obes Relat Dis. 2020;16(6), 815–816. https://doi-org.online.uchc.edu/10.1016/ j.soard.2020.03.018.

Valrie C, Thurston I, **Santos M.** Introduction to the Special Issue: Addressing health disparities in pediatric psychology. J Pediatr Psychol. 2020;45(8), 833–838. https://doi-org.online.uchc.edu/10.1093/jpepsy/jsaa066.

STAFF

Melissa Santos, PhD, *Interim Division Chief*

Barbara Rzepski, PhD, *retired, June 2020*
Timothy LaVigne, PhD
Emily Wakefield, PsyD
Mike Reiss, PsyD
Kelly Maynes, PsyD
Bradley Jerson, PhD
Lauren Ayr-Volta, PhD
Siddika Mulchan, PhD
Lynelle Schneeberg, PsyD
Lisa Backus, PhD
Amy Signore, PhD
Christine Chew, PhD
Preeti Sandhu, PsyD
Vanessa Laurent, PhD

RHEUMATOLOGY

In 2020, the Division of Rheumatology continued to experience growth by substantially increasing the rheumatology presence in South Hadley, MA, where we now see 10 times the number of patients we did earlier this year. We continue to staff satellite specialty care centers in six locations throughout Connecticut: Danbury, Shelton, Stamford, Farmington, Glastonbury, and Hartford.

The division is staffed by four board-certified/board-eligible pediatric rheumatologists. Although Lawrence Zemel, MD, has now retired, he continues seeing patients for clinical care one day per month. We have a new psychologist on our team. Vanessa Laurent, PhD, has seamlessly replaced our former psychologist and her expertise enables us to continue to address the critical biopsychosocial factors affecting our patients. We have two nurses on our team who provide outstanding clinical care and participate in research through the Rheumatology Nursing Society.

The division remains clinically busy. We had 3,050 outpatient visits this year. Despite the impact of the Covid-19 pandemic and the decrease in the number of outpatients seen in March and early April, our division quickly pivoted to telemedicine. We were able to quickly resume full volumes of outpatient visits using this safe and effective method of patient care. Division chief Barbara Edelheit, MD, is now part of a team at Connecticut Children's led by Sharon Smith, MD, that is looking at developing a telemedicine curriculum. In addition to outpatient visits, we also cared for 87 complex inpatients including many with multisystem inflammatory syndrome (MIS-C), the new post-inflammatory syndrome causing significant illness in children following exposure to Covid-19. Heather Tory, MD, MPH, CPPS, played a critical role as the Rheumatology lead in the pathway development for the care of these critically ill children.

Each of the division's physicians continues with specific areas of expertise and focus, forming the basis of a robust team.

Dr. Edelheit continues her focus on education and mentorship, and she continues to encourage University of Connecticut residents to enter the underserved field of Rheumatology. Again this year, one of her mentees will graduate from our pediatric program and start fellowship training in Pediatric Rheumatology. The resident will graduate in 2021 and begin a fellowship at Cohen Children's Medical Center in New Hyde Park, NY.

One of the division's former UConn residents began her pediatric rheumatology fellowship at the Hospital for Special Surgery in New York. Two additional UConn pediatric residents are considering fellowship training in rheumatology. Dr. Edelheit continues to serve as a preceptor for a Clinical Immersion in the Community (CLIC) program student – a second-year University of Connecticut medical student who works with her for one half-day per week in the clinical setting where she provides him with the clinical immersion in the community and clinical exposure. This remains a source of strength for our division during a time when Pediatric Rheumatology is suffering from a work force shortage.

Dr. Tory continues her focus on safety and quality within our division while serving as associate quality director at Connecticut Children's. Within the medical center, she serves as the co-chair of the Connecticut Children's Specialty Group's Clinical Quality and Providers IT Advisory Committee. She also serves as a member of the Connecticut Hospital Association Committee on Patient Care Quality. Within our division, she serves as our safety and quality expert and is a member of the American College of Rheumatology Quality Measures Subcommittee of the Quality of Care Committee. She is the chair of the Juvenile Dermatomyositis (JDM) Quality Measures Workgroup of the Childhood Arthritis and Rheumatology Research Alliance (CARRA) under the Juvenile Dermatomyositis (JDM) Committee.

Dr. Blaine Lapin, MD, continues his focus on advocacy. He is serving on the American College of Rheumatology Special Committee on Pediatric Rheumatology for a three-year term (2019-2022). He also serves as medical director for the Local Leadership Board of the Connecticut Chapter of the Arthritis Foundation. Dr. Zemel continues his focus on Lyme disease. His chapter on the disease is included in the eighth edition of the Textbook of *Pediatric Rheumatology*. The division of Rheumatology remains committed to collaborative care at Connecticut Children's. Dr. Edelheit together with Sherene Mason, MD, FAAP, MBA, in the division of Nephrology, successfully completed the first year of their combined Lupus Clinic to provide continued state-of-the-art care for children and young adults with systemic lupus erythematosus in a multidisciplinary setting. This clinic provides the patients and families care in a collaborative fashion between the divisions of Rheumatology, Nephrology, Psychology, and Adolescent Medicine. Plans are underway for collaborative care with the Division of Pediatric Ophthalmology, and in collaboration with Janine Collinge, MD, we will be starting a combined Rheumatology/Ophthalmology clinic in spring of 2021.

Our division continues to participate actively in research on a national level with the American College of Rheumatology. We also participate in research through the Childhood Arthritis and Rheumatology Research Alliance with participation in their registry as well as in several studies. The division has several active IRB-approved research studies.

PUBLICATIONS

Mrosak J, Banasiak K, **Edelheit B**, Lapin C, **Tory H**, Collins MS. Polymyxin-B hemoperfusion as a novel treatment for rapidly progressive interstitial lung disease in a pediatric patient diagnosed with anti-MDA5 juvenile dermatomyositis. J Clin Rheumatol. 2019 Nov 15. doi: 10.1097/RHU.0000000000001191. Epub ahead of print. PMID: 31743264.

Rubinstein TB, Ogbu EA, Rodriguez M, Waqar L, Woo JMP, Davis AM, **Lapin WB**, Ng L, Treemarcki E, von Scheven E, Knight AM; CARRA Mental Health Workgroup. Prioritized agenda for mental health research in pediatric rheumatology from the Childhood Arthritis and Rheumatology Research Alliance Mental Health Workgroup. J Rheumatol. 2020 Nov 1; 47(11):1687-1695. doi: 10.3899/jrheum.190361. Epub 2020 Jan 15. PMID: 31941805.

Moran EJ, **Lapin WB**, Calame D, Bray M, Wright LN, Desai NK, Stein F, Marcus M. Degos disease: a radiological-pathological correlation of the neuroradiological aspects of the disease. Ann Diagn Pathol. 2020 Aug; 47:151545. doi: 10.1016/j.anndiagpath.2020.151545. Epub 2020 May 30. PMID: 32505971.

Tory HO, Zurakowski D, Kim S. Patient and physician discordance of global disease assessment in juvenile dermatomyositis: findings from the Childhood Arthritis & Rheumatology Research Alliance Legacy Registry. Pediatr Rheumatol. 2020;18(5).

STAFF

Barbara Edelheit, MD, *Division Chief*

Blaine Lapin, MD
Vanessa Laurent, PhD
Heather Tory, MD, MPH, CPPS
Lawrence Zemel, MD

Tegan Willard, RN
Ann Mendicino-Wrynn, RN

PEDIATRIC SEDATION

The Center of Procedural Excellence (CoPE) is a six-bed unit within Connecticut Children's dedicated to providing high-quality procedural sedation for pediatric patients. This is one of only a few centers in New England with space and staff dedicated to non-operating-room pediatric sedation. The CoPE was opened in March 2016 with generous donations from the Connecticut Children's Foundation and the UConn HuskyThon. The Sedation Service provides comprehensive high-quality care with a focus on the patient and family experience. In 2020, we provided care for over 1,500 patients requiring sedation for procedures outside of the operating room. While Covid-19 temporarily decreased the number of patients we cared for, rapid implementation of a comprehensive pre-arrival testing process allowed us to continue to do our important work in a safe manner.

The Sedation division works with nearly all subspecialties within Connecticut Children's to provide sedation for painful procedures outside of the operating room including: bone marrow aspiration/biopsy in Oncology patients, kidney biopsies for Nephrology, imaging for Radiology, catheter placement and minor surgical procedures for Urology and Surgery, central line placement for the PICC line service, and vaccination/lab draws for patients with developmental delays and autism spectrum disorders. Our service utilizes a mixture of intravenous, oral, and inhaled sedative agents to provide mild to deep sedation, scaled to meet the developmental and procedural needs of each patient. This year we were named a Sedation Center of Excellence by the Society for Pediatric Sedation. The Center of Excellence designation is a highly competitive award given annually to centers of pediatric sedation that create an "ideal environment for the delivery of safe, effective, efficient, timely and equitable patient-centered pediatric procedural sedation." The Society for Pediatric Sedation is the international multidisciplinary leader in the advancement of pediatric sedation. Applications are reviewed in a blinded fashion by a panel of experts and Centers of Excellence designations are awarded for a four-year period, in this case from 2020-2024. We are currently the only pediatric hospital in New England with this Center of Excellence in Pediatric Sedation designation.

We are humbled by our high commendations from patients and families, a testament to our continued efforts to develop a family centered approach to care delivery. To that end, associate medical director Kalyani Raghavan, MBBS, MD, DCH, continues to develop strategies to serve the needs of our patients with autism spectrum disorders. Working with colleagues in Developmental Pediatrics at Connecticut Children's and with state and national experts, Dr. Raghavan has developed social stories to help prepare patients and families for their procedural sedation. These social stories are available online and can be viewed by families to prepare their child for the visit to Sedation. Dr. Raghavan has received grant funding from Autism Speaks® and other outside foundations to continue her very important work. Further developing her expertise in alternative approaches to management of pain and anxiety, Dr. Raghavan is initiating a program to offer options for aromatherapy for patients hospital-wide. To help families prepare for a visit, our child life specialist is available to call them in advance to help develop individualized approaches with the family's input.

Members of the Sedation Team are involved in leadership and committees at Connecticut Children's. Leonard Comeau, MD, is chairperson of the Sedation and Analgesia Committee and is responsible for writing and updating sedation policies, updating and overseeing credentialing of the house staff, and monitoring safety and quality of sedation hospital-wide. Members of the Sedation service also participate on hospital committees focused on pain management, the patient and family experience, pediatric palliative care, and quality and safety.

Education and research remain a significant part of our mission. Faculty-led research has explored the degree of parent and nursing satisfaction with the use of mild sedatives for Emergency Department procedures. Members of our nursing team, Kim Paula-Santos and Fiona Sellew, completed work on a competitive Nursing Research Fellowship to study the use of the sedative dexmedetomidine for use in sedated hearing screens. This work was presented at the annual Society for Pediatric Sedation Meeting in October 2020. Our educational commitment remains strong. Every UConn Pediatric and Emergency Medicine intern (35 per year) spends a week on a dedicated Sedation rotation. Residents participate in all aspects of patient care, are given hands-on training in airway management, and become credentialed to independently provide moderate sedation.

Our mission is to provide the highest quality care for children undergoing tests and procedures outside the operating room. We aim to utilize not just sedation medications but distraction techniques, alternative therapies, and a family centered approach to minimize anxiety and unnecessary discomfort for our patients.

PUBLICATIONS

Hellstrand K, Rogers SR, **Sturm JJ**. Prevalence of cyberbullying in patients presenting to the pediatric emergency department. Pediatr Emerg Care. 2020 Sept 21. doi: 10.1097/PEC.0000000000002243 PMID: 32970026.

Patel P, Laurich VM, Smith S, **Sturm J.** Point-of-care influenza testing in the pediatric emergency department. Pediatr Emerg Care. 2020 Nov. doi: 10.1097/PEC.0000000000002250.

STAFF

Jesse Sturm, MD, MPH, *Division Chief*

Kalyani Raghavan, MBBS, MD, DCH
Kathy Kalkbrenner, MD

PEDIATRIC SURGICAL SUBSPECIALTIES

ANESTHESIOLOGY

The Division of Anesthesiology is recognized for the outstanding clinical care and pain management services it provides. We are committed to advancing pediatric anesthesia care, providing cutting edge therapies for the management of acute and chronic pain, and educating the next generation of anesthesiologists and nurse anesthetists.

The Division of Pediatric Anesthesiology draws on the long history of anesthesia excellence in Hartford, CT, to provide superb clinical care, innovative teaching, academic achievement and a commitment to patient safety. The division's successes depend on the exceptional collaboration of our physicians, nurse anesthetists, advanced practice nurses and staff.

The division consists of 15 anesthesiologists and over nine certified registered nurse anesthetists (CRNAs) and advanced practice nurses. The Connecticut Children's Hartford campus is our principal clinical site but we provide care at numerous locations throughout the greater capital area. We coordinate care for over 10,000 surgical patients of all ages and for complexities each year including elective and emergent surgery, trauma surgery, endoscopy, imaging, and cardiac catheterization at the main campus. Additionally, we care for over 1,500 children at the Ambulatory Surgery Center in Farmington. For patients requiring MRA, nuclear medicine, interventional radiology or transplant services at Hartford Hospital, we provide the necessary expertise and a familiar face. Urgent procedures at Connecticut Children's NICU in Farmington and at Hartford Hospital also are covered by our division. Our vision is to provide compassionate care with extraordinary expertise for children in Connecticut. This year during the Covid-19 crisis our nurse anesthetists and physicians stepped up and provided care for adult patients in the ICUs at Hartford Hospital.

Mark Indelicato, MD, MSc, FAAP, continues his collaboration with Markus Bookland, MD, in the Division of Neurosurgery, researching the role of miRNA in possible memory and cognitive dysfunction in pediatric patients exposed to general anesthesia. Michael Archambault, MD, is working with Katherine Kavanagh, MD, in the Division of Otolaryngology, on simulation-based training of anesthesiology and otolaryngology residents. Our collaboration with the Division of Otolaryngology researching perioperative pain management strategies in children who have bilateral myringotomy and tube placement is continuing. Eapen Mathew, MD, spends time with members of the Division of Pain and Palliative Medicine, consulting on inpatients, seeing outpatients, performing therapeutic nerve blocks and conducting research. Jay McIsaac, MD, MS, continues as the chair of Disaster Preparedness for the Connecticut State Medical Society and a member of the ASA Committee on Trauma and Emergency. He once again directed the Hands-On Strategies for Managing Mass Casualties Workshop at this year's American Society of Anesthesiology Annual Meeting.

PUBLICATIONS

Kahn SA, Cicero M, Fortgang P, Manohar V, Price G, Prete M, et al. (**McIsaac JH**, 10/10). Disaster mental health response and psychological first aid. Conn Med. 2020 Mar; 84(3).

BOOKS

McIsaac JH, McQueen KA, Kucik CA. Essentials of disaster anesthesia. Cambridge Academic Press. 2020.

CHAPTERS

McIsaac JH. Preparing to deploy to a remote disaster. In: McIsaac JH, McQueen KA, Kucik CA. Essentials of disaster anesthesia. Cambridge Academic Press. 2020.

McIsaac JH, Kucik CA. Chemical and radiological exposure in trauma and disasters. In: McIsaac JH, McQueen KA, Kucik CA. Essentials of disaster anesthesia. Cambridge Academic Press. 2020.

STAFF

Craig Bonanni, MD, FAAP, *Division Chief*

Michael Archambault, MD
Christina Biello, DO
Cheryl Bline, MD
Amy Bouchard, DO, FAAP
Sheila Buan, DO
Evan Burke, MD
Edward Cortland, MD, FAAP, *Assistant Division Chief*
John Garrison, MD
Thomas Golembeski, MD
Mark Indelicato, MD, MSc, FAAP
Anil Mathew, MD, FAAP
Eapen Mathew, MD
Joseph McIsaac, MD, MS
Gregory Rutkowski, MD

Heather Allen, CRNA
Laura Pelullo, CRNA
Kelly Gorski, CRNA
Barbara Richards, CRNA
Christine Rouleau, CRNA
Michelle Stevens, CRNA
Rachel Petree, CRNA

Vivian Ho, APRN
Tracy Kunkel, APRN

PEDIATRIC NEUROSURGERY

The Division of Pediatric Neurosurgery is committed to the following core values:

- *We are dedicated to the delivery of comprehensive, compassionate, and timely family centered care to our patients and families*
- *We collaborate with and respect all members of our regional community*
- *Through clinical research, we hope to develop new and better treatments for neurosurgical disease*

PEDIATRIC NEUROSURGERY IN THE TIME OF COVID-19

The year 2020 will be remembered by all of us who lived through it as a time of change. The Neurosurgery division rapidly responded to the challenge of Covid-19 by embracing telemedicine as a means of continuing to serve our patients. This included the development of innovative tools for craniometric assessment and standardized approaches to the evaluation of our patients. Our creative and pioneering approach in this area allowed us to assume leadership nationally on this topic, with division chief Jonathan Martin, MD, serving as moderator for the American Academy of Pediatrics Section on Neurological Surgery webinar entitled 'Pediatric Neurosurgery Telehealth in the Time of Covid-19' in April of 2020. The teamwork of our support staff, nurses, advanced practice providers, and physicians allowed us to maintain and improve our high standards of patient care through the pandemic.

PATIENT SATISFACTION

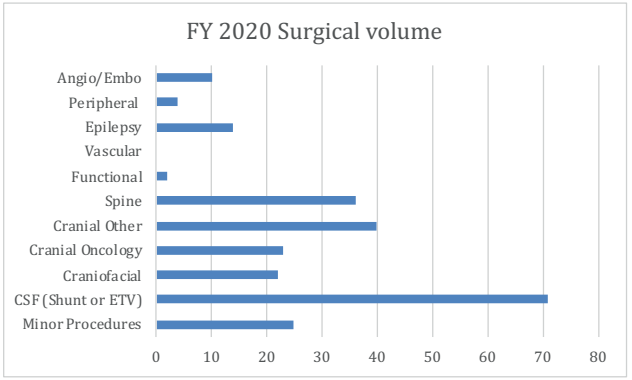
The Division of Pediatric Neurosurgery is committed to providing outstanding service to our referring providers and families. The division continues to earn ratings for patient, family, and provider satisfaction that are among the highest at Connecticut Children's.

QUALITY IMPROVEMENT INITIATIVES

The Division of Pediatric Neurosurgery remains committed to patient quality and safety. Our internal quality program continues to benchmark our performance against existing national standards. We additionally participate in two national quality databases: the American College of Surgeons' Pediatric National Surgical Quality Improvement Program (NSQIP), and the Hydrocephalus Research Network quality program (HCRNq), which Connecticut Children's joined this year. Through ongoing development of clinical care pathways, we strive to provide outstanding care to our patients, families, and referring providers.

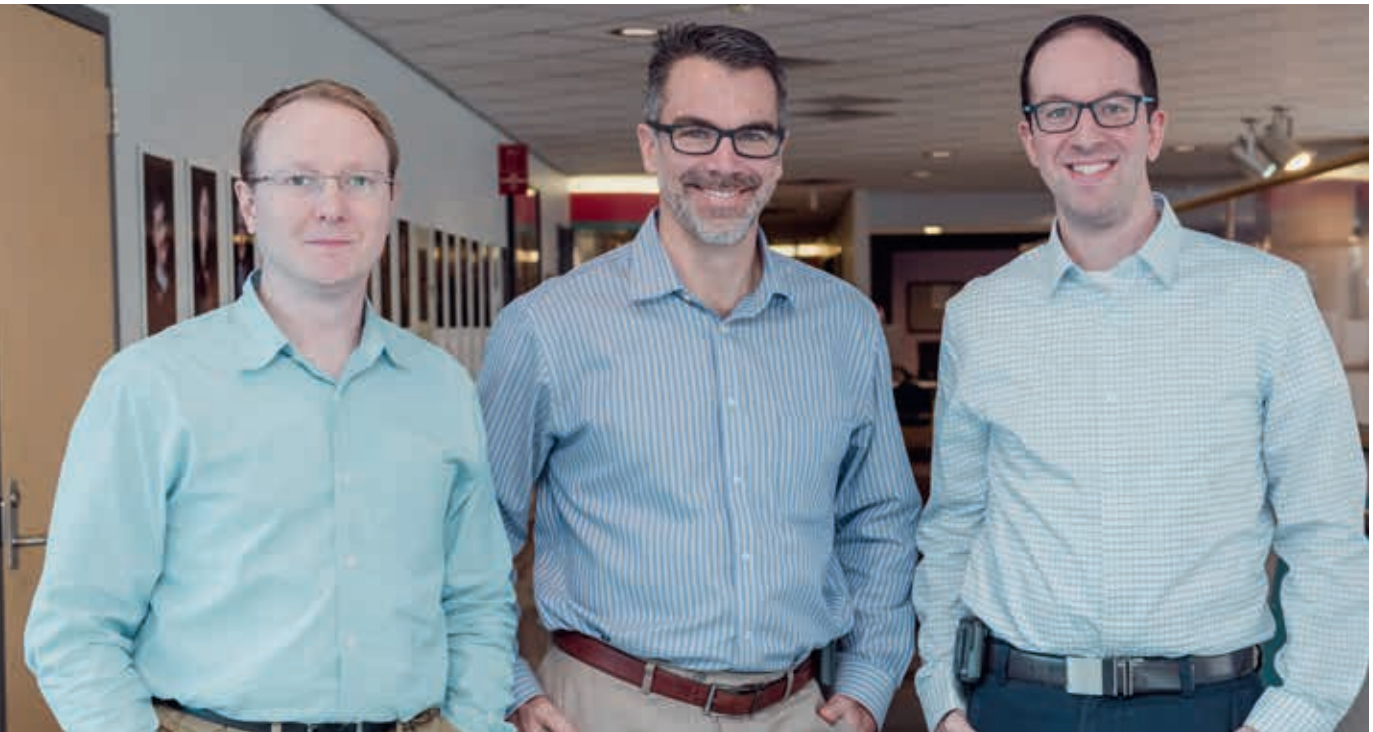
SURGICAL VOLUME

The Division of Pediatric Neurosurgery continues to provide the full spectrum of surgical care to the children of western New England. In 2020, nearly 250 children were provided surgical care by our team of expert providers. Our team met or exceeded institutional quality standards in addition to achieving below-benchmark complication rates for surgical site infection, shunt failure, and shunt infection rates as tracked by NSQIP.



Quality Metrics, 2020	CT Children's	National Benchmarks
Shunt failure, 90 days	6%	11.5% (30-day data) [1]
Shunt infection	0%	6% [2]
30-day readmission	6%	8.1% - 11.2% [3,4]

[1] Piatt JH. JNS Peds 14: 179-183, 2014.
[2] Kestle JRW et al. JNS Peds 17: 391-396, 2016.
[3] Wrubel DM et al. JNS Peds 13: 216-221, 2014.
[4] Sherrod et al. JNS Peds 13: 350-362, 2016.



CLINICAL INITIATIVES

The Division of Pediatric Neurosurgery strives to improve comprehensive offerings to the children of western New England through collaboration to develop innovative programs at Connecticut Children's. Innovations in 2020 included:

- The development of a combined neurosurgery/orthopaedics peripheral nerve program which includes comprehensive care for infants with birth-related brachial plexus injuries
- Expansion of our multidisciplinary epilepsy program with performance of surgical offerings to include hemispherotomy for refractory epilepsy
- Continued evolution of our craniofacial program to include implementation of care pathways to shorten length of stay and reduce transfusion rates for minimally invasive craniosynostosis surgery to near zero. In partnership with Christopher Hughes, MD, MPH, in our Division of Plastic Surgery, our team has embraced virtual surgical planning to reduce operative times and improve surgical efficiency in children with complex craniofacial disorders.

EDUCATION, LEADERSHIP, AND RESEARCH

Our division remains committed to the mission of education and research. In cooperation with the University of Connecticut School of Medicine and Hartford Hospital, Connecticut Children's succeeded in establishing an ACGME-accredited neurosurgical residency program in 2019. The program welcomed its first resident in July of 2019.

Connecticut Children's neurosurgical providers continue to make their mark nationally. Dr. Martin continues to serve on the executive committee of the Section on Neurological Surgery of the American Academy of Pediatrics. His duties include chair of the Education, Publication, and Newsletter subcommittee. He also serves on the Committee for Quality, Safety, and Advocacy for the American Society of Pediatric Neurosurgeons.

Markus Bookland, MD, has continued in his role as associate director of Research and Academic Affairs

for the Department of Surgery where his contributions are streamlining research operations for clinicians and researchers throughout Connecticut Children's.

David Hersh, MD, our newest faculty member, wasted little time in establishing himself as a leader within the institution. He was awarded the prestigious Thrasher Research Fund Early Career Award during his first year at Connecticut Children's. His publications were recognized with an Editor's Choice Award by the *Journal of Neurosurgery*, and a faculty invitation to the International Paediatric Neurosurgery Journal Club. Dr. Hersh also spearheaded the founding of the medical student chapter of the American Association of Neurological Surgeons at the University of Connecticut.

PUBLICATIONS

Ajmera S, Motiwala M, Weeks M, Oravec CS, **Hersh DS**, Fraser BD, Vaughn B, Klimo P. What variables correlate with different clinical outcomes of abusive head injury? Neurosurgery. 2020 Sep 15;87(4):803-810. doi: 10.1093/neuros/nyaa058.

Knopf JD, Kumar R, Barats M, Klimo P Jr, Boop FA, Michael LM 2nd, **Martin JE, Bookland M, Hersh DS.** Neurosurgical operative videos: an analysis of an increasingly popular educational resource. World Neurosurg. 2020 Sep 1:S1878-8750(20)31956-2. doi: 10.1016/j.wneu.2020.08.187. Epub ahead of print.

Hersh DS, Dave P, Weeks M, Hankinson TC, Karimian B, Staulcup S, VanPoppel MD, Wait SD, Vaughn BN, Klimo P. Converting pediatric patients and young adults from a shunt to a third ventriculostomy: a multicenter evaluation. Neurosurgery. 2020 Aug 1;87(2):285-293. doi: 10.1093/neuros/nyz478.

Hersh DS, Kumar R, Moore KA, Smith LGF, Tinkle CL, Chiang J, Patay Z, Gajjar A, Choudhri AF, Lee-Diaz JA, Vaughn B, Klimo P. Safety and efficacy of brainstem biopsy in children and young adults. J Neurosurg Pediatr. 2020 Jul 31:1-11. doi: 10.3171/2020.4.PEDS2092. Epub ahead of print.

Lee RP, Ajmera S, Thomas F, Dave P, Lillard JC, Wallace D, Broussard A, Motiwala M, Norrdahl S, Venable GT, Khan NR, Harrell C, Jones TL, Vaughn BN, Gooldy T, **Hersh DS**, Klimo P. Shunt failure – the first 30 days. Neurosurgery. 2020 Jul 1;87(1):123-129. doi: 10.1093/neuros/nyz379.

Gordon WE, Gienapp AJ, Khan NR, **Hersh DS**, Parikh K, Vaughn BN, Michael LM, Klimo P. Commentary: The clinical experience of a junior resident in pediatric neurosurgery and introduction of the Resident Experience Score. Neurosurgery. 2020 May 1;86(5):E447-E454. doi: 10.1093/neuros/nyz565.

Norrdahl SP, Jones TL, Dave P, **Hersh DS**, Vaughn B, Klimo P. A hospital-based analysis of pseudomeningoceles after elective craniotomy in children – what predicts need for intervention? J Neurosurg Pediatr. 2020 Jan 31:1-8. doi: 10.3171/2019.11.PEDS19227. Epub ahead of print.

Rocque BG, Weprin BE, Blount JP, Hopson BD, Drake JM, Hamilton MG, Williams MA, White PH, Orrico K, **Martin JE*.** Healthcare transition in pediatric neurosurgery: a consensus statement from the American Society of Pediatric Neurosurgeons. J Neurosurg Pediatr. 2020 Feb 14;1-9. doi: 10.3171/2019.12.PEDS19524. Epub ahead of print.

Martin JE, Rocque B, Jea A, Anderson R, Pahys J, Brockmeyer D. Assessment of craniocervical motion in Down syndrome: a pilot study of two measurement techniques. J Neurosurg Pediatr. 2019 Oct 4;1-7. doi: 10.3171/2019.7.PEDS191. Epub ahead of print.

Bookland M, Gillan E, Song X, Kolmakova A. Peripheral circulation miRNA expression of pediatric brain tumors and its relation to tumor miRNA expression levels. J Neurosurg Pediatr. 2020 May 8; 1-9. PMID: 32384264. doi: 10.3171/2020.2.PEDS19715. Epub ahead of print.

BOOK CHAPTERS

Martin JE, Pollack IF, Keating RF. Chapter 6: Neurosurgical techniques and strategies. In: Walker DA, Perilongo G, Taylor RE, Pollack IF, editors. Brain and spinal tumors of childhood. 2nd ed. Boca Raton, FL: CRC Press; 2020. p. 93-111.

Shimony N, **Hersh DS**, Boop FA. Surgical approach to mesencephalic (midbrain) tumors. In: Jallo GI, Noureldine MHA, Shimony N, editors. Brainstem tumors: diagnosis and management. Cham, Switzerland: Springer Nature Switzerland AG; 2020.

Nguyen V, Moore K, **Hersh DS**, Boop FA. Complications of Chiari surgery. In: Tubbs RS, Oskouian RJ, Turgut M, Oakes WJ, editors. The Chiari malformations. 2nd ed. Cham, Switzerland: Springer Nature Switzerland AG; 2020.

STAFF

Jonathan Martin, MD, FAANS, FACS, FAAP,
Division Chief
Associate Director of Trauma, Connecticut Children's

Markus Bookland, MD
Associate Director of Research and Academic Affairs, Department of Surgery, Connecticut Children's

David Hersh, MD
Allison Labelle, APRN
Petronella Stolz, APRN, DNP

Affiliated Faculty

Eileen Gillan, MD, Neuro-oncology
Mark Lee, MD, Orthopaedic Surgery/Complex Spine Service
Charles Castiglione, MD, Craniofacial Surgery
Christopher Hughes, MD, Craniofacial Surgery
Belachew Tessema, MD, Otolaryngology/ Endonasal Sinus Surgery
Martin Ollenschleger, MD, Neurointerventional Radiology
Sonia Chaudhry, MD, Orthopaedic Surgery/ Peripheral Nerve
Jennifer Madan Cohen, MD, Epilepsy / Neurology
Helaine Bertsch, MD, Radiation Oncology
Minh Tang-Schomer, PhD, University of Connecticut
Roel Verhaak, PhD, Jackson Laboratories

OPHTHALMOLOGY

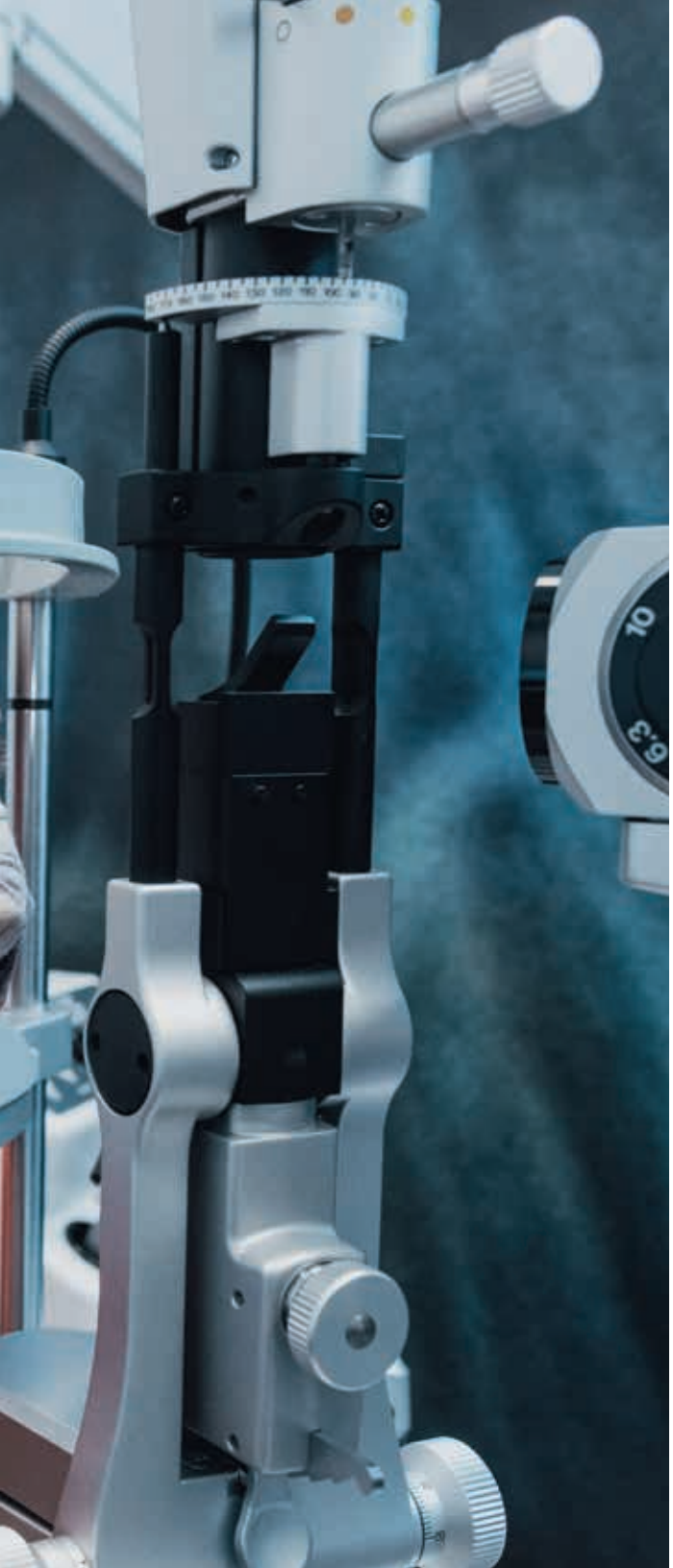
The Division of Ophthalmology had a strong start to 2020 with several projects underway, but due to the global pandemic, several were halted. We look forward to resuming these endeavors in the near future, and in the meantime, our experienced pediatric ophthalmologists and pediatric optometrists and our pediatric ophthalmology physician assistant continue to provide excellent care to our patients and their families.

There were many challenges starting in March when Covid-19 began to spread. Although Connecticut Children's initially cancelled all elective surgery cases and non-urgent office visits, the Division of Ophthalmology continued providing care for urgent patients requiring a visit or surgery. In addition, we were able to see 30 percent of our patients virtually via telehealth. The division was not on Epic at the time of the pandemic outbreak, but we were able to create and use a telemedicine platform until such time as we transitioned to Epic in April 2020.

Despite Covid and the challenges we faced, we were able to move, as planned in April, into our new and improved Ophthalmology suite at 599 Farmington Avenue, just a mile from our previous office space. We are proud that our entire division was able to seamlessly accomplish the move and the transition to Epic, all in the span of a single week.

CLINICAL INITIATIVES

- Connecticut Children's Division of Ophthalmology opened an Optical Shop in November 2020. We are now able to help our patients in a more cohesive fashion – from a complete eye exam to getting glasses, should the need arise. This allows our patients to leave our office without having to worry about where to get glasses and without questions about what next steps might be needed.
- Retinopathy of Prematurity (ROP) educational video: We began the year by distributing iPads to the various NICUs where we provide ROP exams. The iPads contain educational videos for parents to help them understand the need for an eye exam, the reasons the exam is done, and why it's important to follow up at the hospital and again following discharge. The videos have resulted in positive feedback from families, NICU nurses, and neonatologists, all of whom cite its effectiveness.
- We created and implemented a low-dose atropine protocol for patients with moderate to high myopia to decrease myopic progression.
- We started a monthly Morbidity and Mortality Conference series.
- We established a monthly case presentation series for the discussion of one to two interesting cases including differential diagnoses and treatment options. Every three months, in lieu of a case conference, we host a journal club to discuss new and innovative ways to treat pediatric ophthalmologic conditions. The topics are wide-ranging. In July, we discussed diagnostic modalities for distinguishing between papilledema and pseudopapilledema. In October, we reviewed teprotumumab for the treatment of active thyroid eye disease.
- We created and implemented a lecture series for pediatric residents.
- We created and implemented a two-week Pediatric Emergency Medicine fellow's rotation during which the fellow works with members of the Division of Ophthalmology to learn the basics of an eye exam with the goal of improving his or her ophthalmologic exam skills in the emergency room.
- We began participating in the primary care rotation for medical students, offering one half-day of training per week for three weeks.
- Our ophthalmic assistants all took their certification exams and are now certified ophthalmic assistants (COAs). They will be taking their certification exams to become certified technicians in 2021. In preparation for their exam, we created a lecture series on various topics, with each of our providers contributing a talk. We will continue the lecture series for the OAs to help them keep their exam skills and knowledge of ophthalmology up-to-date.



- Our division members participated in medical education through the presentation of various lectures, both in person and via Zoom, throughout the year. Among the highlights were a lecture on "Pediatric Ophthalmology Tips for ER Physicians," a grand rounds lecture at Day Kimball Hospital in Putnam, CT, on the topic of "Pediatric Ocular Trauma," and a resident lecture on "Pediatric Infectious and Allergic Diseases of the Eye."

COVID INITIATIVES

Throughout the Covid crisis, members of the Division of Ophthalmology were involved in various committees and conferences and provided education material. The various initiatives included:

- Participation by Janine Collinge, MD, on the PPE Task Force.
- Participation by Caroline DeBenedictis, MD, on the Covid Task Force/Reopening Task Force Summer 2020.
- Case conference discussion on multisystem inflammatory syndrome in children (MIS-C)
- Blog post for Connecticut Children's: "Preventing Eye Strain During Your Child's Screen-Based Learning During Covid-19".
- Utilization of a home dilation protocol to limit the time that patients would have to be in the clinic.
- The reopening of our offices using unique methods to continue social distancing among patients at check-in and checkout as well as throughout the visit.
- On a regional level, Dr. DeBenedictis was interviewed on NBC Connecticut News on August 27, 2020, to discuss the effects of too much screen-time on students.

CLINICAL COLLABORATIONS

The Division of Ophthalmology continues to collaborate with other divisions at Connecticut Children's to enhance the patient care experience. While many of these endeavors were postponed due to Covid, others have begun and will continue into 2021.

- Combination clinics between Rheumatology and Ophthalmology so patients with various rheumatologic conditions that include ocular manifestations can be seen at a single appointment in one setting.
- Working in combination with the divisions of Emergency Medicine, Pediatrics, Neurology, Neurosurgery and Ophthalmology to establish a clinical pathway for Idiopathic Intracranial Hypertension.
- Working in collaboration with Neurosurgery to establish a clinical pathway for patients presenting with concussion-type symptoms.

PUBLICATIONS

DeBenedictis CN, Yassin SH, Gunton K, et al. Strabismus surgery infection prophylaxis and timing of first postoperative visit. J Pediatr Ophthalmol Strabismus. 2019;56(6):354-359.

Crouch ER, Kraker RT, Wallace DK, Holmes JM, Repka MX, **Collinge JE,** Bremer DL, Gray ME, Smith HA, Steinkuller PG; Writing Committee for Pediatric Eye Disease Investigator Group. Secondary 12-month ocular outcomes of a phase 1 dosing study of bevacizumab for retinopathy of prematurity. JAMA Ophthalmol. 2020 Jan 1;138(1):14-20.

STAFF

Majida Gaffar, MD, *Interim Division Chief*

Janine Collinge, MD
Caroline DeBenedictis, MD
Sona Hamelin, PA

Marnie Smith, OD
Maria Varela, OD

ORTHOPAEDIC SURGERY

The Orthopaedic Surgery division consists of three services: The Pediatric-Orthopaedic service, the Sports Medicine service (Elite Sports Medicine), and the Center for Motion Analysis (CMA). Our team is made up of exceptional surgeons and physicians, PAs, APRNs, sports trainers and engineers with many years of extensive training and experience to provide our patients with quality care. We provide the full spectrum of care for children and young adults with orthopaedic conditions such as scoliosis and spinal deformities, limb deformity, congenital dislocated hips, clubfeet, congenital hand deformities, nerve injuries, children's fractures, as well as neuromuscular conditions such as cerebral palsy, spina bifida, and muscle diseases. Our Sports Medicine division provides expert care for injured athletes as well as injury prevention programs.

The Orthopaedic Surgery department has six fellowship-trained surgeons: division chief Jeffrey Thomson, MD, Mark Lee, MD, Phil Mack, MD, Kristan Pierz, MD, Janet Zahradnik, MD, and Sonia Chaudhry, MD. We also hired two new surgeons: Mark Rieger, MD, and Anna Katsman, MD, who work in our new Danbury office. Our Orthopaedic surgeons work closely with UConn Health and Maimonides Medical Center Orthopaedic residents who receive clinical and surgical experience. Our ACGME-accredited pediatric orthopaedic fellowship continues to train the upcoming generation of pediatric orthopaedic surgeons. Our advanced practice providers, Amy Shannon, APRN, Marta Berube, PA-C, Kevin Connolly, PA-C, and Sarah Florence, PA-C, were joined this year by Erin Malone, PA-C, and Kimberly VanPelt, PA-C. The office staff and providers have worked hard to offer same-day and walk-in appointments for the timely evaluation of orthopaedic injuries. Among other highlights for the year, the Orthopaedic Surgery division is now on the fourth floor of the Bone & Joint Institute, which features the EOS® X-ray Image System providing high quality, extremely detailed images at a significantly lower radiation dose compared to a typical radiographic X-ray. Dr. Chaudhry completed the prestigious ASSH/AFSH (American Society for Surgery of the Hand/American Foundation for Surgery of the Hand) International Hand Fellowship at Ganga Hospital, Coimbatore, India, in April 2019, advancing our experience with complex nerve injuries such as those of the brachial plexus.

The Sports Medicine Service (Elite Sports Medicine) includes clinical director Lee Pace, MD, and Allison Crepeau, MD, and non-operative physician Imran Hafeez, MD. Three physician assistants, A.J. Ricciuti, PA, Kevin Fitzsimmons, PA, and Katelyn Colosi, PA, complement the team. The service provides sports medicine coverage for several high schools as well as Trinity College and Quinnipiac University sports teams. In addition, the sports medicine department continues its expertise in concussion treatment, with centers of care extending as far as the HeadZone in Fairfield, CT. Dr. Pace continues his work on trochlear dysplasia – a congenital malformation of the knee joint that affects the kneecap, and he is one of only a handful of surgeons worldwide to offer arthroscopic trochleoplasty.

The Center for Motion Analysis, directed by Dr. Pierz and Sylvia Õunpuu, MSc, is fully certified by the Commission for Motion Laboratory Accreditation. The CMA provides a wide range of diagnostic services evaluating children with disorders that affect walking and that may require treatment including orthopaedic surgical intervention. The Center for Motion Analysis also conducts research on disorders that impact gait such as Charcot-Marie-Tooth disease, cerebral palsy, and clubfoot, as well as sports injuries. The center is currently a member of the PRISM research interest group for motion analysis, which is focused on development of a motion-analysis-based protocol for use in sports medicine. Our CMA is one of 14 institutions represented in this collaboration, and we are building an SOP with four of the other key institutions. In other achievements, in 2020, Sylvia Õunpuu provided keynote lectures at the annual Comprehensive Clinical Gait Course in Shanghai, China.

Our research efforts are led by Erin Garibay, BS.

PUBLICATIONS

Pierz K, Lloyd J, Solomito M, **Mack P**, **Õunpuu S.** Lower extremity characteristics in recurrent clubfoot: clinical and gait analysis findings that may influence decisions for additional surgery. Gait Posture. 2020 Jan;75:85-92. Epub 2019 Oct 4.

Pogemiller K, Garibay E, **Pierz K**, Acsadi G, **Õunpuu S.** Comparison of gait patterns and functional measures between Charcot-Marie-Tooth disease type I and II in children to young adults. Gait Posture. 2020 Mar;77: 236-242. doi:10.1016/j.gaitpost.2020.01.027.Epub 2020 Feb 1.

Õunpuu S, Pierz KA, Acsadi G, Wren TAL. Changes in walking velocity and stride parameters with age in children with Charcot-Marie-Tooth disease. Neuromusc Disord. 2020 Oct; 30(10):825-832. doi:10.1016/j.nmd.20020.08.359. Epub 2020 Aug 21.

Pierz KA. CORR Insights®: Is social deprivation associated with PROMIS outcomes after upper extremity fractures in children? Clin Orthop Relat Res. 2020 Dec 30; 10.1097/CORR.0000000000001620. doi: 10.1097/CORR.0000000000001620. PMID: 33394762.

Wren TAL, Tucker CA, Rethlefsen SA, Gorton GE III, **Õunpuu S.** Clinical efficacy of instrumented gait analysis: systematic review 2020. Gait Posture. 2020 Jul; 80:274-279. https://doi.org/10.1016/j.gaitpost.2020.05.031.

Ounpuu S, **Pierz KA**, Acsadi G, Wren TAL. Changes in walking velocity and stride parameters with age in children with Charcot-Marie-Tooth disease. Neuromusc Disord. 2020 Oct;30(10):825-832. doi:10.1016/j.nmd.20020.08.359. Epub 2020 Aug 21.

Su A, **Lee MC.** The cost and educational experience of treating supracondylar humerus fractures: a pilot analysis on standardizing surgical care. J Am Acad Orthop Surg Glob Res Rev. 2020 Jun;4(6):e20. PMID: 32656475.

Patel H, **Lee MC**, **Chaudhry S.** Extensor pollicis longus tendon rupture following a pediatric distal radius fracture: a case report and literature review. JBJS Case Connect. Jul-Sep 2020;10(3):e2000022. doi: 10.2106/JBJS.CC.20.00022. PMID: 32910621.

Yohe N, Ciminero M, Solomito M, **Lee MC.** Impact of pediatric subspecialty training on perioperative complications in adolescent idiopathic scoliosis surgery. Orthopedics. 2020 Sep 1;43(5):e454-e459. doi: 10.3928/01477447-20200721-11. Epub 2020 Aug 6. PMID: 32745224.

Rutz E, McCarthy J, Shore BJ, Shrader MW, Veerkamp M, Chambers H, Davids JR, Kay RM, Narayanan U, Novachek TF, **Pierz KP**, Rhodes J, Shilt J, Theologis T, Van Campenhout A, Dreher T, Graham K. Indications for gastrocsoleus lengthening in ambulatory children with cerebral palsy: a Delphi consensus study. J Child Orthop. 2020 Oct 1;14(5):405-414. doi:10.1302/1863-2548.14.200145. PMID 33204348.

McCarthy J, Shrader WM, Graham K, Veerkamp M, Brower L, Chambers H, Davids JR, Kay RM, Narayanan U, Novacheck TF, **Pierz K**, Rhodes J, Ruts E, Shilt J, Shore BJ, Theologis T, Campenhout AV. Establishing surgical indications for hamstring lengthening and femoral derotation osteotomy in ambulatory children with cerebral palsy. J Child Orthop. 2020 Feb 1;14(1):50-57. doi:10.1302/1863-2548.14.190173.

Stinson ZS, Beck JJ, Carsen S, **Crepeau A**, Cruz AI, Ellington MD, Mayer SW, VandenBerg CD. Safe return to play following ACL reconstruction in young athletes. JPOSNA. 2020 Nov;2(3). www.jposna.org.

Grimm NL, Levy BJ, Jimenez AE, **Crepeau AE**, **Pace L.** Traumatic patellar dislocations in childhood and adolescents. Orthop Clin North Am. 2020 Oct;51(4):481-491.

Dabis J, Yasen SK, Foster AJ, **Pace JL**, Wilson AJ. Pediatric anterior cruciate ligament repair with internal brace. Early results and surgical technique. Knee Surg Sports Trauma Arthrosc. 2020 Feb 10. Epub ahead of print.

Bachmaier S, DiFelice GS, Sonnery-Cottet B, Douoguih WA, Smith PA, **Pace JL**, Ritter D, Wijdicks CA. Treatment of acute proximal anterior cruciate ligament tears part 2: the role of internal bracing on gap formation and stabilization of repair techniques. Orthop J Sports Med. 2020 Jan 28;8(1):2325967119897423. doi: 10.1177/2325967119897423. eCollection 2020 Jan.

Levy BJ, Jimenez AE, **Fitzsimmons K**, **Pace JL.** Medial patellofemoral ligament reconstruction and open lateral retinacular lengthening in skeletally immature patients using suspensory femoral fixation and a laterally based incision. Arthrosc Tech. 2020 June;9(6): e737-e745.

Vogel LA, **Fitzsimmons K**, **Pace JL.** Osteochondral fracture fixation with fragment preserving suture technique. Arthrosc Tech. 2020 June;9(6): e761-767.

Andelman S, Mandelbaum BR, **Fitzsimmons K**, **Pace JL.** Retro-articular core decompression and biologic augmentation for early stage osteochondritis dissecans of the knee. Arthrosc Tech. 2020 July;9(7):e1003-1009.

Pace JL, Cheng C, Joseph SM, Solomito M. The effect of trochlear dysplasia on commonly used radiographic measured for patellar instability. Orthop J Sport Med. 2020 July 27;8(7):2325967120938760. doi: 10.1177/2325967120938760. eCollection 2020 Jul.

Grimm NL, **Pace JL**, Levy BJ, Arthur D, Portman M, Solomito MJ, Weiss JM. The demographics and epidemiology of discoid meniscus of the knee: analysis of a large regional insurance database. Orthop J Sport Med. 2020 Sept 17;8(9):2325967120950669. doi: 10.177/2325967120950669. eCollection 2020 Sept.

Joseph SM, Cheng C, Solomito M, **Pace JL.** Lateral trochlear inclination angle: measurement via a 2-image technique to reliably characterize and quantify trochlear dysplasia. Orthop J Sport Med. 2020 Oct 8;8(10):232596712098415. doi: 10.177/232596712098415. eCollection 2020 Oct.

BOOK CHAPTERS

Ipaktchi K, Dimachkieh O, **Chaudhry S.** Chapter 18: Carpus. In: Sports-related fractures, dislocations and trauma: advanced on- and off-field management. 1st ed. Springer; 2020. ISBN-10:3030367894.

Lee MC, Richards BS. Chapter 86: Complications associated with adolescent idiopathic scoliosis surgery. In: Bridwell's textbook of operative spine surgery. 4th ed. 2020.

Pierz K, Shrader W. Chapter 5: Multilevel orthopedic surgery for patients with cerebral palsy. In: Nowicki PD, editor. Orthopedic care of patients with cerebral palsy: a clinical guide to evaluation and management across the lifespan. Springer Nature Switzerland; 2020. p 77-92.

Crepeau A, Weiss J. Chapter 60: Pediatric athletic injuries. Orthopaedic knowledge update 13. Wolters Kluwer; 2020.

STAFF

Jeffrey D. Thomson, MD, *Division Chief*
Sonia Chaudhry, MD
Allison Crepeau, MD
Imran Hafeez, MD
Anna Katsman, MD
Mark C. Lee, MD
Philip W. Mack, MD
Lee Pace, MD
Kristan Pierz, MD
Mark Rieger, MD
Janet Zahradnik, MD

Marta Berube, PA-C
Kevin Connolly, PA-C
Katelyn Colossi, PA-C
Kevin Fitzsimmons, PA-C
Sarah Florence, PA-C
Erin Malone, PA-C
A.J. Ricciuti, PA-C
Kimberly VanPelt, PA-C
Sylvia Õunpuu, MSc
Amy Shannon, APRN

Fellow

Harshad Patel, MBBS, MD

OTOLARYNGOLOGY – HEAD AND NECK SURGERY

The Division of Otolaryngology – Head and Neck Surgery provides cutting edge and innovative clinical care of infants, children and adolescents. We are national leaders in our field and educate the next generation of pediatric otolaryngologists. We continue to see patients in Hartford, Farmington, and Glastonbury and have plans to expand services to new outpatient locations in 2021.

During the beginning of the SARS-CoV-2 pandemic, we rapidly shifted to telehealth visits and continue to offer telehealth for families that choose the option. For families preferring in-person visits, we continue to offer those types of visits as well. In the past fiscal year, we evaluated 12,100 outpatients and performed 2,147 surgeries. We won numerous teaching awards, established new medical simulation models for otolaryngology resident education, presented virtually at national meetings, and had a banner year publishing peer-reviewed articles, and writing and editing textbooks.

Christopher Grindle, MD, became a major force in the Connecticut Children's telehealth initiative. He helped build, train and roll out our telehealth technology to all clinicians at Connecticut Children's, performed a grand rounds on telehealth, and participated in television interviews and advocacy at the Connecticut state legislature and with federal elected officials. Telehealth rapidly expanded our capability from a few visits a week to over 600 visits per day. Dr. Grindle also developed a streamlined communication tool in Epic enabling subspecialists and referring pediatricians to share information regarding patients with airway problems. For his role as an educator, Dr. Grindle was honored in June 2020 with the R. Timothy Brown Faculty Award for Excellence in Teaching in an Affiliated Pediatric Field, and the Didactic Teaching Award from the UConn Pediatric Residency Program.

Katherine "Katie" Kavanagh, MD, continued in her role as director of simulation for the University of Connecticut Otolaryngology residency program. She won first place in medical simulation at the American Academy of Otolaryngology – Head and Neck Surgery annual meeting for development of a 3D model for rhinoplasty simulation. At the same meeting, she also presented her experiences in developing a resident wellness curriculum and moderated a panel to address bullying. She was elected as secretary of the Connecticut ENT Society. She has expanded our Voice Clinic services and continues as director of monthly multidisciplinary Airway Conference.

Nicole Murray, MD, continues to expand the collaborative Connecticut Children's Aerodigestive Team. She was elected as ENT representative to the national Aerodigestive Society, and is serving a two-year term for curriculum development. She co-chaired the PICU chief search committee, and as co-chair of the Covid PPE Task Force, she represented Connecticut Children's on three media news interviews. She was elected vice president of the Connecticut Children's Medical Staff Executive Committee.

Over the past year since joining Connecticut Children's, Amy Hughes, MD, has worked to increase awareness of and access to care for patients with drooling (sialorrhea). Through outreach to local providers and internal advertising, she is growing her referral base. Her goal is to create a formal sialorrhea/drooling clinic that provides coordinated care for our more complex patients to help limit patient visits and improve patient care.

Nancy Grover, MD, founded a multidisciplinary sleep apnea clinic in collaboration with sleep medicine and sleep psychology for children with persistent sleep apnea after conventional management. She has been successfully seeing patients both virtually and in-person with planned expansion of services despite SARS-CoV-2.

Division chief Scott Schoem, MD, MBA, continues in his role as associate director for Surgical Clinical Affairs working closely with the Surgeon-in-Chief Christine Finck, MD, on clinical operations, budgets, mentoring and marketing at Connecticut Children's. He was also elected as president of the Connecticut Chapter of the American Academy of Pediatrics (AAP), the first surgical subspecialist in this role. He is on the national board of directors for ENT PAC, the specialty's non-partisan, issue-driven political action committee. He is co-editor of *Pediatric Otolaryngology for Primary Care*, 2nd edition, published by the American Academy of Pediatrics and designed for practicing pediatricians and primary care clinicians.

PUBLICATIONS

Valdez TA, Kudaravalli S, **Kavanagh KR.** Combined web and haptic simulation system: a pilot study. Int J Pediatr Otolaryngol. 2020.

Munjal T, **Kavanagh KR**, Ezzibdeh RM, Valdez TA. The impact of Covid-19 on global disparities in surgical training in pediatric otolaryngology. Int J Pediatr Otolaryngol. 2020 Nov; 138:110267. doi: 10.1016/j.ijporl.2020.110267. Epub 2020 Jul 20.

Kashat L, Carter B, Mosha M, **Kavanagh KR.** Mindfulness education for otolaryngology residents: a pilot study. OTO-Open. 2020 Jul-Sep; 4(3):2473974X20945277. doi: 10.1177/2473974X20945277.

Kashat L, Carter B, Archambault M, Wang Z, **Kavanagh K.** A multidisciplinary basic airway skills boot camp for novice trainees. Cureus. 2020. doi: 10.7759/cureus.8766.

Mehta K, Mosha MM, **Kavanagh KR.** A targeted tracheostomy care educational initiative to augment resuscitation training in the pediatric setting. Int J Pediatr Otolaryngol. 2020 Jun;133:109944. doi: 10.1016/j.ijporl.2020.109944. Epub 2020 Feb 13.


25TH ANNUAL
AL LEONARD
TOURNAMENT

Kashat L, Carter B, Falcone T, Parham K, **Kavanagh KR.** Taking a systematic approach to resident wellness: a pilot study. Otolaryngol Head Neck Surg. 2020 Apr;162(4):489-491. doi: 10.1177/0194599820907589. Epub 2020 Mar 17.

Sparks D, Blake D, Carter B, **Schoem S.** A retrospective review of Paparella Type 1 tympanostomy tubes. Int J Pediatr Otorhinolaryngol 2020 Feb; 129:109739. doi: 10.1016/j.ijporl.2019.109739. Epub 2019 Nov 2.

Chan K, Dinwiddie J, Ahuja G, Bennett EC, Brigger MT, Chi DH, et al, (**Schoem S, 30/30**). Advanced practice providers and children's hospital-based pediatric otolaryngology practices. Int J Pediatr Otorhinolaryngol. 2020 Feb; 129:109770. doi: 10.1016/j.ijporl.2019.109770. Epub 2019 Nov 7.

Lustig L, Ingram A, Vidrine M, Gould AR, Zeiders JW, Ow RA, et al, (**Schoem S,** 24/30). In-office tympanostomy tube placement in children using iontophoresis and automated tube delivery. Laryngoscope. 2020 May;130 Suppl 4(Suppl 4):S1-S9. doi: 10.1002/lary.28612. Epub 2020 Mar 11.

Weitzman RE, Kawai K, Nuss R, **Hughes AL**. A 10-year retrospective review of botulinum toxin injections and surgical management of sialorrhea. Cureus. 2020; 12(5): e7916. doi:10.7759/cureus.7916.

Hughes AL, Adil EA. Is endoscopic sinus surgery beneficial post lung transplant in cystic fibrosis patients? Laryngoscope. 2020 Jul 9. doi: 10.1002/lary.28916.

Baker AK, Carroll CL, **Grindle CR**, Sala KA, Cowl AS. Assessing frequency of respiratory complications in children undergoing adenotonsillectomy. Pediatr Crit Care Med. 2020 Jul; 21(7):e426-e430. doi: 10.1097/PCC.0000000000002321. PMID: 32195901.

Mallen JR, Shah MU, Drake R, Kreicher K, Falcone T, Karter N, **Schoem S, Grindle C**, Wolfe S, Kuo CL, Mu J, Lotterman S, Bonaiuto G. Utility of smartphone telemedical consultations for peritonsillar abscess diagnosis and triage. JAMA Otolaryngol Head Neck Surg. 2020 Oct 1; 146(10):909-913. doi: 10.1001/jamaoto.2020.1972. PMID: 32816011; PMCID: PMC7441464.

Wilson J, Zeisler B, **Grover N.** Hemorrhagic tonsillitis in an infant: a case report. Int J Pediatr Otorhinolaryngol. 2020 Sep; 136:110190.

BOOK CHAPTERS

Hughes AL, Chase I, Glader L. Chapter 3: Oral health and sialorrhea. In: Sullivan PB, Anderson GL, Andrew MJ, editors. Nutrition and neurodisability. 1st ed. Mac Keith Press; 2020 Mar 16.

Hughes AL, Choi S. Deep neck space infection. In: Pediatric otolaryngology for primary care. 2nd ed. American Academy of Pediatrics; 2020.

Roehm C, **Schoem S.** Drooling and salivary aspiration. In: Pediatric otolaryngology for primary care. 2nd ed. American Academy of Pediatrics; 2020.

Lee S, **Murray N.** Sinonasal manifestations of cystic fibrosis. [updated] In: Otolaryngology and facial plastic surgery. Medscape (formerly eMedicine World Medical Library); 2020. https://emedicine.medscape.com/article/862538-overview.

Murray N. Pediatric tracheostomy. In: Pediatric otolaryngology for primary care. 2nd ed. Itacsa, IL: American Academy of Pediatrics; 2020. p. 449-470.

TEXTBOOK EDITOR

Schoem SR, Darrow DH. Pediatric otolaryngology for primary care. 2nd ed. American Academy of Pediatrics; 2020.

STAFF

Scott Schoem, MD, MBA, FAAP
Clinical Professor of Otolaryngology
Division Chief, Co-director, Cochlear Implant Program

Christopher Grindle, MD, FAAP
Assistant Professor of Otolaryngology
Co-director, Cochlear Implant Program
Director of Clinical Informatics, Department of Surgery

Nancy Grover, MD
Assistant Professor of Otolaryngology

Amy Hughes, MD, FAAP
Assistant Professor of Otolaryngology

Katherine Kavanagh, MD, FAAP
Associate Professor of Otolaryngology and Anesthesiology
Director of Research
Director, Medical Simulation

Nicole Murray, MD, FAAP
Associate Professor of Otolaryngology
Site Director, Otolaryngology
Residency Program Director
Director, Aerodigestive Team

Rebecca Strong, APRN
Christine Harrington, PA-C
Elizabeth Oblon, PA-C
Melissa Condren, APRN
Michaela Rotondi, APRN

PEDIATRIC CARDIOVASCULAR SURGERY

The Pediatric Cardiovascular Surgery service provides world-class surgical care and support to the children and adults of Connecticut born with congenital heart disease.

Led by nationally renowned congenital heart surgeon, Dennis Mello, MD, our program provides state-of-the-art management of complex congenital heart defects across the entire age spectrum from newborns to adults.

EXPANSION

Raina Sinha, MD, congenital heart surgeon, joined our team in February 2020.

NEONATAL AND PEDIATRIC HEART SURGERY

Our team has regularly been performing numerous complex congenital heart surgeries, including a Norwood operation for hypoplastic left heart syndrome, with excellent outcomes. Despite Covid-19, the surgical volumes have remained constant. Our program performed the most congenital heart surgeries of any program within the state last year. With our state-of-the-art cardiac MRI services, we have utilized cardiac MRI for assessment prior to stage II palliation in place of cardiac catheterization. Jill Sullivan, PA-C, and Kathleen Kellerman, PA-C, support the operative and post-operative care, respectively, of our patients.

The Pediatric Cardiothoracic Surgery service strives for discovery, teamwork, integrity and excellence in cardiac surgical care. Cardiothoracic Surgery, Pediatric Cardiac Anesthesia, the Pediatric Intensive Care Unit (PICU), and Pediatric Cardiology work together in a strong collaborative effort to provide a uniform standard of care to patients with congenital heart disease who are seeking surgery.

ADULT CONGENITAL HEART DISEASE SURGERY

We strive to attain excellence in our surgical care of adults with congenital heart disease, in collaboration with adult congenital cardiology. In 2020, we operated on a 66-year-old patient for congenital heart disease at Connecticut Children's with an excellent result. We also perform surgical repair of complex coronary artery anomalies in children and adults with excellent outcomes. Hartford Hospital has partnered with us in the surgical management of adults with congenital heart disease. Kenneth Warner, MD, an experienced adult congenital heart surgeon, is credentialed for congenital heart surgeries at Connecticut Children's. Dr. Warner operates alongside Drs. Mello and Sinha, further strengthening our congenital heart surgery program and regional collaborations.

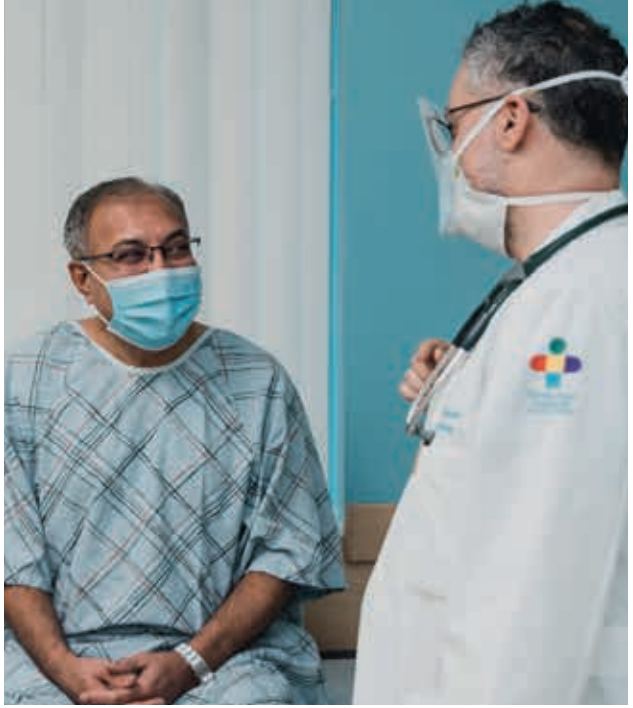
MINIMALLY INVASIVE CARDIAC SURGERY

In partnership with Pediatric Surgery, we have developed options for minimally invasive video-assisted thoracoscopic surgery (VATS) for repair of vascular rings, sternal cleft and severe pectus.

QUALITY, OUTCOMES AND EDUCATION

Our surgical data and operative outcomes are periodically submitted to the Society of Thoracic Surgeons (STS) Congenital Cardiac Surgery Database (www.sts.org). The STS Database includes more than 94 percent of the congenital cardiac surgery programs in North America and helps establish outcome and quality benchmarks. We continue to rank very well within these objective benchmarks.

In order to improve communications and care, we started early morning surgery ICU rounds. Monthly mortality and morbidity presentation and quality STS reviews are performed on a quarterly basis. We continue to provide ongoing educational support to PICU nursing staff.



RESEARCH AND INNOVATION

Raina Sinha, MD, is well published, has performed oral presentations at international platforms, and has been involved with several research projects.

PUBLICATIONS

Sinha R, Knod J, Dukleska K, **Mello D**. Congenital sternal cleft with absence of anterior pericardium. Ctsnet.org. 2020 Nov. doi: 10.25373/ctsnet.13249931.

Davey B, **Sinha R**, Lee JH, Gauthier M, Flores G. Social determinants of health and outcomes for children and adults with congenital heart disease: a systematic review. Pediatr Res. 2020 Oct 17. doi: 10.1038/s41390-020-01196-6.

Sinha R, Chen PC, Sam R, Dodge-Khatami A, Salazar J. Results of less than 5 mm right ventricle-pulmonary artery conduits in single ventricle palliation. Ann Thorac Surg. 2020 Aug 4; S0003-4975(20)31283-2. doi: 10.1016/j.athoracsur.2020.05.171.

Sinha R, Altin HF, McCracken C, Well A, Rosenblum J, Kanter K, Kogon B, Alsoufi B. Effect of atrioventricular valve repair on multistage palliation results of single ventricle defects. Ann Thorac Surg. 2020 May 23:S0003-4975(20)30746-3. doi: 10.1016/j.athoracsur.2020.03.126.

Chen PC, Dodge-Khatami J, Hanfland R, **Sinha R**, Salazar J, Dodge-Khatami A. Resuscitating the chimney graft to innominate artery for straightforward cannulation during infancy. Ann Thorac Surg. 2020 May;109(5):e379-e381.

Sinha R. How is Covid-19 affecting congenital heart disease patients? Society of Thoracic Surgeons – The Patient Guide to Heart, Lung, and Esophageal Surgery. https://ctsurgerypatients.org/how-is-covid-19-affecting-congenital-heart-disease-patients. 2020 May.

Dodge-Khatami A, Chen P, Dodge-Khatami J, Hanfland R, **Sinha R**, Salazar J. Resuscitating the PTFE graft-to-innominate artery after neonatal arch reconstructions: straightforward access for arterial cannulation. Ctsnet.org. 2020 Apr. doi:10.25373/ctsnet.12089181.

Rosenblum JM, Altin HF, Gillespie SE, Bauser-Heaton H, Kanter KA, **Sinha R**, Cory M, Alsoufi B. Management outcomes of primary pulmonary vein stenosis. J Thorac Cardiovasc Surg. 2020 Mar;159(3):1029-1036.

STAFF

Dennis Mello, MD, *Clinical Director, Cardiothoracic Surgery*

Raina Sinha, MD,
Congenital Heart Surgeon
Kenneth Warner, MD,
Adult Congenital Heart Surgeon

Jill Sullivan, MS, PA-C
Kathleen Kellerman, PA-C

PEDIATRIC SURGERY

The mission of the Pediatric Surgery Division is to provide high quality family-centered surgical care. The Division of Pediatric Surgery offers a full range of clinical services for pediatric patients from newborns to young adults. This includes prenatal consultations, the treatment of congenital anomalies, head and neck surgery, surgery of the chest and abdomen, pediatric gynecology, non-reconstructive urology, surgical oncology, bariatric surgery, reconstruction of chest wall deformities, and trauma including burn care. Pediatric surgeons currently see patients in Farmington, Glastonbury, and Danbury, allowing easier access for the convenience of our patient families. Some outpatient procedures are performed at the Connecticut Children's Ambulatory Surgery Center in Farmington. Same-day outpatient visits are available at our Hartford office for urgent problems, and at our satellites when a pediatric surgeon is there. We are committed to offering families outpatient appointments within one week of referral, if desired by the family.

The year 2020 was unlike any other for the Division of Pediatric Surgery. We are proud to say that our division members met the challenge of Covid-19 and quickly adapted to ensure the safety of our staff and patients and to meet the ongoing demand for emergent surgery, which continued throughout the pandemic. Elective surgeries were halted in mid-March for just over two months.

Many of our staff members stepped up to serve on hospital committees that were formed in urgent response to Covid-19. Division chief and Surgeon-in-Chief Christine Finck, MD, served as chair of the Personal Protective Equipment (PPE) and Operations Resumption task forces. Richard Weiss, MD, served on the Covid Testing Task Force.

The arrival of the Covid-19 pandemic required rigorous new protocols and new clinical pathways. The division shifted to telemedicine for 80 percent or more of office visits, and we continue to offer telemedicine even as surgeries and office appointments have resumed.

Among the year's other accomplishments, the division's Bariatric Surgical Program, under the leadership of Dr. Finck, Melissa Santos, PhD, and James Healy, MD, MHS, continues its national accreditation by the Metabolic and Bariatric Surgery Accreditation and Quality Improvement Program (MBSAQIP), the combined accreditation program of the American College of Surgeons (ACS) and the American Society for Metabolic and Bariatric Surgery (ASMBS). Connecticut Children's is the first and only pediatric program in the state to receive this honor. The highly prestigious recognition designates Connecticut Children's as a MBSAQIP Adolescent Center, making Connecticut Children's bariatric surgeons and clinical staff the most qualified and up-to-date in surgically treating children with metabolic disorders.

Under the leadership of Brendan Campbell, MD, MPH, who holds the Donald W. Hight Endowed Chair, Connecticut Children's has been continuously verified by the American College of Surgeons as a Level I Pediatric Trauma Center since 2008.

Dr. Campbell continues to serve as the Chief Surgical Quality Officer at Connecticut Children's, a role in which he oversees quality and patient safety for all surgical divisions. Additionally, he continues to be involved regionally and nationally in advocating for the prevention of firearms injuries. In 2020, he was one of 100 surgeons nationally to be selected to serve as a member of the American College of Surgeons Committee on Trauma, and selected to chair the Injury Prevention and Control Committee. Locally, he leads efforts by the division and the hospital in the American College of Surgeons' Pediatric National Surgical Quality Improvement Program (NSQIP), which has been highly successful in improving the quality of children's surgical care. In February 2020, he received the American College of Surgeon's Arthur Ellenberger Award "in recognition of protecting patient access to high quality surgical care through outstanding leadership, distinguished service, and commitment to state grassroots advocacy." In June, he was honored by the University of Connecticut Integrated General Surgery Residency Program, which presented him with the Joseph M. Civetta Best Faculty Teacher Award "in recognition for outstanding contributions to Surgical Resident Education."

Christine Rader, MD, was named assistant dean for Academic Affairs at Connecticut Children's. In this role, she serves as a liaison for University of Connecticut, overseeing the education of all residents, medical and surgical. She continues as the surgical director of the Extracorporeal Membrane Oxygenation Program (ECMO), which cares for critically ill patients with cardiac and respiratory failure. The Multidisciplinary Thyroid Group, led by Drs. Finck, Weiss, Bilbao, and Riba-Wolman enables children with thyroid diseases to be rapidly and simultaneously evaluated by a surgeon and an endocrinologist. The Chest Wall Deformities Program, led by Dr. Rader, continues to evaluate and treat patients with pectus excavatum and pectus carinatum. Dr. Rader provides surgical expertise to both the Short Gut and Aerodigestive programs. The Multidisciplinary Prenatal Evaluation Program continues to be co-directed by Dr. Weiss. This program is a joint effort with the divisions of Obstetrics and Maternal Fetal Medicine at Hartford Hospital, and multiple medical and surgical divisions at Connecticut Children's.

Dr. Healy now serves as co-site director for the Quinnipiac inpatient pediatrics rotation, including oversight and development of an outpatient pediatrics rotation within the pediatric surgical clinic. Additionally in 2020, he developed a series of educational lectures for advanced practitioners and PAs to improve competency for new hires and provide a reference. He was awarded a Surgical Innovation Grant for his study on "Improving and Tracking Peri-operative Activity for Pediatric Bariatric Patients Using Wearable Fitness-tracking Technology."

Dr. Weiss continues as an ex officio member of the American Pediatric Surgical Association (APSA) Practice Committee, which monitors the practice of pediatric surgery in North America, reports trends in practice patterns, and offers guidance to APSA members for improvements and optimization of care delivery. He also serves on the APSA History Committee. He continues his role as an advisor for the American Pediatric Surgical Association to the AMA/ Specialty RVS Update Committee (RUC), and is a member of the executive council of the Connecticut chapter of the American College of Surgeons.

Dr. J. Leslie Knod pursued her interest in advocacy as a member of the American Pediatric Surgical Association Health Policy & Advocacy Committee and our institution's Hospital Public Policy Council. After delivering her grand rounds to engage pediatricians in activism, she also met virtually with State Rep. Lucy Dathan, D-Norwalk, to discuss the impact of Covid-19 on our field as well as access to medicine and the evolving role of telehealth. At an institutional level, as a member of Connecticut Children's Hospital Venous Thromboembolic Prevention Workgroup, Dr. Knod helped unify surgical input in creating a hospital-wide pathway that is being developed.

Dr. Finck created "From the Eyes of a Surgical Patient," which was presented to Sen. Richard Blumenthal, D-CT, on June 5, 2020. She participated in the creation of Connecticut Children's Facebook Live series focused on healthy behaviors during the pandemic and her live virtual walk recorded the highest number of hits.

One of Dr. Finck's main goals is to promote gender equality and increase diversity across the surgical department. A new Women in Surgery group has been instrumental in talking about gender challenges of being a woman in a predominately male field. A new podcast was launched called "Women in Surgery" that discusses topics such as "Imposter Syndrome" and "Wellness."

EDUCATION

One of the core missions of the division is to educate future physicians and surgeons. We welcome General Surgery residents from the University of Connecticut School of Medicine, and from Stamford Hospital, Waterbury Hospital, and St. Mary's Hospital, and this year we added residents from Danbury Hospital. Each year several Connecticut Children's Pediatric residents participate in elective rotations on the pediatric surgery service. We also host medical students from UConn and Quinnipiac University. A fellowship program in pediatric surgery has been offered at Connecticut Children's since 2011. Our fellow, Katerina Dukleska, MD, is now in her second year. Jacob Campbell, DO, MPH, who is completing his surgical residency at UConn, will be the next fellow. He is scheduled to start in August of 2021.

Dr. Rader serves as the site director for the University of Connecticut General Surgery Residency Program.

Drs. Weiss, Rader, Campbell, Knod and Healy serve as instructors for the Advanced Trauma Life Support (ATLS) courses that are taught annually for residents, fellows, APs, and physicians from around the region and state.

The Division of Pediatric Surgery is dedicated to the education of the next generation of medical providers, but 2020 brought a number of challenges. While residents in Pediatric Surgery continued as usual, medical students transitioned to virtual learning during the pandemic. All medical learners were able to return to the hospital by summer, and their programs continued without interruption for the remainder of the year. Because not all regional medical centers welcomed their students back, the Division of Pediatric Surgery hosted more than the usual number of medical learners from Quinnipiac University.

The division staff contributed on a national level with presentations given in person or remotely due to Covid-19. Dr. Campbell was a co-author of two presentations, "Firearm Storage Practices of U.S. Members of the American College of Surgeons," and "Outcomes of Standardized Non-operative Management of High-grade Pancreatic Trauma in Children: A Study from the Pediatric Trauma Society Pancreatic Trauma Study Group," which were given virtually at the national 78th Annual Meeting of the American Association for the Surgery of Trauma. Dr. Weiss and Surgery fellow Katerina Dukleska created a video presentation of perforated duodenal ulcer masquerading as acute perforated appendicitis. It was accepted for presentation at the June 2020 International Pediatric Endosurgical Group (IPEG), but the event was canceled due to Covid-19. Dr. Weiss was a discussant on a paper, "Outcomes of Thyroid Surgery at Medium Volume Centers," which was presented at the American Pediatric Surgical Association (APSA) annual meeting, which was held virtually in May 2020.

RESEARCH

Dr. Finck's lab focuses on innovation and tissue engineering of organs including the lungs and the esophagus. Over the last year, the laboratory has engaged in pre-clinical trials around an implantable scaffold to repair the esophagus. The NIH awarded this project $1.2 million to continue research in collaboration with a small company, Biostage, based out of Boston. In addition, the Finck laboratory received a Department of Defense Grant in collaboration with the University of Vermont to evaluate an alginate sealant for tracheobronchial injuries. These projects were suspended for a time due to Covid-19, but are back on track. Another grant focusing on the mechanism of Covid-19 and obesity was submitted to the NIH. In addition, due to the generosity of a board member, bioprinters were purchased for the lab. They are instrumental in tissue engineering research, however, they were repurposed during the pandemic to produce face shields, masks, ear connections, and testing swabs for our front-line staff members.

The division is currently participating in several multicenter studies. New this year is the participation in the Eastern Pediatric Surgical Network. This is a consortium of children's hospitals on the East Coast that are working together to examine low frequency childhood diseases. Connecticut Children's is the lead site for esophageal atresia with Dr. Finck as the lead investigator and Shefali Thaker, BA, as the coordinator. Connecticut Children's is also participating in studies on central line infection (Dr. Knod), appendicitis (Dr. Campbell), and pediatric thyroid disease (Dr. Healy). The division also continues to participate in a study to determine the optimal timing of inguinal hernia repair in premature infants; the best treatment for children who sustain blunt injury to their pancreas; and whether receiving firearm safety messaging during outpatient clinic visits improves safe firearm storage in the home. The division is active in other IRB-approved studies as well as health services research, injury prevention research under the leadership of Drs. Campbell and Knod, and basic science research from the lab of Dr. Finck.

THE FUTURE

Operationally, division plans for 2021 include expanding our footprint to Fairfield County with increased satellite clinics in Danbury. We will continue to develop niche programs that leverage our expertise such as chest wall deformities, weight management, and thyroid diseases. Finding the optimal balance of telemedicine and in-person visits to best meet our patient and family needs is a priority. Finally, continuing to offer rapid access for patients is essential.

PUBLICATIONS

Sayej WN, Isakoff MS, DiGiuseppe JA, Moote D, Balarezo F, **Finck C**, Hyams JS. Primary cutaneous follicle center lymphoma in a 16-year-old male with Crohn's disease exposed to infliximab and methotrexate. J Pediatr Gastroenterol Nutr. 2019 Nov 26. doi: 10.1097/MPG.0000000000002578.

Mitchell A, Wanczyk H, Jensen T, **Finck C.** Human induced pluripotent stem cells ameliorate hyperoxia-induced lung injury in a mouse model. Am J Transl Res. 2020 Jan 15; 12(1): 292-307 eCollection 2020.

Guisto K, Wanczyk H, Jensen T, **Finck C.** Hyperoxia induced bronchopulmonary dysplasia: improvement of models for effective therapies. 2021. Feb epub ahead of print.

Montgomery AB, Han J, **Healy JM**, **Finck C.** Tissue plasminogen activator for a rare case of neonatal empyema. J Pediatr Surg Case Rep. 2020 March; 54: 101374.

Jensen T, Wanczyk H, Thaker S, **Finck C.** Characterization of mesenchymal stem cells in patients with esophageal atresia. J Pediatr Surg. 2020. doi: 10.1016/j.jpedsurg.2020.09.039.

Doucette ML, Dayton H, Lapidus G, Borrup KT, **Campbell BT.** Firearms, dementia, and the clinician: development of a safety counseling protocol. J Am Geriatr Soc. 2020 Sep;68(9):2128-2133.

Duncan TK, Weaver JL, Zakrison TL, Joseph B, **Campbell BT**, Christmas AB, Stewart RM, Kuhls DA, Bulger EM. Domestic violence and safe storage of firearms in the Covid-19 era. Ann Surg. 2020;272(2):e55-e57.

Kuhls DA, Falcone RA Jr, Bonne S, Bulger EM, **Campbell BT**, Cooper Z, Dicker RA, Duncan TK, Kuncir EJ, Lamis DA, Letton RW Jr, Masiakos PT, Stewart RM, Knudson MM. Prevention of firearm injuries: it all begins with a conversation. J Trauma Acute Care Surg. 2020 Feb;88(2):e77-e81.

Campbell BT, Thaker S, Fallat ME, Foley DS, McClure E, Sakran JV, Nasr IW, Ziegfeld S, Ehrlich PF, Snodgrass M, Levy M, Naik-Mathuria BJ, Johnson B, Demello AS, Jones S, Watters JM, Burke P, Allee L, Kozyckyj T, Letton RW, Kuhls DA, Bulger EM, Stewart RM. A multicenter evaluation of a firearm safety intervention in the pediatric outpatient setting. J Pediatr Surg. 2020 Jan;55(1):140-145.

Nicolson NG, **Healy JM**, Korah R, Carling T. Whole-exome sequencing of syndromic adrenocortical carcinoma reveals distinct mutational profile from sporadic ACC. J Endocr Soc. Oct, 2019. PMID: 31555752.

Sinha R, **Knod JL**, **Dukleska K**, Mello D. Congenital sternal cleft with absence of anterior pericardium. CTSNet. 2020 Nov. doi: 10.25373/ctsnet.13249931.

Knod JL. Physician opportunities to prevent deaths by firearms. Conn Med. 2020 March;84(3):101-105.

Sharma I, Moote D, **Campbell BT.** Concussion of the colon: paediatric patient with traumatic cecal haematoma. BMJ Case Rep. 2020 Dec 12;13(12):e236066. doi: 10.1136/bcr-2020-236066. PMID: 33310827.

Flaherty MR, Raybould T, Savarino J, Yager P, Mooney DP, Farr BJ, Giuliano JS Jr, Neeman E, **Campbell BT**, Thaker S, McKiernan C, Lewis D, Epp TK, Baertschiger RM, Jackson CA, Rideout L, Shah A, Falank C, Ontengco J, Cairo S, McLoughlin RJ, Aidlen JT, Watson-Smith D, Wills H, Masiakos PT. Unintentional window falls in children and adolescents. Acad Pediatr. 2020 Jul 9:S1876-2859(20)30428-9. doi: 10.1016/j.acap.2020.07.008. Online ahead of print. PMID: 32653687.

BOOK CHAPTERS

Campbell BT. Meckel's diverticulum and other omphalomesenteric duct remnants. In: Wyllie R, Hyams JS, editors. Pediatric gastrointestinal and liver disease. 6th ed. Philadelphia: Elsevier Saunders; 2020.

Rader CM. Inguinal hernias and hydroceles. In: Wyllie R, Hyams JS, Kay M, editors. Pediatric gastrointestinal and liver disease 6th ed. Philadelphia: Elsevier; 2020. p. 555-558.

STAFF

Christine Finck, MD, FACS, *Surgeon-in-Chief, Division Chief*

Michael Bourque, MD, FACS, *emeritus*
Brendan T. Campbell, MD, MPH, FACS, FAAP
Medical Director Pediatric Trauma Program; Chief Surgical Quality Officer
James Healy, MD, MHS
Donald W. Hight, MD, *emeritus*
J. Leslie Knod, MD
Christine Rader, MD, FACS
Surgical Director, Extracorporeal Membrane Oxygenation Program
Shefali Thaker, BA, *Research Associate*
Richard Weiss, MD, FACS, FAAP
Medical Director, Pediatric Surgery Division

Elisabeth Campbell, PA
Nicole Dietzel, PA
Evan Fusaro, PA
Miranda Lange, PA
Samantha Pelow, APRN
Allison Schilling, APRN

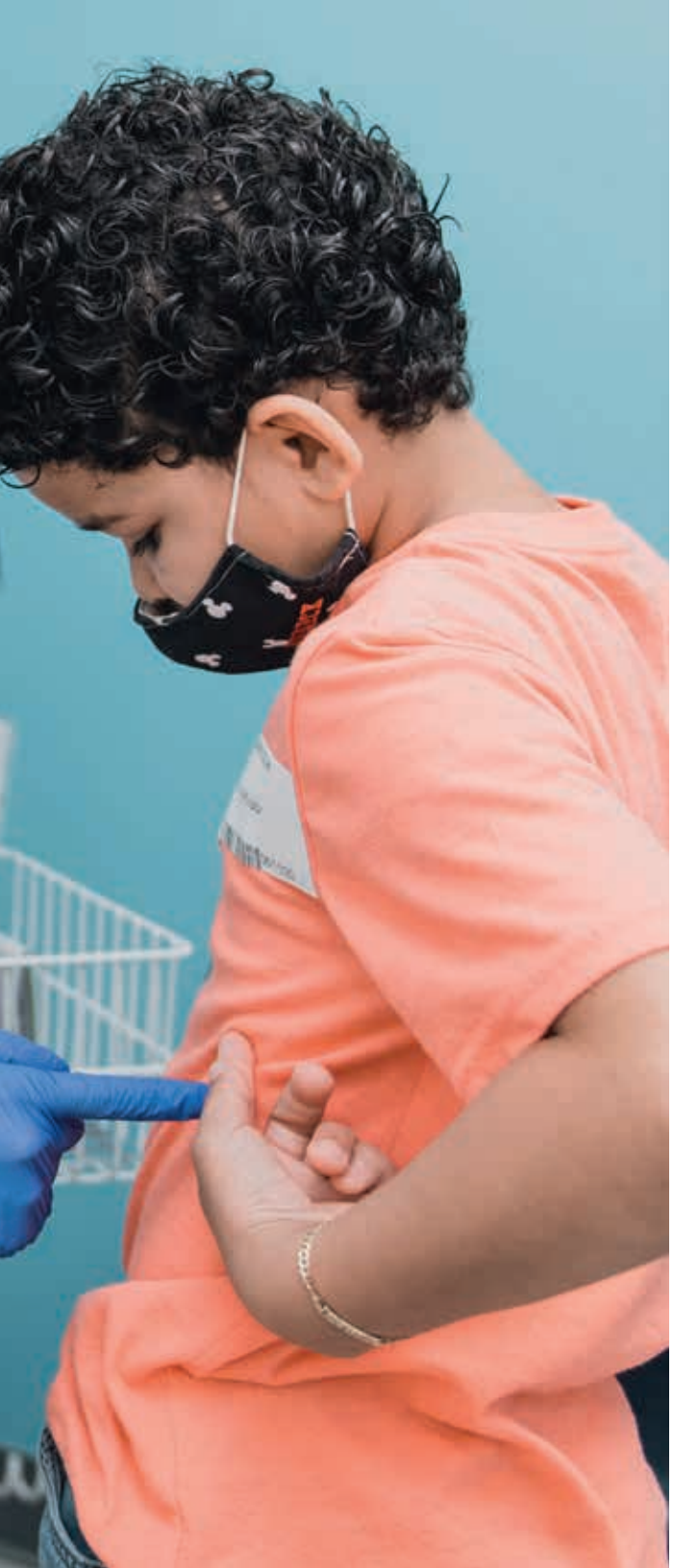
PEDIATRIC UROLOGY

In 2020, U.S. News & World Report *ranked Connecticut Children's Pediatric Urology division as one of the top pediatric urology programs in the country for 2020. Division chief Carlos Medina, MD, was again voted a Castle Connolly "Top Doc" in pediatric urology in the region.*

The Pediatric Urology division provides comprehensive urologic care. In 2020, the service remained busy despite the pandemic. The division continues to provide interdisciplinary specialty clinics with Pediatric Nephrology and Endocrinology. These include: GUPPE Clinic for patients with disorders of sexual development, ROCKS Clinic for patients with kidney stones, Prenatal Clinic for patients noted to have urologic conditions on prenatal ultrasound, and PUV Clinic for patients with posterior urethral valves. We also offer a Voiding and Bladder Dysfunction Clinic for the management of neurogenic bladders and non-neurogenic voiding issues. Under the leadership of Anne Dudley, MD, we have developed a Spina Bifida Clinic for patients with congenital as well as acquired spinal disorders. Dr. Dudley has built her practice and has been a productive academician. She also has continued to develop a curriculum and resident guide for the rotation in pediatric urology which will evolve. Courtney Rowe, MD, has proven herself to be a productive academician. As a junior attending, she distinguished herself by taking the leadership position in representing urology patient populations at the statehouse. Our research coordinator Katherine Herbst, MSc, continues to be a nationally recognized figure in the pediatric urology community and has had a very productive academic year. Looking ahead, we have established a relationship with one of our local urologists to start a transition of care clinic for our teenage female patients.

DIVISION CHANGES

Despite the challenges of the Covid-19 pandemic, the year 2020 was a time of growth in the Division of Urology. We are expanding our outreach throughout the region and are making an impact on the quality of care



for the pediatric patients of Connecticut. Lamentably, we would like to announce the retirement of Howard Hochman, MD, PhD, who grew up in the North End of Hartford and took pride in caring for the children of the region. He served as a pediatric urologist and trained medical residents for 40 years, and spent more than 25 years as chairman of the department. Also, after many years of service, Jill Bernstein, MD, transitioned to full-time primary pediatrics. We wish both of them well and will miss them.

We are pleased to announce that, in addition to running office hours, our mid-level providers, Nick Rodrigue, NP, and Erin Floridia, PA-C, are assisting in the operating room and running the technical portions of the urodynamics studies.

PUBLICATIONS

Berger AJ, Wang Y, **Rowe C**, Chung B, Chang S, Haleblian G. Racial disparities in analgesic use amongst patients presenting to the emergency department for kidney stones in the United States. Am J Emerg Med. 2020 Jan 8. pii: S0735-6757(20)30017-6. doi: 10.1016/j.ajem.2020.01.017.

Canalichio KL, Ahn J, Artigas P, Amies Oelschlager AE, **Rowe C**, Merguerian P, Shnorhavorian M. Patient-reported outcomes in adult females with bladder exstrophy: a study of long-term sexual, reproductive and urinary outcomes using social media. J Pediatr Urol. 2020 Jun 21:S1477-5131(20)30396-X. doi: 10.1016/j.jpurol.2020.06.020. Online ahead of print.

O'Kelly F, Sparks S, Seideman C, Gargollo P, Granberg C, Ko J, Malhotra N, Hecht S, Swords K, **Rowe C**, Whittam B, Spinoit AF, **Dudley A**, Ellison J, Chu D, Routh J, Cannon G, Kokorowski P, Koyle M, Silay MS; APAUC (Academic Paediatric and Adolescent Urology Collaborative) and the YAU (Young Academic Urologists) Group. A survey and panel discussion of the effects of the Covid-19 pandemic on paediatric urological productivity, guideline adherence and provider stress. J Pediatr Urol. 2020 Jul 4:S1477-5131(20)30401-0. doi: 10.1016/j.jpurol.2020.06.024. Online ahead of print.

Arlen AM, **Dudley AG**, Kieran K. Association of spina bifida with cancer. Transl Androl Urol. 2020 Oct;9(5):2358-2369. doi: 10.21037/tau-19-771. PMID: 33209709. PMCID: PMC7658108.

STAFF

Carlos Medina, MD, *Division Chief*

Anne Dudley, MD
Courtney Rowe, MD
Katherine Herbst, MSc

Nick Rodrigue, NP
Erin Floridia, PA-C

PLASTIC SURGERY

The year 2020 was exciting for the Division of Plastic Surgery despite the Covid-19 pandemic. Lauren Schmidtberg, PA-C, joined the division full-time and has made a huge impact. The office administration and staff have been reorganized, allowing the division to provide a more robust service line. Monique France, RN, has advanced to practice/nurse manager for Plastic Surgery/Craniofacial Team and Neurosurgery, and Jennifer Euen, RN, has taken over as clinical care coordinator of the Division of Plastic Surgery/Craniofacial Team. Clinical services have been expanded and new clinical pathways developed. Education is a priority of the division, and three of our trainees were accepted into plastic surgery residency programs and a large medical student Plastic Surgery interest group has been established.

The Plastic Surgery division provides clinical services at Connecticut Children's and at Hartford Hospital. Except for shutdowns related to the Covid-19 pandemic, our surgical volume has remained stable, and includes all types of plastic and reconstructive procedures. Our plastic surgeons frequently collaborate with other surgical specialists, providing state-of-the-art multidisciplinary surgical care. Common surgical procedures performed include complex wound closures including flaps and grafts, craniofacial reconstruction, craniofacial fracture repair, cleft lip/palate reconstruction, breast surgery/reconstruction, body contouring, skin/soft tissue tumor excision/repair, upper extremity/hand surgery/reconstruction, and cosmetic surgery/non-surgical cosmetic procedures. We have successfully implemented telehealth visits for consults and follow-up visits whenever necessary and appropriate.

Ms. Schmidtberg, a physician's assistant with extensive plastic and craniofacial experience, joined the division in January 2020, and she has helped to expand the services provided. The division has increased and streamlined the treatment of breast and chest wall deformities, as well as post-bariatric-surgery weight loss deformities. Ear molding for infants with protruding

or malformed ears is now offered. The division is also actively participating in the Vascular Malformations Team. The office administration and staff have been reorganized and expanded to support the new clinical services. The reorganization of the administration and staff has been crucial to expanding clinical services.

The multidisciplinary Craniofacial Team at Connecticut Children's, directed by division chief of Plastic Surgery Charles Castiglione, MD, MBA, remains a center of excellence. The team provides comprehensive evaluation and treatment for patients of all ages with congenital or acquired deformities of the head and neck. Active team members come from many disciplines including Plastic Surgery, Pediatric Neurosurgery, Pediatric Otolaryngology, Pediatric Dentistry, Orthodontics, Oral and Maxillofacial Surgery, Pediatric Development, Social Work, and Speech and Language Pathology. Clinical pathways for cleft lip and palate patients have been updated and modified with excellent results. Surgeries for these conditions are most common. Craniosynostosis reconstruction, performed by Dr. Castiglione and Christopher Hughes, MD, MPH, and by Jonathan Martin, MD, Markus Bookland, MD, and David Hersh, MD, of Pediatric Neurosurgery, are also common. Virtual surgical planning for cranial reconstruction and for mandibular distraction is now routine. In addition, the multidisciplinary Craniofacial Trauma Team, under the leadership of Drs. Castiglione and Norman Cavanagh, provides cutting-edge treatment for all craniomaxillofacial injuries at both Connecticut Children's and Hartford Hospital.

Four plastic surgeons, Duff Ashmead, MD, Alan Babigian, MD, David Bass, MD, and Steven Smith, MD, are fellowship-trained hand surgeons, and they perform all types of upper extremity and hand surgery. This includes trauma surgery, and reconstruction for acquired and congenital deformities. These surgeons also provide coverage for hand call at Hartford Hospital and Connecticut Children's.

Plastic surgeons are involved in volunteer activities, including surgical mission trips. Unfortunately, all mission trips in 2020 and 2021 have been canceled due to the Covid-19 pandemic. Dr. Babigian is director and Dr. Hughes is an active member of Hartford Hospital's Global Health program.

Education is a large component of our division's activities. Residents from General Surgery, Orthopaedic Surgery, Urology, Otolaryngology, Oral and Maxillofacial Surgery, and Emergency Medicine rotate on the service. Medical students also elect rotations on Plastic Surgery, and a large Plastic Surgery interest group has been created. Active teaching occurs during daily patient rounds, in the clinic/office setting, the emergency room, the operating room, and during planned teaching conferences. Several residents and medical students have expressed interest in a career in plastic surgery, and three residents were matched at premier plastic surgery residency programs in the past year. This brings to 59 the number of our residents and students who have moved on to plastic surgery since 1988 when Dr. Castiglione first began practice. Several residents and medical students are involved in research projects with Drs. Babigian, Hughes and Castiglione. In addition to publishing, Drs. Babigian, Hughes and Castiglione have presented papers locally and regionally. Presentations focused on the management of complex upper extremity trauma, the use of small mobile operating room spaces for surgical mission trips, and analysis of global health initiatives. Dr. Castiglione is the plastic surgery editor for *Connecticut Medicine: The Journal of the Connecticut State Medical Society*, and a reviewer for three journals: the *American Journal of Cosmetic Surgery, Craniomaxillofacial Trauma & Reconstruction*, and the *Journal of Oral and Maxillofacial Surgery*. Some department members are involved in local, regional and national professional societies. Dr. Babigian and Orlando Delucia, MD, are members of the executive council of the Connecticut Society of Plastic and Reconstructive Surgeons. Drs. Babigian and Castiglione are members of the executive council of the New England Society of Plastic and Reconstructive Surgery. Dr. Babigian is an active member of the Northeast Region Covid-19 Coalition Workgroup for Plastic Surgery.

PUBLICATIONS

Meara JG, **Hughes CD**, Sanchez K, Catallozzi L, Clark R, Kummer A. Optimal Outcomes Reporting (OOR): a new value-based metric for outcome reporting following cleft palate repair. Cleft Palate Craniofac J. 2021 Jan; 58(1):19-24. doi: 10.1177/1055665620931708. Epub 2020 Jun 18.

STAFF

Charles L. Castiglione, MD, MBA, FACS, *Division Chief*

Brian Allen, MD
Duffield Ashmead, MD
Alan Babigian, MD
David Bass, MD
Alex Cech, MD
Orlando Delucia, MD
Christopher Hughes, MD, MPH
Steven Smith, MD

Lauren Schmidtberg, PA-C
Mindi Cieck, APRN
M. Eileen Auclair, PA-C
Paul C. Polzella, PA-C

CENTERS


LARGE
MEDIUM
SMALL
UCONN


Children's
Emergency
Departamento de Emergencia
Emergency Department
Know Your Asthma Symptoms
Conoce tus síntomas de asma

ASTHMA CENTER

The Asthma Center is the region's leader in pediatric asthma research and its premier resource for evidence-based asthma programs. We are dedicated to improving the health and well-being of children and families through community-based collaborative research and programs, and we work to encourage, facilitate, and deliver a mechanism for program dissemination and outcomes assessment of clinical and translational research conducted by investigators within community settings, including schools, homes, community organizations, hospitals and ambulatory practice settings. The Asthma Center is committed to the training of investigators and community stakeholders in community-based research.

In 2020, the Asthma Center continued to adhere to its vision of developing and disseminating innovative approaches to improving the health and well-being of children, families, and communities. Using a public health approach, the Asthma Center continued to work to reduce health disparities and their determinants by conducting multifaceted, interdisciplinary collaborative research on critical contemporary health issues facing children with asthma, and to establish optimal models of health management and best practices.

As a reflection of this, the Asthma Center secured its third and final year of Cigna Foundation funding to continue its pilot feasibility study of its innovative digital Easy Breathing© program. Traditionally a paper-based program, Easy Breathing is an evidence-based asthma management program that translates national asthma guidelines into a usable format for pediatricians and family medicine practitioners. It is now more accessible to clinicians thanks to a new, tablet-based format currently being tested among pediatricians in one federally qualified health center (FQHC). Preliminary data from this pilot study indicates that the digital version is feasible, acceptable, and appropriate among all FQHC staff. The next phase of the pilot will be extended to school nurses, who will receive digital copies of a student's guideline-adherent asthma treatment plan. We will digitize the Easy Breathing© for Schools program, which will allow for seamless, efficient asthma management communication between pediatricians and school nurses practicing in the North Hartford Promise Zone.

The Asthma Center's Easy Breathing for Schools program is a multipronged asthma education toolkit that reduces asthma-related school absenteeism, and improves both asthma control and inhaler technique. In 2020, the Asthma Center was awarded a $35,000 Environmental Protection Agency (EPA) grant to implement Easy Breathing for Schools in the Hartford area, where asthma disproportionately affects low-income African-American and Latino children. A designated bilingual Certified Asthma Educator (AE-C) from the Asthma Center (Sigrid Almeida) will provide training to school nurses during the academic year and facilitate screening, survey administration, and data collection. In a stepped-wedge design, investigators in the Asthma Center will evaluate the implementation of this new, asthma-educator led program with the goal of increased adoption across Hartford Public Schools.

Lastly, we are proud to announce that the founder of the Asthma Center, Dr. Michelle Cloutier, professor emeritus, chaired the long-awaited and focused update to the 2007 National Asthma Education and Prevention Program's asthma guidelines. In January 2021, the Expert Panel Review (EPR-4) released the update, which focused on six priority areas. There are significant changes to asthma management, and staff and investigators in the Asthma Center are currently working with the primary care community to implement these changes and create the next phase of the Easy Breathing program.

PUBLICATIONS

Simoneau T, **Langton CR**, Kuo CL, Marrero J, Gherlone N, **Cloutier MM**, and **Hollenbach JP.** A school nurse-led asthma program reduces absences: evaluation of Easy Breathing for Schools. Acad Pediatr. 2020 Jan-Feb;20(1):73-80.

Langton CR, **Hollenbach JP**, Simoneau T, **Cloutier MM.** Asthma management in school: parents' and school personnel perspectives. J Asthma. 2020 Mar;57(3):295-305.

Cicutto L, Gleason M, Haas-Howard C, White M, **Hollenbach JP**, Williams S, McGinn M, Villarreal M, Mitchell H, **Cloutier MM**, Vinick C, **Langton C**, Shocks DJ, Stempel DA, Szefler SJ. Building Bridges for Asthma Care Program: a school-centered program connecting schools, families and community health care providers. J Sch Nurs. 2020 Jun;36(3):168-180.

Gherlone ND, Schifano ED, Blodgett A, **Hollenbach JP**, Trapp C, **Cloutier MM**. Support from key individuals prolongs breastfeeding duration in a low-income, predominantly Latina sample. AMSRJ. 2020;7(1).

Flores G, **Hollenbach JP**, Hogan AH. To eliminate racial and ethnic disparities in child health care, more needs to be addressed than just social determinants. Lancet Respir Med. 2019 Oct;7(10):842-843.

Gherlone N, Hill DR, Feinn R, **Hollenbach JP.** Hair cortisol concentrations among urban and rural-dwelling mother-child dyads, La Romana, Dominican Republic. Stress. 2020 Nov.

STAFF

Jessica Hollenbach, PhD, *Director, Asthma Center*

Michelle M. Cloutier, MD, *Professor Emeritus*
Christine Langton, PhD, *Research Associate*
Sigrid Almeida, BS, *Research Assistant*
Brian Lesmes, BS, *Administrative Assistant*

CENTER FOR AIRWAY, VOICE & SWALLOWING

The Center for Airway, Voice and Swallowing, also known as the Aerodigestive Center, provides state-of-the-art care for children with complex disorders affecting airway, breathing, feeding, swallowing, and growth.

Our multidisciplinary Aerodigestive Center consists of pediatric specialists from Otolaryngology, Pulmonology, Gastroenterology, Speech and Language (Swallow) Pathology, and Pediatric Surgery. Appointments with our team include a coordinated visit with pertinent specialists and concurrent diagnostic tests or interventions. For many patients, coordinated surgical endoscopy (also called a "triple scope") is the next step in evaluation and treatment.

Our synchronized approach offers many advantages for patients and families, including fewer doctor visits and missed days of school/work; fewer exposures to anesthesia; less time to effective treatment; and, by combining surgical procedures and minimizing off-target testing, families generally see fewer out-of-pocket medical costs. Ultimately, our collaboration yields more comprehensive, sophisticated, and effective treatment for this vulnerable population.

We offer specialty care centers in Farmington, Glastonbury, and Hartford. Full aerodigestive team clinics are held three times monthly (Hartford, Farmington). Focused specialty clinics are also offered: Airway clinics are held twice weekly (Hartford), voice clinics are held twice monthly (Glastonbury, Farmington), and swallow clinics are held twice monthly (Hartford, Farmington). We now offer telemedicine for these visit types as well.

The year 2020 was challenging for us all as we faced the biggest health care crisis of our lifetimes. Our team is dedicated to caring for children with airway problems, and SARS-CoV-2 is an airway virus. While many specialties had to initially slow down and handle emergencies only, our specialists had to soldier on.

This meant we had to balance our mission for unwavering delivery of care with our commitment to keeping our team members safe. This was no easy task given early lack of testing and lack of personal protective equipment (PPE). Our center director, Dr. Nicole Murray, is co-chair of Connecticut Children's PPE Task Force and helped ensure Connecticut Children's front line health-care workers were safe by developing protocols for the use and reprocessing of N95's and other PPE. She made appearances on local news outlets and filmed educational videos for families as they considered how to keep their children safe as schools and society reopened.

Our team continued our focus on safety this year by launching two initiatives for our patients with tracheostomies: We developed pathways for in-home Covid testing and also for provision of tracheostomy "Go-Bags," so that our tracheostomy population can shelter at home and not leave for testing, and that when they do need to leave, they are even better prepared with their critical supplies for the road.

Our team also harnessed 2020 technology to continue to provide care. We were very early adapters of telemedicine, and launched comprehensive multidisciplinary aerodigestive team telehealth clinics even before some insurance carriers were reimbursing us for them.

Despite the pandemic, our team also proceeded this year with a record number of complex open airway reconstructions and tracheostomy decannulations, which are always wonderful milestones towards "normalcy" for our families and children.

PUBLICATIONS

Munjal T, **Kavanagh KR**, Ezzibdeh RM, Valdez TA. The impact of Covid-19 on global disparities in surgical training in pediatric otolaryngology. Int J Pediatr Otolaryngol. 2020 Nov; 138:110267.

Kashat L, Carter B, Mosha M, **Kavanagh KR.** Mindfulness education for otolaryngology residents: a pilot study. OTO Open. 2020 Jul-Sep; 4(3): 2473974X20945277. Epub ahead of print.

Kashat L, Carter B, Archambault M, Wang Z, Kavanagh KR. A multidisciplinary basic airway skills boot camp for novice trainees. Cureus. 2020 Jun 22; 12(6): e8766. doi: 10.7759/cureus.8766.

Mehta K, Mosha MM, **Kavanagh KR.** A targeted tracheostomy care educational initiative to augment resuscitation training in the pediatric setting. Int J Pediatr Otolaryngol. 2020 Jun; 133:109944. doi: 10.1016/j.ijporl.2020.109944. Epub ahead of print.

Kashat L, Carter B, Falcone T, Parham K, **Kavanagh KR.** Taking a systematic approach to resident wellness: a pilot study. Otolaryngol Head Neck Surg. 2020 Apr; 162(4):489-491. doi: 10.1177/0194599820907589. Epub ahead of print.

Grover N, **Zeisler B**, Wilson JD. Hemorrhagic tonsillitis in an infant: a case report. Int J Pediatr Otorhinolaryngol. 2020 Sep; 136;110190. https://doi.org/10.1016/j.ijporl.2020.110190.

BOOK CHAPTERS

Murray N. Pediatric tracheostomy. In: Pediatric otolaryngology for primary care. 2nd ed. Itacsa, IL: American Academy of Pediatrics; 2020. p. 449-470.

Lee S, **Murray N.** Sinonasal manifestations of cystic fibrosis. [updated] In: Otolaryngology and facial plastic surgery. Medscape (formerly eMedicine World Medical Library); 2020. https://emedicine.medscape.com/article/862538-overview.

STAFF

Nicole Murray, MD, ***Director, Center for Airway, Voice, and Swallowing***
Pediatric Otolaryngology

Rebecca Strong, CPNP, APRN
Clinical Coordinator

Barbara Mulholland, RN, BSN, CPN, CNRN
Nursing Coordinator

Claribel Vega, MA
Administrative Coordinator

Renee Grenier, MA
Special Scheduler

Katherine Kavanagh, MD
Pediatric Otolaryngology

Craig Lapin, MD
Pediatric Pulmonology

Anne McLaughlin, MD
Pediatric Pulmonology

Christine Rader, MD
Pediatric Surgery

Victoria Grossi, DO
Pediatric Gastroenterology

Corey Baker, MD
Pediatric Gastroenterology

Peter Townsend, MD
Pediatric Gastroenterology

Bella Zeisler, MD
Pediatric Gastroenterology

Sara Burnham, MA, CCC-SLP
Speech-Language Pathology

Kamie Chapman, MS, CCC-SLP
Speech-Language Pathology

Kathryn Fields, MS, CCC-SLP
Speech-Language Pathology

Kerri Byron MS, CCC-SLP
Speech-Language Pathology

Katie McLoughlin, MS, CCC-SLP
Speech-Language Pathology

Virginia M. Van Epps, MEd, CCC-SLP, CLC
Clinical Manager, Speech-Language Pathology

Anna Maria Mennella, LMSW
Family Support Clinician

Debbie Verkin-Siebert, RD, CSP, CD-N
Registered Pediatric Dietitian

CENTER FOR GLOBAL HEALTH

Our mission is to improve the lives of children living in resource-limited settings by collaborating with our partners in the development of sustainable capacity-building activities. Through the volunteer efforts of trainees, staff and faculty, the Center for Global Health (CGH) has created a culture at Connecticut Children's that values and promotes the understanding that we are world citizens and that our knowledge and skills can change the lives of children around the world. We engage in influential activities that increase global health participation and appreciation. And our activities increase cultural humility, resilience and engagement within our community resulting in healthier children locally and internationally.

The CGH continues to be led by Adam Silverman, MD, as director, and its work is significantly enhanced by the efforts of team members including pediatric hospital physician Hareem Park, MD, neonatologist Naveed Hussain, MD, and pediatric plastic surgeon Christopher Hughes, MD, MPH, and by the support of the Executive Management Team and Physician-in-Chief Juan C. Salazar, MD, MPH. The CGH benefits Connecticut Children's by continuing to provide opportunities for learners, staff and faculty to participate in global health activities while increasing access to high-quality care for children throughout the world. The CGH identifies methods for lowering barriers to participation in global health-care activities as well as training the next generation of global health-care providers and leaders.

We recognize that 2020 was a year full of challenges but we celebrate our accomplishments. Despite limitations on international travel, we continued to accomplish our objectives through both internal and external activities. Three university-wide Global Health Symposia were organized in collaboration with the student-led Global Health Spaces on Campus organization in Storrs, CT, and the leaders in global health at the UConn Health Center in Farmington. The Storrs symposium was a great success, with Connecticut Children's team members Drs. Hughes and Silverman participating in panel discussion and breakout sessions. Unfortunately, the symposia that were to be held at the UConn Health Center and at Connecticut Children's were cancelled due to the Covid-19 pandemic, but the overall experience has paved the way for ongoing UConn global health activities in the future.

Despite changes necessitated by quarantine, this year's Global Health Film Festival was a resounding success. Given that in-person screening was not possible on the hospital campus, three of the four films were screened remotely via Zoom and the final film was screened in-person with space for appropriate social distancing at Real Art Ways in Hartford. All of the screenings were hosted by either local global health leaders or, in the case of "In the Name of Your Daughter," by the film's director Giselle Portenier. In a year in which social events such as film festivals were cancelled or postponed, we were able to hold our best-attended event since the inception of this activity.

Support for pediatric resident education has been significantly increased and improved by the addition of Dr. Park to the CGH Team. Dr. Park's experience during her pediatric training, and as a volunteer with Médecins Sans Frontières (Doctors Without Borders) in South Sudan, has resulted in a significant refinement and expansion of the global health curriculum available for trainees. In addition, Drs. Park and Silverman facilitated a first Global Health Boot Camp for pediatric residents in order to better prepare them for the emotional challenges experienced when volunteering in resource-limited settings and to provide them with the knowledge and skills needed to collaboratively build health care capacity with our global health partners.

This year, members of the Department of Pediatric Surgery organized the Global Surgery subcommittee of the Center for Global Health to develop strategies for increased research, education, and clinical care by Connecticut Children's surgeons in international settings. Led by Dr. Hughes, along with cardiac surgeon Raina Sinha, MD, MPH, and Surgeon-in-Chief and Pediatric Surgery division chief Christine Finck, MD, the Global Surgery subcommittee will collaborate with international surgical organizations and expand opportunities for operating room staff, faculty and learners to increase capacity in locations in which children do not have adequate access to high-quality surgical care.

It is hard to believe that any international travel was undertaken in 2020, but prior to the pandemic quarantine, the Center for Global Health sponsored multiple trips to St. Damien Pediatric Hospital in Port-au-Prince, Haiti, in support of the expanded Pediatric ICU there and to provide educational opportunities for our pediatric learners. CGH volunteers were able to leverage the experience developed through the use of remote Internet-based activities during years of volunteering with Konbit Santé to support ongoing capacity-building. Efforts continued this year to increase pediatric health-care capacity at Justinien University Hospital in Cap-Haitian, Haiti, and the University Teaching Hospital of Kigali (CHUK) in Kigali, Rwanda, through quality improvement activities such as monthly mortality reviews, educational video conferences, and Haitian and Rwandan pediatric resident curriculum development.

The foundation of these capacity-building activities includes collaborations, partnerships, and sustainable volunteering opportunities with several organizations including:

- Justinien University Hospital as volunteers with Konbit Santé in Cap-Haitian, Haiti
- St. Damien Pediatric Hospital as members of the St. Damien Collaborative in Port-au-Prince, Haiti
- Hospital Sacré Coeur Pediatric Diabetes Program as volunteers with CRUDEM in Milot, Haiti
- NICE Foundation "Cool the Kids" program in Hyderabad, India
- The University Teaching Hospital of Kigali (CHUK) in Kigali, Rwanda
- The Faith Mulira Health Care Centre as volunteers with the Masooli Project, in Masooli, Uganda
- Mengo Hospital in collaboration with the Friends of Mengo Hospital, USA, and in Kampala, Uganda

PUBLICATIONS

Choi J, Dusabimana R, Urubutu F, Agaba F, Langer D, Harrison C, **O'Callahan C**, Cartledge PT. A standardized neonatal admission record (NAR) - increasing quality of neonatal care in Rwanda – a retrospective observational study. PAMJ Clin Med. 2020 Apr 27;2:161.

Doucette ML, Dayton H, Lapidus G, Borrup KT, **Campbell BT.** Firearms, dementia, and the clinician: development of a safety counseling protocol. J Am Geriatr Soc. 2020 Sep;68(9):2128-2133.

Duncan TK, Weaver JL, Zakrison TL, Joseph B, **Campbell BT**, Christmas AB, Stewart RM, Kuhls DA, Bulger EM. Domestic violence and safe storage of firearms in the Covid-19 era. Ann Surg. 2020;272(2):e55-e57.

Kuhls DA, Falcone RA Jr, Bonne S, Bulger EM, **Campbell BT**, Cooper Z, Dicker RA, Duncan TK, Kuncir EJ, Lamis DA, Letton RW Jr, Masiakos PT, Stewart RM, Knudson MM. Prevention of firearm injuries: it all begins with a conversation. J Trauma Acute Care Surg. 2020 Feb;88(2):e77-e81.

Campbell BT, Thaker S, Fallat ME, Foley DS, McClure E, Sakran JV, Nasr IW, Ziegfeld S, Ehrlich PF, Snodgrass M, Levy M, Naik-Mathuria BJ, Johnson B, Demello AS, Jones S, Watters JM, Burke P, Allee L, Kozyckyj T, Letton RW, Kuhls DA, Bulger EM, Stewart RM. A multicenter evaluation of a firearm safety intervention in the pediatric outpatient setting. J Pediatr Surg. 2020 Jan;55(1):140-145.

Sharma I, Moote D, **Campbell BT.** Concussion of the colon: paediatric patient with traumatic cecal haematoma. BMJ Case Rep. 2020 Dec 12;13(12):e236066. doi: 10.1136/bcr-2020-236066. PMID: 33310827.

Flaherty MR, Raybould T, Savarino J, Yager P, Mooney DP, Farr BJ, Giuliano JS Jr, Neeman E, **Campbell BT**, Thaker S, McKiernan C, Lewis D, Epp TK, Baertschiger RM, Jackson CA, Rideout L, Shah A, Falank C, Ontengco J, Cairo S, McLoughlin RJ, Aidlen JT, Watson-Smith D, Wills H, Masiakos PT. Unintentional window falls in children and adolescents. Acad Pediatr. 2020 Jul 9:S1876-2859(20)30428-9. doi: 10.1016/j.acap.2020.07.008. Online ahead of print. PMID: 32653687.

Campbell BT. Meckel's diverticulum and other omphalomesenteric duct remnants. In: Wyllie R, Hyams JS, editors. Pediatric gastrointestinal and liver disease. 6th ed. Philadelphia: Elsevier Saunders; 2020.

Lim WY, Germain-Lee EL, **Dunbar NS.** Legg-Calve-Perthes disease in an 8-year-old girl with Acrodysostosis type 1 on growth hormone therapy. Int J Pediatr Endocrinol. 2020;15. Epub 2020 Aug 7. PMID: 32782451. doi: 10.1186/s13633-020-00085-3.

Sayej WN, Isakoff MS, DiGiuseppe JA, Moote D, Balarezo F, **Finck C**, Hyams JS. Primary cutaneous follicle center lymphoma in a 16-year-old male with Crohn's disease exposed to infliximab and methotrexate. J Pediatr Gastroenterol Nutr. 2019 Nov 26. doi: 10.1097/MPG.0000000000002578.

Mitchell A, Wanczyk H, Jensen T, **Finck C.** Human induced pluripotent stem cells ameliorate hyperoxia-induced lung injury in a mouse model. Am J Transl Res. 2020 Jan 15; 12(1): 292-307 eCollection 2020.

Guisto K, Wanczyk H, Jensen T, **Finck C.** Hyperoxia induced bronchopulmonary dysplasia: improvement of models for effective therapies. 2021. Feb epub ahead of print.

Montgomery AB, Han J, Healy JM, **Finck C.** Tissue plasminogen activator for a rare case of neonatal empyema. J Pediatr Surg Case Rep. 2020 March; 54: 101374.

Jensen T, Wanczyk H, Thaker S, **Finck C.** Characterization of mesenchymal stem cells in patients with esophageal atresia. J Pediatr Surg. 2020. doi: 10.1016/j.jpedsurg.2020.09.039.

Meara JG, **Hughes CD**, Sanchez K, Catallozzi L, Clark R, Kummer A. Optimal Outcomes Reporting (OOR): a new value-based metric for outcome reporting following cleft palate repair. Cleft Palate Craniofac J. 2021 Jan; 58(1):19-24. doi: 10.1177/1055665620931708. Epub 2020 Jun 18.

O'Callahan C, Te S, **Hussain A**, Rosener SE, Hussain N. The effect of circumcision on exclusive breastfeeding, phototherapy, and hospital length of stay in term breastfed newborns. Hosp Pediatr. 2020;10:516-522.

Alur P, Kalikkot Thekkeveedu R, Meeks M, Hart KC, Desai J, Johnson M, **Hussain N**, et al. Calorie intake is associated with weight gain during transition phase of nutrition in female extremely low birth weight infants. Biol Sex Differ. 2020;11:16. PMID: 32293535. PMCID: PMC7160909. doi:10.1186/s13293-020-00295-7.

Ibrahim A, **Hussain N.** Brief report: Metabolic acidosis in newborn infants following maternal use of acetazolamide during pregnancy. J Neonatal Perinatal Med. 2020;13:419-425.

Lainwala S, Kosyakova N, Power K, **Hussain N**, Moore JE, Hagadorn JI, et al. Delayed achievement of oral feedings is associated with adverse neurodevelopmental outcomes at 18 to 26 months follow-up in preterm infants. Am J Perinatol. 2020;37:483-490. doi: 10.1055/s-0039-1681059.

Hyslop S, Tomlinson D, Baggott C, Dix D, Gibson P, Johnston DL, **Orsey AD**, Portwine C, Price V, Vanan M, Kuczynski S, Spiegler B, Tomlinson GA, Dupuis LL, Sung L. Feeling scared or worried self-report in children receiving cancer treatments using the Symptom Screening in Pediatrics Tool (SSPedi). Support Care Cancer. 2020 Oct 17. doi: 10.1007/s00520-020-05818-x. Epub ahead of print. PMID: 33067767.

Dupuis LL, Robinson PD, van de Wetering MD, Tissing W, Seelisch J, Digout C, Sung L, Phillips R; members of the iPOG Network (**Orsey A**). Lexicon for guidance terminology in pediatric hematology/oncology: a white paper. Pediatr Blood Cancer. 2020 Apr;67(4):e28170. doi: 10.1002/pbc.28170. Epub 2020 Jan 23. PMID: 31975542.

Sinha R, Knod J, Dukleska K, Mello D. Congenital sternal cleft with absence of anterior pericardium. Ctsnet.org. 2020 Nov. doi: 10.25373/ctsnet.13249931.

Davey B, Sinha R, Lee JH, Gauthier M, Flores G. Social determinants of health and outcomes for children and adults with congenital heart disease: a systematic review. Pediatr Res. 2020 Oct 17. doi: 10.1038/s41390-020-01196-6.

Sinha R, Chen PC, Sam R, Dodge-Khatami A, Salazar J. Results of less than 5 mm right ventricle-pulmonary artery conduits in single ventricle palliation. Ann Thorac Surg. 2020 Aug 4; S0003-4975(20)31283-2. doi: 10.1016/j.athoracsur.2020.05.171.

Sinha R, Altin HF, McCracken C, Well A, Rosenblum J, Kanter K, Kogon B, Alsoufi B. Effect of atrioventricular valve repair on multistage palliation results of single ventricle defects. Ann Thorac Surg. 2020 May 23:S0003-4975(20)30746-3. doi: 10.1016/j.athoracsur.2020.03.126.

Chen PC, Dodge-Khatami J, Hanfland R, Sinha R, Salazar J, Dodge-Khatami A. Resuscitating the chimney graft to innominate artery for straightforward cannulation during infancy. Ann Thorac Surg. 2020 May;109(5):e379-e381.

Sinha R. How is Covid-19 affecting congenital heart disease patients? Society of Thoracic Surgeons – The Patient Guide to Heart, Lung, and Esophageal Surgery. https://ctsurgerypatients.org/how-is-covid-19-affecting-congenital-heart-disease-patients. 2020 May.

Dodge-Khatami A, Chen P, Dodge-Khatami J, Hanfland R, Sinha R, Salazar J. Resuscitating the PTFE graft-to-innominate artery after neonatal arch reconstructions: straightforward access for arterial cannulation. Ctsnet.org. 2020 Apr. doi:10.25373/ctsnet.12089181.

Rosenblum JM, Altin HF, Gillespie SE, Bauser-Heaton H, Kanter KA, Sinha R, Cory M, Alsoufi B. Management outcomes of primary pulmonary vein stenosis. J Thorac Cardiovasc Surg. 2020 Mar;159(3):1029-1036.

STAFF

Adam Silverman, MD, FAAP – *Director, Connecticut Children's Center for Global Health, Emergency Medicine and Critical Care physician*

Brendan Campbell, MD, MPH, FACS – *Director of Trauma, Pediatric Surgeon, Pediatric Surgical Quality and Safety Officer*

Nancy Dunbar, MD, MPH, FAAP – *Endocrinologist*

Christine Finck, MD, FACS – *Connecticut Children's Surgeon-in-Chief, Division Chief, Pediatric Surgery*

Melissa Held, MD – *Infectious Diseases & Immunology Physician*

Victor Herson, MD – *Neonatologist*

Christopher Hughes MD, MPH – Pediatric Plastic Surgery & Global Surgery

Naveed Hussain, MD – *Neonatologist*

Cliff O'Callahan, MD, PhD, FAAP – *Pediatric faculty and Director of Nurseries, Middlesex Hospital; Associate Professor, Pediatrics, University of Connecticut School of Medicine; Assistant Professor, Family Medicine, Frank H. Netter MD School of Medicine, Quinnipiac University*

Andrea Orsey, MD – *Director, Cancer Supportive Care Program, Oncologist*

Hareem Park, MD – Pediatric Hospital Physician

Juan C. Salazar, MD, MPH, FAAP – *Physician-in-Chief and Executive Vice President, Academic Affairs, Connecticut Children's*

Raina Sinha, MD, MPH, *Congenital Heart Surgeon*

Kristin Welch, MD – *Emergency Medicine Physician*

Stephen Mahier, BSN, RN – *Pediatric Intensive Care Unit (PICU) Nurse*

THE PEDIATRIC OBESITY CENTER FOR TREATMENT, RESEARCH & EDUCATION

The mission of the Pediatric Obesity Center is to be at the forefront of the care of families with obesity by providing innovative clinical service, cutting-edge research initiatives, and tailored education of the next generation of providers.

CLINICAL GROWTH DURING COVID-19

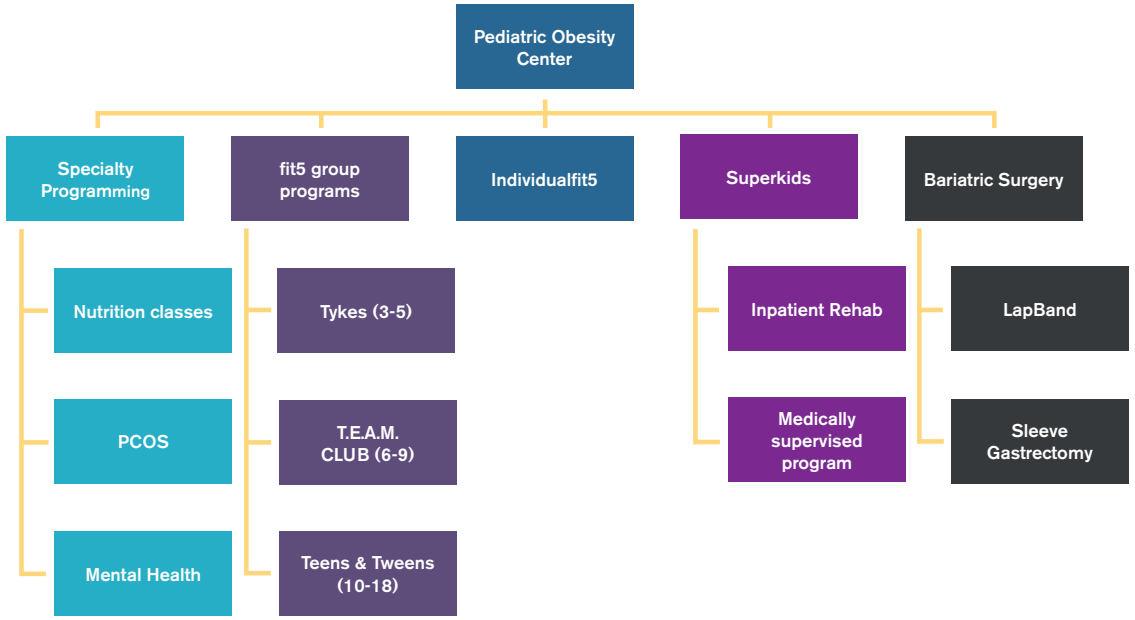
Despite the challenges of 2020's Covid-19 pandemic, our Pediatric Obesity Center continued its clinical growth on multiple fronts with a record number of referrals and patients accessing our care. Our team was quickly able to convert programming to telemedicine, allowing patients to receive care safely and opening up access to our program to families who previously could not participate. We ended 2020 with the most adolescent bariatric surgeries to date in our accredited program and continued our successful collaboration with Hartford Hospital. We are also excited to have welcomed Miranda Lange, PA, to our team. She works closely with our bariatric surgery colleagues getting teens ready for their procedures.

CONNECTICUT CHILDREN'S FIRST FACEBOOK LIVE SERIES

In an effort to help families to stay on track during the pandemic, the Weight Management Program launched Connecticut Children's first-ever Facebook Live Series. For eight weeks, providers from across Connecticut Children's went live on the medical center's Facebook page to talk all things healthy – from a walk around the neighborhood to yoga to healthy cooking to making calming bottles. We engaged families and our colleagues to help all of us stay healthy during an unprecedented time.

PLANS FOR THE FUTURE

We continue to increase our programming to be the place for Connecticut's children to receive comprehensive weight management care. We have launched new group programs to keep families engaged in care and will be expanding to offer more inpatient services in 2021. We also have a new collaboration in the works with Hartford Hospital.



RESEARCH & NATIONAL RECOGNITION

The Pediatric Obesity Center maintains 12 IRB-approved studies targeted at improving care for children and adolescents with obesity. Melissa Santos, PhD, clinical director of the Pediatric Obesity Center, continues work on her National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK)/the National Institutes of Health (NIH) clinical trial of a cognitive behavioral intervention for youth with comorbid obesity and chronic pain. In addition, James Healy, MD, and Dr. Santos advanced separate innovation grants from Connecticut Children's Department of Surgery that involve the use of technology to improve health behaviors after bariatric surgery and the creation of a national registry of adolescent bariatric patients.

Covid-19 significantly impacted individuals with obesity in both course and outcome. Our team worked to address the needs of this critical population. Connecticut Children's Surgeon-in-Chief Christine Finck, MD, submitted an NIH grant to examine the increased susceptibility of patients with obesity to Covid-19, and Dr. Santos, along with Sherene Mason, MD, in Nephrology, submitted a Patient-Centered Outcomes Research Institute (PCORI) grant to understand racial and ethnic disparities in access to care during Covid. Dr. Santos had a commentary published in the *Lancet* on the resumption of bariatric surgery during the Covid period. We are examining data from patients with Covid infection to understand better the factors placing youth with obesity at increased risk. Our staff also participated in the Connecticut Children's *Ask the Experts* series discussing the impact of Covid on obesity (Nancy Trout, MD, and Jessica Williams, MD) as well as mental health (Santos).

Our team remained active both regionally and nationally through research, collaboration and work groups. Program members presented throughout the year at national conferences including Obesity Week and the Society of Pediatric Psychology Annual Conference. Dr. Santos serves on the governance

board of the Pediatric Obesity Weight Evaluation Registry (POWER), a national registry for childhood obesity. She chairs the organization's communications committee and is co-leading the development of a Maintenance of Certification (MOC) project on mental health screening in weight management programs. Dr. Santos is leading the national work group that is writing guidelines for the psychological evaluation of adolescents undergoing bariatric surgery. Our staff has been asked to serve on data safety monitoring boards for large NIH studies (Finck and Santos) as well as on an NIH study section (Santos). Dr. Santos continues her work on the board of directors for the Society of Pediatric Psychology, and our clinical staff members serve as ad hoc reviewers for relevant journals.

EDUCATION

Despite Covid, our center continued its mission to train the next generation of obesity providers. In both clinical and research placements, students were present throughout our clinics and research. We look forward to seeing more graduates of our training.

SUMMARY

Our Pediatric Obesity Center entered 2020 celebrating its 10th year of programming. While the pandemic caused some extraordinary challenges, we look back fondly at 10 years of great work and we eagerly look forward to the next decade.

PUBLICATIONS

Santos M. [comment] The offspring of parents undergoing a weight loss surgery: a systematic review. Surg Obes Relat Dis. 2020;16(6):815-816. doi:10.1016/j.soard.2020.03.018.

Santos M, Gorin A, Thaker S, Zempsky W. Pediatric pain and obesity: relationships and initial tool validation. Clin Pract Pediatr Psychol. 2020. https://doi-org.online.uchc.edu/10.1037/cpp0000376.

Santos M. The inclusion of mental health factors into the resumption of bariatric surgery. [commentary] Lancet Diabetes Endocrinol. 2020; 8(9):742–743. https://doi-org.online.uchc.edu/10.1016/S2213-8587(20)30278-3.

Valrie C, Thurston I, **Santos M.** Introduction to the special issue: Addressing health disparities in pediatric psychology. J Pediatr Psychol. 2020;45(8):833–838. https://doi-org.online.uchc.edu/10.1093/jpepsy/jsaa066.

STAFF

Melissa Santos, PhD, *Clinical Director, Obesity Center*

Adam Brown, PT, DPT
Haley Duscha, RD
Christine Finck, MD, FACS
James Healy, MD
Miranda Lange, PA
Priya Phulwani, MD
Michael Reiss, PsyD
Rachel Sadinsky, PT, DPT
Nancy Trout, MD
Jessica Williams, MD

DEPARTMENTS

PATHOLOGY & LABORATORY MEDICINE

It was another productive and busy year for the Department of Pathology and Laboratory Medicine. There was a 21 percent increase in testing volume from 2019 to 2020. The most significant changes were seen in Microbiology as well as Molecular Pathology and Chemistry. The Covid pandemic is the main reason for the increases in Microbiology and Chemistry whereas the Molecular Pathology increase can be attributed to newly developed tests.

In Anatomic Pathology, we continue to recruit for pathologists with subspecialty training. In 2020, the focus was to interview in breast and gastrointestinal pathology. Dr. Robert Vasquez, a fellow in breast pathology at Mt. Sinai Hospital, NYC, will join us in July 2021. Recruitments in the recent past also have been successful, and Krzysztof Glomski, MD, Ronald Araneta, MD, and Thomas Mezzetti, MD, have all been integrated into the department.

As in years past, the department provided on-site assessment and tissue triage for 25 Connecticut Children's renal biopsy procedures. This total is down from previous years (37 were received in 2019). All but one of these specimens were FedEx'ed to Columbia University pathologists the same day they were received.

We continue to expand the laboratory offerings in immunohistochemistry and molecular pathology, expanding markers used for diagnostic pathology and also ones that have therapeutic implications.

NEW PROGRAMS

Anatomic Pathology

We are participating in a new research study collaborating with a vendor (Cytoveris) and the HHC Breast Surgery Division to use spectroscopy in evaluation of gross margins intraoperatively.

Informatics

A lot of background work got put into implementation of expanding the scope and capability of whole slide digital scanning. Various vendors were evaluated, information technology leadership was engaged, and a large capacity scanner purchased. This will be implemented in 2021, allowing us to begin digitization of glass slides, which will have significant positive impact on the work-flow.

LABORATORY MEDICINE

Microbiology

Over the course of 2020, the HHC Ancillary Microbiology Laboratory at Newington implemented the following instruments and/or assays to provide in-house SARS-CoV-2 NAA (molecular) testing.

a. By Dec. 30, 2020, HHC had performed 91,038 in-house tests for the system.

i. Abbott m2000 assay onto the current m2000 instrument by way of routing standard viral loads to a reference laboratory

ii. Biofire torch additional modules and a base for HH: implemented the SARS-CoV-2 single assay when it was available and validated the RP2.1 assay, which will be available to order in January 2021

iii. Addition of a Panther Plus instrument and a Panther fusion module for SARS-CoV-2 NAA testing

iv. Luminex Aries instrument added for SARS-CoV-2 testing

v. Addition of Genexperts at the affiliate hospitals across the system and SARS-CoV-2 NAA as well as the multiplex for influenza A/B, RSV, and SARS-CoV-2 at each affiliate

b. Added the GI panel to the Biofire Torch to reduce staffing needs on the stool culture and other infectious disease stool assays. This was also implemented due to supply chain shortages for routine microbiology diagnostic supplies.

c. The Luminex Aries also provides backup for C. difficile testing and MRSA screening testing due to supply chain shortages.

d. Over the course of 2020, the clinical laboratory expanded specimen processing specific to SARS-CoV-2 testing.

e. Various reference laboratories were engaged to ensure and facilitate testing of the community, surgical (procedure) screening, expanded inpatient/ED testing, and also colleague testing for SARS-CoV-2. Negotiations took place with the Jackson Laboratory for Genomic Medicine in Farmington, CT, and Sema4 to ensure optimal test pricing as well as <48 hour result turnaround time.

DEPARTMENT GOALS

Plans to renovate the frozen section room to meet demand got underway as planned but were delayed due to the Covid-19 pandemic. The renovation and move to the new frozen section room is expected to be completed in 2021.

The centralized microbiology laboratory in Newington continues along the objective of integrating work from other HHC sites. In 2020, the work from Charlotte Hungerford Hospital in Torrington, CT, and St. Vincent's Hospital in Bridgeport, CT, was added.

In Anatomic Pathology, some of the goals include: procedures to improve adequacy of specimen material submitted for molecular studies in tumor cases, updating of gross manuals, and work to rectify the processing of Epic orders for cytology specimens.

Covid/Flu Testing initiatives include: New tests (molecular and antibody), new instrument platforms (Revogene, Roche 8800, Trax), referral laboratory services (Sema4), and interface development.

In Molecular Pathology, the sequencing panel for solid tumors will be expanded to include tumor mutational burden testing. The validation for the expanded panel for hematologic malignancies will be finalized.

STAFF CHANGES AND PLANNED RECRUITMENT

We successfully recruited Robert Vasquez, MD, a surgical pathologist with subspecialty training and expertise in breast pathology.

Pertinent subspecialization

1. There is a wide range of subspecialization in the department broadly as Anatomic and Clinical Pathology. Within Anatomic Pathology there is subspecialization as follows: neuropathology (3), cytopathology (6), pediatric pathology (1), molecular pathology (1), and dermatopathology (1). Additional members within AP have specialty skills in organ systems for which there is no board certification. These include breast pathology, GI pathology, GU pathology, gynecologic pathology, pulmonary pathology, head and neck pathology and soft tissue/bone tumor pathology. Additionally four members of the department are board-certified in hematopathology to provide support in Hematology and Hematopathology.
2. In other areas of Clinical Pathology, two staff members provide support in transfusion medicine. One is board-certified in transfusion medicine and the other has specialty expertise in coagulation. There is one PhD board-certified member in each of the following disciplines: microbiology, chemistry, molecular pathology/cytogenetics, and immunopathology.

PUBLICATIONS

Montgomery AB, Dukleska K, **Balarezo F**, Moote D, Finck C. Cervical thymic cyst: a rare cause of neck mass in a female adolescent. J Pediatr Surg Case Rep. June 2020. https://doi.org/10.1016/j.epsc.2020.101529. PMID: 3197803.

Collins K, Cardinali JL, **Mnayer LO, DiGiuseppe JA**. CD49f protein expression varies among genetic subgroups of B lymphoblastic leukemia, and is distinctly low in KMT2A-rearranged cases. Cytometry B Clin Cytom. 2020;1-6. https://doi.org/10.1002/cyto.b.21865.

Collins K, **Cartun RW, Ligato S.** Utility and limitations of Albumin RNA in situ hybridization in the diagnosis of hepatobiliary lesions and metastatic carcinomas to the liver. Appl Immunohistochem Mol Morphol. Epub ahead of print. 2020 Nov. PMID: 33208670. doi: 10.1097/PAI.0000000000000885.

Sayej W, Isakoff M, **DiGiuseppe J**, Moote D, **Balarezo F**, Finck C, Hyams J. Primary cutaneous follicle center lymphoma in a 16-year-old-male with Crohn's disease exposed to infliximab and methotrexate. J Pediatr Gastroenterol Nutrit. 2019 Nov. PMID: 31789777.

Moradi S, Castiglione C, **Ehrig T.** Accessory tragus: report of a case in a rare location on the nasal vestibule. Pediatr Dermatol. 2020 Mar-Apr. https://doi.org/10.1111/pde.14090.

Moradi S, Ricci A, **Ehrig T.** Digital mucous cyst: altered epidermal mucin as a clue to diagnosis. J Cutan Pathol. 2020 Aug;47(8):705-709. doi: 10.1111/cup.13700. Epub 2020 May 30.

Moradi S, Daoud V, Ricci A, **Ehrig T.** Mucinous eccrine nevus: case report of a rare entity. Hum Pathol Case Rep. 2020 Jun. doi: 10.1016/j.ehpc.2020.200376.

Moradi S, Morgenstern J, **Ehrig T.** Verruciform genital-associated xanthoma with acantholysis: report of a rare case. J Am Acad Dermatol Case Rep. 2020 Jul 1; 6(7);658-660. doi: 10.1016/j.jdcr.2020.05.011.

Siddique A, Siddique O, Einstein M, Urtasun-Sotil E, **Ligato S.** Drug and herbal/dietary supplements-induced liver injury: a tertiary care center experience. World J Hepatol. 2020 May 27;12(5): 207–219. Epub 2020 May 27. doi: 10.4254/wjh.v12.i5.207.

Cho WC, **Mandavilli S.** Intratumoral extramedullary hematopoiesis in solitary fibrous tumor of the breast. Breast J. 2020 Apr; 26(4):755-758. PMID: 31486175.

Hafeez S, Cho WC, **Shen P.** Leptomeningeal involvement by relapsed follicular lymphoma detected by flow cytometry despite low white blood cell count in cerebrospinal fluid: a case report. Indian J Pathol Microbiol. 2020;63(1):131-133. PMID: 32031143.

Bookland M, Gillan E, **Song X**, Kolmakova A. Peripheral circulation miRNA expression of pediatric brain tumors and its relation to tumor miRNA expression levels. J Neurosurg Pediatr. 2020 May 8:1-9. PMID: 32384264. doi: 10.3171/2020.2.PEDS19715.

Patel S, Kollar R, Troy P, **Song X**, Khaled M, Parra A, Pervez M. Malignant cerebral ischemia in a Covid-19 infected patient: case review and histopathological findings. J Stroke Cerebrovasc Dis. 2020 Nov; 29(11): 105231. Epub 2020 Aug 5. doi. 10.1016/j. jstrokecerebrovasdis. 2020.105231.

Nouh A, Mehta T, Hussain M, **Song X**, Ollenschleger M. Clot composition of embolic strokes of undetermined source: a feasibility study. BMC Neurol. 2020 Oct 22;20:383. doi: 10.1186/s12883-020-01969-w.

STAFF

Srinivas Mandavilli, MD, *Division Chief*

Ronald Araneta, MD
Margaret William Assaad, MD
Fabiola Balarezo, MD
Richard Cartun, MS, PhD
Joseph A. DiGiuseppe, MD, PhD
Jonathan Earle, MD
Torsten Ehrig, MD
Mary Fiel-Gan, MD
Krzysztof Glomski, MD, PhD
Lisa Laird, MD
Saverio Ligato, MD
Gregory S. Makowski, PhD, DABCC, FACB
Thomas Mezzetti, MD
Amity Roberts, PhD, D (ABMM)
Peter Shen, MD
Bradford Sherburne, MD
Xianyuan Song, MD, PhD
Dean Uphoff, MD

RADIOLOGY

The Department of Radiology provides a full spectrum of imaging services as well as minimally invasive image-guided procedures to all clinical divisions at Connecticut Children's. The department participates in the Image Gently Alliance, seeking to minimize radiation while utilizing best practice standards and American College of Radiology (ACR) Appropriateness Criteria® to provide optimal diagnostic imaging for children.

Imaging modalities range from digital radiography to complex magnetic resonance imaging. The department is accredited through the American College of Radiology in Ultrasound, CT and MRI. Image-guided procedures are performed on site at Connecticut Children's with support from the divisions of Anesthesia and Sedation improving delivery of care in a pediatric-friendly environment. Interventional radiologists perform these diagnostic and interventional services on a 24/7 basis, providing uninterrupted care to the children we treat.

Covid-19 presented challenges to hospital systems throughout the country. The division of Radiology at Connecticut Children's in conjunction with the divisions of Infectious Diseases and Quality and Safety proactively followed best practices to keep our Imaging Department safe and accessible to our patients. Radiology was able to seamlessly transition without interruption from only urgent elective imaging back to elective imaging.

Our priority is always focused on balancing optimal image quality with dose reduction strategies throughout the department. Digital radiography and low-dose imaging equipment, such as the EOS scoliosis technology in our Orthopaedic department, help us achieve these goals. This year we were able to retrofit our last analog radiographic room, which is located in Glastonbury, to digital technology with a marked improvement in reducing dose.

The Ultrasound division offers extended appointments at our Hartford campus on weekdays and on the weekends to meet the needs of our patients and their families. Ultrasound imaging by our subspecialty-trained sonographers is also available at our Farmington and Danbury locations, allowing the community greater access to these expertly performed examinations. Contrast-enhanced ultrasound using microsphere bubbles assists our radiologists in the evaluation of vesicoureteral reflux or characterization of lesions in the liver without the need for radiation or sedation.

Fluoroscopy is an important modality used in radiology to assist pediatric providers in the assessment of their patients. This examination is performed at the Hartford campus using a Siemens flat-panel fluoroscopy unit with pulsed fluoroscopy, allowing for significant radiation dose reduction with improved image quality. This equipment is in alignment with our philosophy to "Image Gently and Step Lightly" to allow our team to provide appropriate imaging while reducing as much as possible the patient's exposure to ionizing radiation. This year allowed us to add dose metrics for fluoroscopy exams to our dose monitoring software, Radimetrics.

Computed Tomography continues to have a significant role in children with orthopaedic, neurologic, pulmonary or abdominal conditions. Every child is different and our CT scanning techniques are monitored to ensure dose optimization for children of all sizes. When feasible, the techniques are modified to allow imaging without the need for sedation or general anesthesia. We continue to participate in the American College of Radiology Dose Index Registry, which enables us to benchmark our CT doses with other facilities.

The MRI department offers state-of-the-art facilities with both 1.5T and 3T field strength units at Connecticut Children's Hartford campus. The availability of a 3T MRI system provides advanced cardiac imaging and neuroimaging (functional imaging, diffusion tensor imaging, and perfusion imaging of the brain). Liver fat and iron quantification and stiffness assessment (elastography) as well as advances in whole body imaging and vascular imaging and specialized imaging of the bowel and urinary tract (MR enterography and urography) have been optimized for our pediatric patients. Child friendly movies allow children to undergo their MRI study comfortably without sedation whenever possible and decrease the need for sedation or anesthesia. For more technically challenging or lengthy studies and procedures, the Sedation Service, Department of Anesthesia, and the Child Life Team offer outstanding resources to help our children undergo MRI or CT examinations.

Education is a major component of the activities of the Division of Pediatric Radiology. Residents from the Hartford Hospital, University of Connecticut, and St. Vincent's Hospital Bridgeport radiology residency programs receive pediatric radiology training in our department. We also host elective rotations for UConn pediatric residents and pediatric subspecialty fellows as well as UConn and Quinnipiac University medical students. Additionally, the department engages in the education of sonography and radiography technology students. Didactic lectures and case presentations provide teaching to our residents, medical students, and radiology staff. Clinical care and teaching conferences are held in collaboration with the divisions of Pulmonary Medicine, Gastroenterology, Endocrinology, General Surgery, Hematology-Oncology, Orthopaedic Surgery, Rheumatology, Urology/Nephrology, and Critical Care. Through these activities, the Department of Radiology seeks to deliver optimized, patient- and family-centered care to the children we serve.

PUBLICATIONS

Lepus CA, Karasik MS, **Moote D**, Hyams J. Electrocautery incisional therapy for an atypical esophageal stricture in a previously healthy patient. J Pediatri Gastroenterol Nutrit. 2020 Oct. Epub ahead of print. doi: 10.1097/MPG.0000000000002971.

Sharma I, **Moote D**, Campbell BT. Concussion of the colon: paediatric patient with traumatic cecal haematoma. BMJ Case Rep. 2020 Dec; 13(12):e236066, doi: 10.1136/bcr-2020-236066.


Dräger
MAGNETOM Vida

Montgomery AB, Dukleska K, Balarezo F, **Moote D.** Cervical thymic cyst: a rare cause of neck mass in a female adolescent. J Pediatri Surg Case Rep. 2020 Jun; 59:101529 doi: 10.1016/j.epsc.2020.101529.

Sayej WN, Isakoff MS, DiGiuseppe JA, **Moote D**, Balarezo F, Finck C, Hyams JS. Primary cutaneous follicle center lymphoma in a 16-year-old boy with Crohn disease exposed to infliximab and methotrexate. J Pediatr Gastroenterol Nutr. 2019 Dec;70(2):e49-e50.

STAFF

Douglas Moote, MD, *Division Chief*

Timothy Brown, MD

Shanshan Bao, MD
Director of Body Magnetic Resonance Imaging

Johanna Chang
Assistant Director of Body Magnetic Resonance Imaging

Stacey Bass, MD
Director of Interventional Radiology

Ronald Rosenberg, MD
Director of Nuclear Medicine and Molecular Imaging

Ryan Kaliney, MD
Director of Sports Medicine and Musculoskeletal Imaging

Gregory Wrubel, MD
Director of Neuroradiology

Robert Hynecek, MD
Director of Functional Neuroimaging

David Zimmerman, MD
Director of Head and Neck Imaging

Martin Ollenschleger, MD
Director of Neurointerventional Radiology

Frederick Conard, MD
Steven Poole, MD
Michael O'Loughlin, MD
Michael Hallisey, MD
Josh Kallen, MD

Molly Mable, PA-C, RT(R)

ACADEMIC AFFAIRS & RESEARCH


PHILIPS
00:01:57

Connecticut Children's strives to encourage, support, and recognize the academic activities and achievements of its Departments of Pediatrics and Surgery faculty and staff. The mission of our Academic Affairs office is to empower faculty, medical learners, and community providers to succeed in their academic, professional development, research, and quality improvement pursuits by providing critical and timely administrative, technical, and educational support. The office encompasses Academic Administration, the Office for Faculty Development, Medical Education, Research Operations and Development, and the Office of Sponsored Programs (OSP).

From the moment in March of 2020 when Covid-19 was officially declared a global pandemic, our staff across all academic departments including Academic Affairs, Fellowship Education Programs, Office of Continuing Medical Education, Office of Sponsored Programs, Research & Development, and Clinical Trials faced challenges unlike any other in the history of the health care industry. Over the course of the ensuing nine months, staff members would contend with individual heartbreak, sadness over our collective loss of time with extended family, fear over changes to our world as we knew it, and more. But throughout this period, our teams demonstrated remarkable resilience and a determination to adjust and adapt to new and ever-changing realities. Within the first few weeks of the pandemic, we had transitioned to a remote work model, learned to remain close to our teams via Zoom, and weaned ourselves from paper files to electronic files that we could easily access from home.

What resulted from the hard work and positive can-do attitude exhibited by our staff can be seen in the many successes and achievements listed in the pages that follow. Throughout each academic pillar (Research, Education, and professional wellness and faculty development) across our Departments of Pediatrics and Surgery, we moved the needle in meaningful ways on our three-year academic strategic plan, Our Journey to Excellence. To name just a few accomplishments, we kicked off business planning for the future state of our Connecticut Children's Research Institute, accelerated the evolution of innovations and technology that support our undergraduate and graduate medical education, and established our Office of Faculty and Professional Development, which successfully provided 43 events and activities in 2020.

The wonderful work detailed throughout this section of our 2020 academic annual report is directly attributable to our team members and to the leaders who supported and steered them through the many bumps and turns over the year. My sincere thanks to the following dedicated leaders and colleagues for their dedication and hard work that enabled us to achieve so much during a time of prolonged adversity: Elizabeth Anderson, BS, Neal Breen, MBA, Michael Brimacombe, PhD, Stacy Chandna, MS, CIP, Marianne Custer, BS, C-TAGME, Kim Davey, MBA, Kathy Herbst, MS, Jessica Hollenbach, PhD, Stephanie Johnson, MT, MPH, Garry Lapidus, PA-C, MPH, Esperanza Lesmes, Alison Oville, CCRC, CHRC, and Julie Vigil, MS, CHC, CHRC. Individually and collectively, this leadership team guided our academic teams with confidence, empathy, and focus. Of course, for leading all of us, my sincere thanks to Surgeon-in-Chief Christine Finck, MD, FACS, and Physician-in-Chief Juan Salazar, MD, MPH, for their tireless leadership, expertise, and guidance during a year we will not soon forget.

With gratitude to all leaders and staff members,

Annamarie Beaulieu, MPD, BBA
Senior Director, Academic Affairs, Sponsored Programs, Research Operations and Development, Continuing Medical Education, Fellowship Programs

STAFF

Annamarie Beaulieu, MPH, BBA
Senior Director, Academic Affairs, Sponsored Program, Research and Development, Continuing Medical Education, Fellowship Programs

Staci Brown
Administrative Assistant III

Kimberly Davey, MBA
Director, Office for Sponsored Programs

Garry Lapidus, PA-C, MPH
Director, Research Operations and Development

Esperanza Lesmes
Senior Program Manager

Alison Oville, CCRC, CHRC
Director, Clinical Trials

Department of Pediatrics at UConn

Julie Vigil, MS, CHC, CHRC
Administrative Director

Laurie Papacs
Administrative Officer

Allyson Martincheck
Administrative Assistant, Department of Pediatrics and NICU

ACADEMIC ADMINISTRATION

The Department of Pediatrics is fortunate to have a very strong presence and administrative support on both the University of Connecticut Health Center (UConn Health) and Connecticut Children's campuses. With faculty based at multiple institutions, administration of the Department of Pediatrics is comprised of centrally managed academic functions for affiliated faculty, and decentralized business and research management functions for all faculty.

The senior operations manager, Esperanza Lesmes, in collaboration with the offices of both Pediatrics and Surgery Chairs staffed at Connecticut Children's, manages academic appointments, reappointments and promotions; the academic merit plan for affiliated faculty; academic faculty contracts; and in collaboration with Deborah Hornblow, per diem editor, produces the *Departments of Pediatrics and Surgical Subspecialties Annual Report* and the *Faculty Resource Guide*. The administrative staff in the chair's office maintains close communication with the Department of Pediatrics Academic Office at UConn Health. Julie Vigil, administrative manager, and her team at the Pediatric Offices at UConn manage the academic budgets, including tenured faculty support, components of the residency budget, discretionary accounts, and UConn Health-based sponsored programs as well as faculty appointments and academic merit for the UConn in-residence faculty. The Pediatric academic office serves as the support and key logistical link between the decentralized offices within other institutions/ departments and UConn Health's administrative and financial offices.

NEW FACULTY MEMBERS

Hassan El Chebib, MD, Infectious Diseases and Immunology; Caitlin Heyden, DO, Cardiology; Raina Sinha, MD, Cardiothoracic Surgery; Lila Worden, MD, Neurology; Ana Garnecho, MD, Developmental and Behavioral Pediatrics; Abraham Khorasani, MD, and Esther Oziel, MD, Primary Care Center; Laura McKay, MD, Hematology-Oncology; Michelle McKee, MD,

Emergency Medicine; Nancy Louis, MD, NICU; Jonah Mandell, DO, Urgent Care; Elliot Melendez, MD, PICU; Lori Pelletier, PhD, Quality and Patient Safety; Neurology; Barbara Adams, DNP, James Gerace, DHSc, Petronella Stoltz, PNP-BC, Advanced Practice Providers; Mark Rieger, MD, and Ana Katsman, MD, Orthopedic Surgery; Leah Gregorio, MD, Middlesex Hospital; Kirin Suri, MD, the Hospital for Special Care; Julieta Bonvin-Sallago, MD, Research; and Lisa Backus, PhD, Amy Signore, PhD, Child and Adolescent Psychology. Our 2020-21 chief residents, Jessica Takores, MD, Amy Miller, MD, and Sarah Mackey, DO, were granted faculty appointments in the Department of Pediatrics.

JOINT APPOINTMENTS

Ashley Groshong, PhD, Amy Hunter, PhD, Department of Medicine; Jennifer Downs, MD, Saili Kalaskar, MBBS, Lovejit Kaur, MBBS, Lynn Mangini, MD, Kashmeer Zablan, MD, Jennifer Zajac, DO, Child & Adolescent Psychiatry; David Hersh, MD, and Raina Sinha, MD, Surgery.

COMMUNITY-BASED FACULTY

Damian D. Dos Santos, MD, Alicia Dodson, MD, Yesu Kumar Matta, MD, Mary A. Simon, MD, Martha Sternberg, MD, Clinical Longitudinal Immersion in the Community (CLIC).

CONTINUING MEDICAL EDUCATION

The Office of Continuing Medical Education experienced tremendous change and transformation in 2020.

Out of necessity at the start of the Covid-19 pandemic, we quickly pivoted our weekly in-person grand rounds lecture series to a virtual format, which had already been piloted earlier in the academic year. Many thanks to Steven Bilbie for contributing the technological expertise that made this possible. Attendance at our new virtual Pediatric Grand Rounds reached historic high levels, averaging 175 attendees each week, a 46 percent increase from in-person attendance in recent years. Our grand rounds lectures also reached pediatric audiences in seven states in 2020, and we have been able to invite external speakers who can now join us virtually but would otherwise not have been able to journey to Connecticut. In our ongoing efforts to provide efficiency and added value from all of our CME offerings, our Pediatric Grand Rounds Series is now eligible for MOC Part 2 credit under the American Board of Pediatrics, the American Board of Otolaryngology, Head & Neck Surgery, and the American Board of Otolaryngology.

To meet the immediate support needs of our pediatric community during the Covid-19 pandemic, on April 3, 2020, our team kicked off *Ask the Experts*, a brand new education series that allows us to dedicate an hour each week to Covid-19-related questions. Thinking beyond our immediate audience, we registered *Ask the Experts* with the national Accreditation Council for Continuing Medical Education Council (ACCME). It quickly grew to be a resource to physicians in 13 states across the country, and CME credit is available via the ACCME website under "Covid-19 Clinician Resources." *Ask the Experts* has become and continues to be a valued resource for our pediatric health care audience in a time of great uncertainty. John Schreiber, MD, MPH, continues to lead the weekly *Ask the Experts* talk, and has been paired each week with a pediatric subspecialty expert to address Covid-19 and condition-specific questions. To quote one learner, "This is an amazing weekly conference that Connecticut Children's is presenting. I don't think that any other organization in the area has anything similar to this weekly presentation. Thank you to the CME team, Dr. [Juan] Salazar, and Dr. Schreiber."

In 2020, the Office of CME also transitioned our annual Pediatric Evening Lecture and Andrulonis Child Mental Health Evening Lecture series, which are both typically held at the Pond House Café in West Hartford, to an interactive virtual workshop offered via Zoom. Our audience has enjoyed the remote access and ability to view the recording session if they are unable to join in real time. Although our audience members missed the ability to connect in-person each month, our attendance increased by 1.8 percent in the new virtual format. Also available from the comfort of home and office, our Office of CME rolled out a new series entitled Pediatrician's in PJ's: CME From the Comfort of Your Couch. This series kicked off in August and is an on-demand series made available online 24/7 for a small fee.

We celebrated many CME milestones in 2020. We kicked off the 2020-21 academic year with 48 approved Regularly Scheduled Series modules, 17 of which offer MOC Part 2 credit for the American Board of Pediatrics. Our Traveling Grand Rounds Speaker Bureau also increased its speaker participation by 215 percent, the highest physician participation in the history of our TGR Bureau. Subscription to our newly created private Facebook Group, https://www.facebook.com/groups/536551017209052//, spiked almost immediately and served as our first-ever digital platform designed to interact and support our CME pediatric community. Our office understands that each learner utilizes different resources and pathways to stay current with CME, whether that be our website, blasts, or monthly newsletter. Our Facebook group will serve as an additional resource and avenue of networking to stay current on CME topics in our new virtual world.

Given the success of the digital formats for attendance of Pediatric Grand Rounds, Traveling Grand Rounds, Pediatric Evening Lectures, Andrulonis Child Mental

Health Evening Lectures, and *Ask the Experts*, these activities will continue to be offered digitally post-Covid.

Finally, effective November 1, 2020, and as a result of the Connecticut State Medical Society discontinuing its CME Accreditation authority, our Office of CME transitioned its accreditation to our national governing body, the Accreditation Council for Continuing Medical Education (ACCME). This is a positive change for our CME efforts as we now sit alongside our CME colleagues across the country and are better able to learn and share best practices related to providing the most effective, relevant continuing education to our pediatric community in our region.

MAINTENANCE OF CERTIFICATION (MOC)

The American Board of Pediatrics (ABP) automatically awarded all ABP-certified providers 25 maintenance of certification Part 4 credits as many had quickly shifted workflows and priorities to address the day's most pressing needs. The Connecticut Children's Care Network has greatly utilized the Office of Continuing Medical Education's MOC portfolio to incentivize vaccination quality improvement (QI) projects across the state, with plans to offer additional quality improvement projects related to behavioral health in the coming year. Currently, a total of 30 QI/MOC projects (12 internal for Connecticut Children's physicians and 18 community-focused) are available to providers through the MOC portfolio. Due to a year of unprecedented shifts and changes, the Office of Continuing Medical Education will welcome a new MOC program coordinator in 2021.

STAFF

Marianne Custer, BS, C-TAGME
Senior Manager, Office of Continuing Medical Education and Fellowship Programs

Elizabeth Anderson
Manager, Office of Continuing Medical Education

Nicole Capsolas
CME Operations Coordinator

Kimberly Forbes ***(departed March 2020)***
MOC Coordinator

GRADUATE MEDICAL EDUCATION

Pediatric Surgical and Subspecialty Fellowship Programs

The University of Connecticut School of Medicine-sponsored graduate medical education (pediatric surgical and subspecialty) fellowship programs at Connecticut Children's continue to graduate exceptionally trained specialty physicians who enter practice throughout the country. Our fellows continue to be awarded funding for exciting research projects with numerous accepted presentations at national scientific meetings in addition to travel grants and awards. The success of our fellowship programs would not be possible without the dedication and efforts of our associate chair of education, Andrea Orsey, MD, MSCE, and our exemplary administrative fellowship team. Dr. Orsey was accepted and completed her first year of the Masters in Medical Education Program through Massachusetts General Hospital (MGH) Institute of Health Professions. She is applying her acquired knowledge and skills to improve the quality of all educational initiatives at Connecticut Children's. ACGME accreditation was received in April 2020 for a new fellowship program in Pediatric Otolaryngology.

In 2020, the fellowship coordinators and program directors administered 11 pediatric and surgical subspecialty fellowship programs and supported 24 fellows. The coordinator team demonstrated exceptional flexibility and ingenuity to preserve program quality and compliance in the Covid-19 era. Over a short period, the fellowship team successfully organized the development of vital recruitment materials including new and improved websites for each fellowship program, nine fellowship program videos and a virtual tour video. The team pivoted quickly, launching from in-person to virtual recruitment, and effectively mobilized 131 applicant interviews across 57 days. The pediatric fellowship programs graduated seven fellows and successfully filled eight of 10 available fellowship positions.

PEDIATRIC EMERGENCY MEDICINE

Led by Dr. Matt Laurich, the Pediatric Emergency Medicine Fellowship is in its 21st year. It is a three-year fellowship with two fellows per year.

Jacob Greenberg, MD, graduated from the fellowship in June 2020 and accepted a Pediatric Emergency Medicine attending position with Children's Healthcare of Atlanta at Scottish Rite Hospital in Atlanta, GA. Dr. Greenberg joined our fellowship in July 2017, arriving from the Maimonides Infants and Children's Hospital of Brooklyn, NY. During fellowship, Dr. Greenberg presented several of his research projects regionally and nationally. "Emergency Department Resource Utilization in the Management of Croup," "Improving the Nutrition of Infants with Bronchiolitis Admitted to the Hospital," "Does Crisis Prevention Training Impact the Use of Seclusion and Restraint for Pediatric Emergency Department Behavioral Health Patients?" and "Can Point-of-Care Ultrasound Be Used to Confirm Nasogastric Tube Position?" were each presented as platform presentations at the Eastern Society of Pediatric Research and as posters at the Pediatric Academic Societies meeting.

Prina Patel, MD, graduated from the fellowship in June 2020 and accepted a faculty appointment as Pediatric Emergency Medicine attending at Stony Brook Children's Hospital in Stony Book, NY. Dr. Patel joined the program in July 2017 from Winthrop University Hospital in Mineola, NY. Her research project, "Point-of-Care Influenza Testing in the Pediatric Emergency Department," was published in *Pediatric Emergency Care* after having been presented at the meetings of the Eastern Society of Pediatric Research and the Pediatric Academic Society.

Ruchika Jones, MD, is currently a third-year fellow. Her research on "The Use of High-Fidelity Simulation with Pediatric Advanced Life Support Training to Improve Resident Choreography of Codes" was presented virtually at the Pediatric Academic Society Annual Meeting in May 2020, the American Heart Association Team Training National Conference in June 2020, and the Eastern Society for Pediatric Research meeting in March 2020.

Rahul Shah, MD, is currently a third-year fellow. His case report on "Ocular Point-of-Care Ultrasound: Description of Intermediate Vitritis in an Adolescent Female" was accepted and credited for presentation at the Eastern Society for Pediatric Research meeting in March 2020, despite the meeting's cancellation due to the pandemic. He has two ongoing research projects: firearm safety practices and perceptions among parents, and studies related to Free Open Access Medical Education (FOAM). His research on "Improving Capnography Use for Critically Ill Emergency Patients: An Implementation Study" was published in March 2020 in the *Journal of Patient Safety*.

Candice Jersey, DO, is a second-year fellow. Her case report on a "6-Year-Old With an Infected Urachal Cyst Identified on Point-of-Care Ultrasound" was accepted for publication by *Pediatric Emergency Care*.

Owen Kahn, MD, is currently a second-year fellow and is conducting research on the effect of elbow-to-elbow coaching on electronic health record (EHR) use efficiency.

The fellowship program welcomed two excellent new fellows in July 2020. Prior to joining us, Kathryn Schissler, DO, completed her pediatric residency at Nicklaus Children's Hospital in Miami, FL. Shaheen Andreas, DO, completed her pediatric residency at the University of Connecticut Pediatric Residency Program at Connecticut Children's in Hartford, CT.

In December 2020, the program successfully matched two future fellows who will start in July 2021. Dr. Edgar Flores completed his residency at Stony Brook Children's Hospital in Stony Brook, NY, in 2020, and continues to work there as an attending general pediatrician in the Pediatric Emergency Department. Dr. Susana Collazo will complete her pediatric residency at Goryeb Children's Hospital at Morristown Medical Center in Morristown, NJ, before joining our team.

FELLOW PUBLICATIONS

Patel P, Laurich VM, Smith S, Sturm JJ. Point of care influenza testing in the pediatric emergency department. Pediatr Emerg Care. 2020 Nov; 36(11):515-518.

Malia L, Strumph K, Smith S, Brancato J, Johnson ST, Chicaiza H. Fast and sensitive: automated point-of-care urine dips. Pediatr Emerg Care. 2020 Oct; 36(10):486-488. doi: 10.1097/PEC.0000000000001357. PMID: 29189595.

Sneller H, Keenan K, Hoppa E. A quality improvement initiative to improve the administration of systemic corticosteroids in the pediatric emergency department. Pediatr Qual Saf. 2020 Jun 8;5(3):e308. doi: 10.1097/pq9.0000000000000308.

Kasmire KE, Cerrone C, Hoppa E. Reducing antibiotic prescription errors in the ED: a quality improvement initiative. Pediatr Qual Saf. 2020 Jul-Aug; 5(4): e314. Epub 2020 Jun 26. doi: 10.1097/pq9.0000000000000314.

PEDIATRIC GASTROENTEROLOGY

Led by Bella Zeisler, MD, and associate program director Melissa Fernandes, MD, the fellowship program in Pediatric Gastroenterology is in its 10th year.

We continue to be successful in recruiting excellent fellows to our program. Our faculty has grown in size over the recent years and our practice now includes a number of subspecialties within GI. For example, the latest program enhancement was the institution of our Center for GI Motility Disorders, led by Corey Baker, MD, who joined our faculty in 2019. Our growth in clinical programming has served to expand the educational opportunities for our fellows.

Jeffrey Hyams, MD, an internationally recognized clinician and researcher in inflammatory bowel disease (IBD), continues to act as a research mentor to many of our fellows and graduates. Our fellows are also supported by a number of faculty members with strong backgrounds in research. Our fellows have continued to receive recognition and awards for their research at international and national meetings. We continue to help our fellows transition into faculty positions or independent practice.

Andrew Fondell, DO, graduated in June 2020 and accepted a clinical position as a pediatric gastroenterologist at Blank Children's Hospital in Des Moines, IA, and has transitioned nicely to his faculty role. Prior to graduating, Dr. Fondell continued to care for our patients on the front line through the start of the Covid-19 pandemic. In addition, he completed several research projects under the mentorship of Dr. Hyams. His research focused on understanding the economic impact of a new diagnosis of inflammatory bowel disease on our patients as well as the health care system. He presented his projects at Digestive Disease Week® as well as the annual NASPGHAN conference. His manuscript describing his findings, was published in *Inflammatory Bowel Diseases*® (IBD Journal).

Our current senior fellow, Joelynn Dailey Fitz, DO, started her research experience in the fall of 2019, and her primary research mentor is Dr. Hyams as well. Dr. Fitz's initial research project centered on pain sensitivity testing in children with inflammatory bowel disease and irritable bowel syndrome/functional abdominal pain. Her project called for performance of sensory testing on these children to determine if intestinal inflammation plays a role in pain sensitivity. She established a collaboration with a research team from the UConn Storrs campus. Unfortunately, due to Covid-19-related restrictions on study subject recruitment, Dr. Fitz needed to pivot so that her research would be compliant with social distancing requirements. Therefore, she became involved in a new project involving the study of Covid-19 serology patterns among our IBD patients receiving regular infusion treatments. She will be presenting her findings at Digestive Disease Week spring 2021. Chelsea Lepus, DO, our second-year fellow, began her research year and has already made a great deal of progress. She is working under the mentorship of Drs. Hyams and division chief of Radiology Douglas Moote, MD. Her primary project involves evaluating the use of simplified magnetic resonance index of activity in children with Crohn's disease. She is also embarking on a secondary project that involves evaluating micronutrient deficiencies in children with intestinal failure. She will be presenting her findings in abstract form at Digestive Disease Week. Dr. Lepus was also accepted for poster presentation at NASPGHAN 2020 for her work on "A Bleeding Fundic Ulcer in a Pediatric Patient With Severe Dengue."

We were thrilled to welcome our first-year fellow, Mariyam Hashmi, MD, who joined the program in July 2020 after completing the pediatric residency program at Charleston Area Medical Center, West Virginia University in Charleston, WV, and her medical school education at Dow International Medical College in Pakistan. She has proven herself to be an excellent clinician and teacher for medical students, interns and residents. As a first-year fellow, her role is primarily clinical. She has also taken some time to start planning her research program, which is expected to start July 2021. She is exploring research questions related to GI motility disorders and is being mentored by Dr. Baker.

We were once again thrilled with our newest match. Dr. Jing Marrero will be joining our program in July 2021. She is a fabulous internal candidate who attended UConn Medical School and is currently a third-year resident here as well. We were delighted that she has shown an interest in our program and has chosen to stay here at her home institution. We look forward to working closely with Dr. Marrero in the upcoming months.

FELLOW PUBLICATIONS

Lepus CA, Karasik MS, Moote DJ, Hyams JS. Electrocautery incisional therapy for an atypical esophageal stricture in a previously healthy patient. J Pediatr Gastroenterol Nutrit. 2020 Oct 16. Epub ahead of print. doi: 10.1097/MPG.0000000000002971.

PEDIATRIC ENDOCRINOLOGY

Led by Dr. Rebecca Riba-Wolman and associate program director Dr. Christine Trapp, the Pediatric Endocrinology Fellowship is now in its 23rd year.

We continue to be successful in recruiting excellent fellows in an environment of decreasing applications to

the subspecialty. Our fellows are engaged in meaningful research experiences mentored by well-published, NIH-funded investigators in basic and translational research. They continue to publish in peer-reviewed journals and have received awards and travel grants to attend national and international meetings to present their work. We continue to place fellows in academic positions upon graduation. Graduates of our fellowship program have had a 100 percent pass rate on first attempt on the pediatric endocrinology boards.

Whei Ying Lim, MD, graduated from the program in September 2020. During her final year of fellowship, she was inducted into the Alpha Omega Alpha Honor Medical Society chapter at the University of Connecticut School of Medicine. She published abstracts and presented video posters at both the 2020 National Pediatric Endocrine Society Meeting on "Recurrent Hashitoxicosis in a Patient with Granulomatosis With Polyangitis" and at the 2020 Eastern Society for Pediatric Research Scientific Meeting on "Central Diabetes Insipidus – A Rare Complication of Intraventricular/Periventricular Hemorrhage in VLBW Infants." Her main research project focused on the immune profile and microbiome in patients with new onset type 1 diabetes under the mentorship of Cem Demirci, MD, director of the Diabetes Program at Connecticut Children's, as well as Derya Unutmaz, MD, and Julia Oh, PhD, of the Jackson Lab. She accepted a position as a pediatric endocrinologist at the University of Southern Alabama in Mobile, AL.

Komalben Parmar, MD, joined us from Hurley Medical Center in Michigan in July 2018. Her area of research is defining fasting ketone levels in children without diabetes in order to validate and expand upon the tools necessary to the diagnostic process for hypoglycemic disorders. Her work is under the mentorship of Dr. Riba-Wolman, MD, director of the Glycogen Storage Disease (GSD) and Disorders of Hypoglycemia Program at Connecticut Children's, and David Weinstein, MD, MMSc. She published abstracts and presented video posters at the 2020 National Pediatric Endocrine Society Meeting and the 2020 Eastern Society for Pediatric Research Scientific Meeting on "A Rare Case of Autonomously Functioning 'Hot' Nodule and Hürthle Cell Adenoma of the Thyroid in Pediatrics," as well as at the Human Growth Foundation's 2020 Pediatric Bone Symposium on "Progressive Familial Intrahepatic Cholestasis Type 6: A Rare Cause of Severe Rickets in Infancy." She is collaborating with Poonam Thakore, MD, a fellow in the Division of Neonatology, under the mentorship of Drs. David Sink and Riba-Wolman, on revising neonatal hypoglycemia guidelines, as well as a QI project to improve the efficiency, accuracy, and safety in the diagnosis and treatment of neonatal hypoglycemia.

Neetu Krishnan, DO, joined us from the University of Connecticut pediatric residency program at Connecticut Children's in July 2019. Her area of research is bone and bone health. She is working under the mentorship of Emily Germain-Lee, MD, looking at the bone and dental health in patients with Albright's hereditary osteodystrophy. This is a translational project involving work with mouse models in Dr. Germain-Lee's lab at UConn and correlating findings in human participants. Among this rare bone patient population, she is also working on a project looking at the prevalance of Chiari 1 malformations and potential sequelae. She published abstracts and presented video posters at the 2020 National Pediatric Endocrine Society Meeting Human Growth Foundation's 2020 Pediatric Bone Symposium on "DXA Screening Practices by Pediatric Subspecialties in a Tertiary Care Center" and "Management of Perinatal HPP During Critical Illness/ECMO."

In July 2020, the program welcomed Ana Menendez, MD, who joined us from the pediatric residency program at Flushing Hospital Medical Center in Queens, NY. She completed her medical school at Universidad Dr. José Matías Delgado Escuela de Medicina, El Salvador. She has started work to identify her focus area for her fellow research project.

FELLOW PUBLICATIONS

Lim WY, Germain-Lee EL, Dunbar NS. Legg-Calve-Perthes disease in an 8-year-old girl with Acrodysostosis type 1 on growth hormone therapy: case report. Int J Pediatr Endocrinol. 2020:15.

Lim WY, Riba-Wolman R. Intravenous formulation of desmopressin delivered via oral and g tube routes for the treatment of central diabetes insipidus: first experience in infants. Clin Endocrinol (Oxf). 2020 Feb;92(2):179-181.

MEDICAL GENETICS

Led by Joseph Tucker, MD, and associate program director, Brittany Gancarz, CGC, the Medical Genetics and Genomics Fellowship Training Program has been educating clinical medical geneticists since the program was first accredited in 1997. Despite best efforts to continue a quality fellowship program, after careful consideration, we made the difficult decision to close the program in June 2020 due to a downward trend of applicants interested in moving to Connecticut and the downward trend in Medical Genetics and Genomics interest nationally.

PEDIATRIC INFECTIOUS DISEASES

The Pediatric Infectious Diseases Fellowship Program underwent a leadership change and comprehensive restructure. The division was able to recruit Dr. John Schreiber, MD, MPH, as interim chief of the division. In addition, two new junior faculty members were recruited to the division: Dr. Hassan El Chebib, MD, FAAP, who assumed the role of associate program director of the fellowship program, and Dr. Ed Kim, MD.

In this era of antibiotic-resistance and new hospital standards, the program continues to have a focus on training the next generation of antimicrobial stewards. The program also seeks to train fellows in practical clinical immunology, including the management of children with primary immune deficiencies and HIV infection. Infectious diseases research is one of the pillars of the Department of Pediatrics research strategic plan. Greater emphasis on global health and vaccine development research will be part of our future in the division and our training program.

The fellowship program underwent a complete switch to virtual interviews of fellowship candidates. In addition, the pediatric and adult Infectious Diseases Fellowship programs started the process of building a combined

pediatric and adult ID fellowship program to offer to candidates trained in Med-Peds.

PEDIATRIC HEMATOLOGY-ONCOLOGY

The Pediatric Hematology-Oncology Fellowship Program is led by Andrea Orsey, MD, MSCE, and is entering its fourth year as an accredited program. The program received continued accreditation in March following the initial ACGME site visit conducted in October 2019.

John Norko, MD, joined the program in July 2018 after completing both his pediatric residency and medical school education at the University of Connecticut and at Connecticut Children's. Under the mentorship of Hematology-Oncology division chief Ching Lau, MD, PhD, Dr. Norko is currently working on a novel therapeutic project at the Jackson Laboratory for Genomic Medicine in Farmington for the treatment of craniopharyngioma. Dr. Norko had an abstract accepted to the American Society of Pediatric Hematology and Oncology (ASPHO) 2020 annual meeting. He was elected to the UConn chapter of the Alpha Omega Alpha Honor Medical Society in 2020.

Tatiana Lara-Ospina, MD, joined the program in July 2019 after completing her residency at Lincoln Medical and Mental Health Center in the Bronx, NY. She is interested in acute myeloid leukemia (AML). Under the mentorship of Joanna Gell, MD, Dr. Lara-Ospina is working at the Jackson Laboratory for Genomic Medicine in Farmington to identify a targeted therapy for tumor marker PRDM14. Dr. Lara-Ospina had two abstracts accepted to national meetings including the ASPHO 2020 annual meeting.

Dianna Hardatt, MD, joined the program in July 2020 after completing her pediatric residency and year as chief resident at New York Presbyterian Brooklyn Methodist Hospital in Brooklyn, NY. Her medical school education was completed at Ross University School of Medicine in Dominica. She is exploring her research opportunities and will finalize her research project by June 2021.

The Pediatric Hematology-Oncology Fellowship will welcome Erin Pastor, DO, MS, in July 2021. Dr. Pastor completed her pediatric residency at the University of Connecticut in June 2020. She completed her medical education at Edward Via College of Osteopathic Medicine in Blacksburg, VA, and obtained her MS in Biomedical Science at Thomas Jefferson University.

NEONATAL-PERINATAL MEDICINE

Led by Jennifer Trzaski, MD, the fellowship program in Neonatal-Perinatal Medicine continued its outstanding record of academic accomplishment and scholarly productivity. In the 47 years since accreditation, 70 fellows have graduated from the program.

Betté Ford, MD, graduated from the program in June 2020. She took a position in private practice with Gwinnett Neonatology in Lawrenceville, GA. She is responsible for providing newborn nursery through level 3 NICU care across Gwinnett's network of nurseries. She worked with mentors Dr. Trzaski and James Hagadorn, MD, both in the Division of Neonatology, on neonatal resuscitation. Her quality initiative project, "Implementation of a Neonatal Quality Improvement Simulation Program for Pediatric Residents," was accepted for presentation at the Association of Pediatric Program Directors, the Eastern Society for Pediatric Research, and Pediatric Academic Societies spring meetings. Her research project entitled "Examining the Validity of Pediatric Resident Self-Assessment in the Delivery Room" was accepted for presentation at the New England Perinatal Society, Eastern Society for Pediatric Research, and Pediatric Academic Societies spring meetings. In addition, prior to transitioning the project to now second-year fellow Dr. Poonam Thakore, Dr. Ford led the NICU East's quality initiative on improving respiratory outcomes for ELBW and VLBW infants. She was a co-author on their abstract entitled "A Quality Initiative To Decrease Delivery Room Intubation of VLBW Infants," which was presented at the Vermont Oxford Network (VON) fall meeting.

Rachel Koski, DO, graduated from the program in June 2020. She performed her research in the lab of Holly Fitch, PhD, at UConn Health, Storrs, with co-mentorship from Ted Rosenkrantz, MD, in the Division of Neonatology. She presented her research project entitled "Effect of Caffeine on Microglial Activation in a Rodent Model of Preterm Hypoxic-Ischemic Brain Injury" at the annual BYCONN spring meeting. Her research also was accepted for presentation at the New England Perinatal Society and Pediatric Academic Societies spring meetings.

Third-year fellow Aditya Chhikara, MD, is pursuing his research interest with Shabnam Lainwala, MD, in the Division of Neonatology, on the impact of reading on the progression of oral feeding in premature infants. He is also working with Dr. Lainwala on a quality improvement project on the effect of reading on neurodevelopmental outcomes in preterm infants. Dr. Chhikara accepted a neonatology position at the Billings Clinic in Billings, MT.

Third-year fellow Mishika Malik, MD, is working in the lab of Adam Matson, MD, pursuing a research project on the effect of dietary carbohydrate substrate on toxins produced by Klebsialla oxytoca and its impact on the development of NEC. She presented her research at the Southern Society for Pediatric Research in February 2020. Her abstract also was accepted for presentation at the New England Perinatal Society and Pediatric Academic Societies spring meetings. Dr. Malik accepted a position in the Division of Neonatology at Connecticut Children's and will be joining us as faculty in July 2021.

Poonam Thakore, MD, is working with Drs. David Sink and Annmarie Golioto in the Division of Neonatology. Her research interest is in quality improvement, specifically neonatal hypoglycemia and also improving BPD rates and respiratory outcomes in preterm infants. She presented a case series on "Central Diabetes Insipidus Following Grade 4 Intraventricular Hemorrhage in ELBW Infants" at the Annual Neonatology Fellow's Conference in the fall of 2020. She was first author on NICU East's presentation, "A Quality Initiative to Decrease Delivery Room Intubation

of VLBW Infants" at the Vermont Oxford Network (VON) Annual Quality Congress in the fall of 2020. Usha Prasad, DO, joined the program in July 2020 as a second-year fellow after transferring from the Neonatal-Perinatal Medicine Fellowship Program at Nemours/Alfred DuPont Hospital for Children and Thomas Jefferson University in Philadelphia, PA. Dr. Prasad completed her residency at UConn School of Medicine at Connecticut Children's in Hartford, CT, and her medical school education at Philadelphia College of Osteopathic Medicine in Philadelphia. She is pursuing quality research under the mentorship of Drs. Kendall Johnson, Veronica Fabrizio and Shabnam Lainwala in the Division of Neonatology. Her work will aim to improve growth and nutrition in premature infants by changing the NICU feeding protocol and time to first feedings.

Hala Saneh, MD, joined the program in July 2020 after completing her pediatric residency at Lincoln Medical and Mental Health Center in New York City, NY. Dr. Saneh completed her medical school education at Lebanese University Faculty of Medical Sciences in Lebanon. She will be pursuing basic science research under the mentorship of Dr. Christine Finck in the Division of Pediatric Surgery.

In December 2020, the Neonatal-Perinatal Fellowship Program was pleased to match Dr. Allison Sadowski and Dr. Kinga Zgutka into our program. We will welcome Drs. Sadowski and Zgutka in July 2021. Dr. Sadowski completed her medical training at the University of Connecticut School of Medicine and her pediatric residency at the University of Connecticut School of Medicine/Connecticut Children's. Dr. Zgutka completed her medical training at the Medical University of Warsaw in Poland, and her pediatric residency at Flushing Hospital Medical Center in Flushing, NY.

FELLOW PUBLICATIONS

Paveglio S, Ledala N, Rezaul K, Lin Q, Zhou Y, Provatas AA, Bennett E, **Lindberg T**, Caimano M, Matson AP. Cytotoxin-producing Klebsiella oxytoca in the preterm gut and its association with necrotizing enterocolitis. Emerg Microbes Infect. 2020 Dec; 9(1):1321-1329.

doi: 10.1080/22221751.2020.1773743. PMID: 32525754; PMCID: PMC7473113.

Caldwell J, Matson A, Mosha M, Hagadorn JI, Moore J, Brownell E. Maternal H-antigen secretor status is an early biomarker for potential preterm delivery. J Perinatol. 2020 Nov 24. doi: 10.1038/s41372-020-00870-1. Epub ahead of print. PMID: 33235282.

PEDIATRIC ORTHOPAEDIC SURGERY

The Pediatric Orthopaedic Surgery Fellowship, led by Mark C. Lee, MD, is entering its seventh year of formal ACGME accreditation. The program has thus far graduated four fellows, three of whom are currently in independent practice.

Our current fellow, Hady Eltayeby, MBBCh, joined the fellowship in October 2020 after completing a Pediatric Orthopaedic Fellowship at Duke University in North Carolina. He is currently actively investigating blood transfusion protocols for patients undergoing surgical management of adolescent idiopathic scoliosis. In addition, he has spearheaded education of splinting and casting for ED providers and techs, beginning an associated quality improvement project. He also has a keen interest in pediatric hip pathology and limb deformity and will be transitioning to a final clinical fellowship at the International Center for Limb Lengthening at the Rubin Institute in Baltimore, MD.

The Pediatric Orthopaedic Fellowship Program is actively recruiting for a fellow for the 2021-22 year and has narrowed the selection to several promising candidates. We are looking forward to working with any one of the remaining highly qualified applicants to continue our mission of educating leaders in pediatric orthopaedic care.

FELLOW PUBLICATIONS

Su A, Lee MC. The cost and educational experience of treating supracondylar humerus fractures: a pilot analysis on standardizing surgical care. J Am Acad Orthop Surg Glob Res Rev. 2020 Jun;4(6):e20. PMID: 32656475.

Patel H, Lee MC, Chaudhry S. Extensor pollicis longus tendon rupture following a pediatric distal radius fracture: a case report and literature review. JBJS Case Connect. 2020 Jul-Sep;10(3). PMID: 32910621.

PEDIATRIC OTOLARYNGOLOGY

The Pediatric Otolaryngology Fellowship Program, led by Christopher Grindle, MD, was newly accredited and continues to recruit for its first fellow. The six division members look forward to a match. As with many other programs, the global Covid-19 pandemic transitioned us to virtual recruiting. However, with this pivot came the opportunity to develop robust strategies for telegraphy and the virtual management of our otolaryngology patients.

PEDIATRIC PULMONOLOGY

Previously led by Craig Schramm, MD, the Pediatric Pulmonology Fellowship is in its 29th year. Upon the retirement of Dr. Schramm in June 2020, Dr. Melanie Collins took over as fellowship director in July. Because the program is relatively small, division members are able to provide individualized training for our fellows. Each of our graduated fellows has a career in academic pediatric pulmonary medicine. The program currently has ACGME approval for a temporary complement increase from one fellow per three years to two fellows per three years, through June 2022.

The research of Jamie Harris, MD, is focused on cystic fibrosis. Under the mentorship of Thomas Murray, MD, PhD, at Yale University, Dr. Harris is investigating bacterial colonization of nebulizers used for aerosolized breathing treatments in patients with cystic fibrosis, as well as the effects of sterilization methods on nebulizer function and the potential to aerosolize colonizing bacteria from nebulizers to the lung. He submitted an abstract pertaining to this work to the 2020 North America Cystic Fibrosis Conference and the 2020 American Thoracic Society Conference. Dr. Harris also attended both conferences virtually. In August of 2021, Dr. Harris will be joining our faculty at Connecticut Children's upon completion of his fellowship.

Katarzyna Saar, DO, joined the program in September 2019 after completing her pediatric residency at the University of Connecticut at Connecticut Children's. Dr. Saar is particularly interested in asthma. She has been working with Jessica Hollenbach, PhD, and Tregony Simoneau, MD, on asthma health literacy, and she presented her abstract at the American Thoracic Society and attended the meeting virtually. Dr. Saar is doing her research on the microbiome and asthma, under the mentorship of Yanjiao Zhou, MD, PhD, at University of Connecticut School of Medicine.

PEDIATRIC SURGERY

Led by Connecticut Children's Surgeon-in-Chief and program director Christine Finck, MD, and associate program director Richard Weiss, MD, the fellowship in Pediatric Surgery is in its ninth year. To date, four fellows have graduated from the program and have gone on to successful practices in Eugene, OR, Hershey, PA, Chicago, IL, and Hartford, CT.

Katerina Dukleska, MD, is now in her second year of training and will graduate in July 2021. Dr. Dukleska's interest is in everything operative, especially neonatal surgery, oncology, colorectal, and minimally invasive surgery. Her research interests are focused on quality and process improvement. Dr. Dukleska has published her research in the journal *Pediatrics* and a number of other surgical journals over the past year. In addition to her clinical and research interests, she enjoys teaching residents and medical students. Due to Covid-19 restrictions, she has organized a number of hands-on teaching sessions to go over various surgical skills and to maximize residents' experience while on service. On a national level, she is a member on both the Education and Industry committees of the American Pediatric Surgical Association.

The program is excited to have Jacob Campbell, DO, join the program in August 2021. Dr. Campbell is well known to us and is currently completing his chief residency year at the University of Connecticut. He impressed us so much with his dedication and skill on his rotation at Connecticut Children's that we offered him a position outside of the match. He will join us in August 2020.

FELLOW PUBLICATIONS

Dukleska K, Vinocur CD, Brenn BR, Lim DJ, Keith SW, Dirnberger DR, Berman L. Preoperative blood transfusions and morbidity in neonates undergoing surgery. Pediatrics. 2020 Nov;146(5):e20193718. doi: 10.1542/peds.2019-3718.

Montgomery AB, **Dukleska K**, Balarezo F, Moote D. Cervical thymic cyst: a rare cause of neck mass in a female adolescent. J Pediatr Surg Case Rep. 2020 Jun;59:101529. doi:10.1016/j.epsc.2020.101529.

Newland JJ, **Dukleska K**, Tholey R. Dr. Orvar Swenson and the pull-through. Am Surg. 2019 Dec1;85(12):1311-1313.

Murtha TD, Kunstman JW, **Healy JM**. A critical appraisal of the July effect: evaluating complications following pancreaticoduodenectomy. J Gastrointest Surg. 2020 Sep; 24(9): 2030-2036.

Akello VV, Cheung M, Kurigamba G, Semakula D, **Healy JM**, Grabski D, Kakembo N, Ozgediz D, Sekabira J. Pediatric intussusception in Uganda: differences in management and outcomes with high-income countries. J Pediatr Surg. 2020 Mar;55(3):530-534.

FELLOW VIDEO

Sinha R, Knod J, **Dukleska K**, Mello D. Congenital sternal cleft with absence of anterior pericardium. 2020 Nov. doi:10.25373/ctsnet.13249931.

FELLOWSHIP PROGRAMS STAFF

Program Leadership
Marianne Custer, BS, C-TAGME
Senior Manager, Office of Continuing Medical Education and Fellowship Programs

Amanda Ross
Fellowship Program Coordinator, Endocrinology, Neonatal-Perinatal Medicine, Orthopaedic Surgery

Kierstyn Callahan
Fellowship Program Coordinator, Hematology-Oncology, Gastroenterology, Medical Genetics, Otolaryngology

Alivia Rhault *(resigned December 2020)*
Fellowship Program Coordinator, Emergency Medicine, Infectious Diseases, Pulmonology, General Surgery

Pediatric Emergency Medicine
V. Matt Laurich, MD, *Program Director*
Noah Jablow, MD
Prina Patel, MD
Ruchika Jones, MD
Rahul Shah, MD
Candice Jersey, DO
Owen Kahn, MD
Shaheen Andreas, DO
Kathryn Schissler, DO

Pediatric Endocrinology
Rebecca Riba-Wolman, MD, *Program Director*
Christine Trapp, MD, *Associate Program Director*
Whei Ying Lim, MD
Komalben Parmar, MD
Neetu Krishnan, MD
Laura Forero, MD
Ana Menendez, MD

Pediatric Gastroenterology
Bella Zeisler, MD, *Program Director*
Melissa Fernandes, MD, *Associate Program Director*
Andrew Fondell, DO
Joelynn Dailey Fitz, DO
Chelsea Lepus, DO
Mariyam Hashmi, MBBS

Medical Genetics
Joseph Tucker, MD, *Program Director*
Brittany Gancarz, CGC, *Associate Program Director*

Pediatric Hematology/Oncology
Andrea Orsey, MD, *Program Director*
John Norko, MD
Tatiana Lara-Ospina, MD
Dianna Hardatt, MD

Pediatric Infectious Diseases
Juan Salazar, MD, MPH, FAAP, *Program Director*
Hassan El Chebib, MD, FAAP, *Associate Program Director*

Pediatric Pulmonology
Craig Schramm, MD, *Program Director (ret. June 2020)*
Melanie Collins, MD, *Program Director*
Jamie Harris, MD
Katarzyna Saar, DO

Neonatal-Perinatal Medicine
Jennifer Trzaski, MD, *Program Director*
Betté Ford, MD
Rachel Koski, MD
Mishika Malik, MD
Aditya Chhikara, MD
Poonam Thakore, MD
Usha Prasad, DO
Hala Saneh, MD

Pediatric Orthopaedic Surgery
Mark Lee, MD, *Program Director*
Harshad Patel, MBBS
Hady Eltayeby, MD

Pediatric Surgery
Christine Finck, MD, *Program Director*
Richard Weiss, MD, *Associate Program Director*
Katerina Dukleska, DO

PEDIATRIC RESIDENCY PROGRAM

The Pediatric Residency Program continued with its uninterrupted record of full, continuing accreditation, with no areas of concern or citations from the Pediatric Review Committee of the Accreditation Council for Graduate Medical Education (ACGME). This represents one of the strongest records of accreditation standing in the nation.

The program continued to successfully recruit first-rate residents. Entering residents were once again highly qualified, though with curtailed medical school experiences due to the pandemic, and included those with whom we very much hoped to match. Graduates were, once again, placed in competitive fellowship programs and outstanding practices. The program first-attempt pass rate on the American Board of Pediatrics certifying examination increased once again to 93 percent (national average 87 percent) with Johns Hopkins at 92 percent and Yale at 90 percent. We are comfortably meeting the required pass rate for accreditation. ACGME surveys and program surveys of faculty and residents were notably positive, but they also identified areas of focus for program development.

Program improvements that were planned and implemented during the year:

We are planning a formal telehealth curriculum. It is clear from our Covid-19 experience that there will be some element of telehealth in practices going forward, and we are incentivized to teach telehealth to our residents. Drs. Andrew Carlson and Sharon Smith are leading this planning along with Jeff Sargent from Connecticut Children's administration for telehealth and a group of interested residents. This curriculum will be piloted and in place by summer.

Mental health care in primary and subspecialty pediatrics has emerged even more prominently as an area we must teach and evaluate for all residents. Accordingly, we have a multidisciplinary committee of faculty and residents planning to better organize and implement a coherent curriculum to ensure all residents are taught and evaluated for their ability to participate in mental health issues for their patients. This will be built into the program going forward, and we will track its effectiveness.

The program is continuing to improve resident well-being by highlighting the meaning of their professional and private lives. In 2020, we worked to accomplish this through a series of retreats, with special attention to *Man's Search for Meaning* by Viktor Frankl, and through very practical activities that illustrate how to develop a sense of what is important and to get meaning by achieving these things of importance. We are also implementing changes designed to improve communication among interprofessional care team providers and with patients and families. It is further anticipated that the enhanced communication will result in greater efficiency, effectiveness and satisfaction with care provided, while it creates a more coherently functioning care team and provides more meaningful relationships with patients and their families through increased time at the bedside.

Aims for the program have been implemented and reviewed annually for the accreditation process and to allow for coordination of the program aims with the Department of Pediatrics strategic plan:

The Pediatric Residency Program will be able to offer participants experiences that can prepare them well for any of the career possibilities in Pediatrics. Many programs are conducted in ways that emphasize and prepare their graduates for one or two outcomes rather than other possibilities. The University of Connecticut Pediatric Residency Program will continue to strive to provide the broadest possible spectrum of core and discretionary activities to allow its graduates to take advantage of any opportunities they might choose. Its graduates' career choices historically have reflected this intent, and it is the aim of the program to sustain its "pluripotential" educational experience as the landscape of Pediatrics evolves.

The Pediatric Residency Program will offer a resident learning environment that promotes wellness and reduces burnout to sustain wellness and meaning in residents' professional and personal lives throughout their careers. ***This year, we have added our commitment to promoting diversity, equity, inclusion and social justice to this aim.*** The Pediatric Residency Program will embrace the challenge of creating a learning environment that promotes wellness through proper self-care, connectedness, and meaning in work that includes progress in establishing diversity, equity, inclusiveness and justice for our learning community. Residents and faculty are learning to maintain their health and well-being in the face of all that challenges them, and to renew themselves in the face of the challenges their profession brings them. They will learn to bring meaning to their professional and personal lives through thoughtful and innovative changes in the conduct of their activities.

The Pediatric Residency Program graduates will be able to advocate effectively for their patients and families, and for the populations they serve during their residency experience and throughout their careers. Pediatric residents will be educated in a way that increases their chances of accepting responsibility and acting in ways that reach beyond the provision of care, to address the social determinants of health for the individual patients and families served and for the populations they serve as a whole. The program will create this expectation for all residents through the core community longitudinal experience, and it will promote those whose career focus is advocacy for the highest possible level of community and child health through the continued advancement of the advocacy pathway.

Graduates of the program will acquire advanced skills and ability in quality improvement and safety activities. The Pediatric Residency Program will continue to develop and promote a strong resident commitment to reduce error and harm, and to promote the highest quality of care possible. Residents will continue demonstrating the acquisition of knowledge in these areas as reflected on their standard examinations, but more importantly, they will actively identify safety opportunities and participate in addressing them.

Pediatric Residency Program Directors

Edwin L. Zalneraitis, MD
Program Director

Patricia Garcia, MD, MPH
Associate Program Director

Christine Skurkis, MD
Associate Program Director

Sharon Smith, MD
Associate Program Director

Erica Hoppa, MD
Associate Program Director

Residency Coordinators

Barent Wagar
Pediatric Residency Coordinator

Katyria Rivera
Pediatric Residency Coordinator

Administrative Support

Lisa Malecot
Pediatric Residency Program Registrar

Brian L. Lesmes
Pediatric Residency Program Assistant

Pediatric Residents by Level, 2019-2020

PL-2
Margret Blondal, MD
Brooke Bohn, MD
Rachel Buck, DO
Gabriella Chibbaro, DO
Lenora Codrington, DO
Mark Coelho, MD
Aseel Dabbagh, DO
Matthew Eremita, MD
Xenia Fernandez, MD
Divya Harpalani, DO
Gabriella Izzo, MD
Stella Kim, DO
Jing Marrero, MD
Matthew Mason, DO
Shelby Mast, DO
Nicholas Robles, DO
Allison Sadowski, MD
Jenna Scermerhorn, DO
Kerry Smallacombe, DO
Elaine Wang, MD

PL-3
Eliyahu Akerman, MD
Lauren Boudreau, DO
Nayla Boulad, DO
Alexa Goldfarb, DO
Jessica Gordon, MD
Daniel Gustkey, DO
Lauren Iacono, DO
Solborg Ingvarsdottir, MD
Sarah Mackey, DO
Amy Miller, MD
Andres Moreno, MD
Erin Pastor, DO, MS
Amritha Patel, MD
Shaheen Rangwalla, DO
Carolyn Ranten, DO
Esther Son, DO
John Sooy, MD
Paul Tomlinson, DO
Scott Treece, MD
Jonathan Uhl, MD
Divya Vangala, MD, MA

Chief Residents
Amy Blodgett, MD
Abraham Khorasani, MD
Sarah Kollar, DO

UNDERGRADUATE MEDICAL EDUCATION

Connecticut Children's is the sole clinical teaching site for inpatient pediatric education of the University of Connecticut School of Medicine, educating the entire student population of third-year medical students annually during inpatient pediatrics, along with outpatient clinical sites, pediatric subspecialty elective rotations, and advanced clinical experiences (sub-internships) for fourth-year medical students in preparation for transition to pediatric residency.

The mission of the Division of Undergraduate Medical Education (UME) at Connecticut Children's is to provide inclusive and engaging experiential and didactic education for the University of Connecticut medical students with teachings centered around the unique medical needs of the child, the importance of a patient- and family-centered approach to care, and a holistic view of the child in relation to their family, community, and society. The goals of the pediatric clerkship are to engage the third-year medical students in the active multidisciplinary and patient- and family-centered care of pediatric patients across the spectrum from newborn and well child visits to acute inpatient care for common and subspecialty conditions, and the care of children with medical complexity. To accomplish this goal, third-year students spend their inpatient pediatrics clerkship time rotating on the inpatient medical and surgical floors, working with general pediatric and subspecialty teams, in experiential learning in the pediatric emergency department and newborn nursery, and in case-based sessions about clinical topics, interactive workshop sessions for quality improvement, and high-fidelity simulation. Fourth-year medical students participate in advanced clinical experiences in the inpatient pediatrics sub-internship, serving as essential providers fully in the role of an intern in preparation for the transition to residency. Pediatric subspecialty electives support a breadth and depth of pediatric-specific medical education for students spanning medical and surgical specialties and different clinical environments.

ADAPTATION TO THE COVID-19 PANDEMIC

In late March 2020, medical students across the country were removed from clinical rotations in an effort to respect and practice physical distancing and limit all clinical settings to essential personnel in the wake of Covid-19. In the absence of clinical teaching and learning, clerkship directors were tasked with providing a virtual curriculum for their clerkship students. The Division of Undergraduate Medical Education at Connecticut Children's used this potential setback as an opportunity to innovate and collaborate in finding new ways to teach students virtually.

As many institutions were faced with similar challenges, several local institutions formed a multi-institutional collaboration to capitalize on collective faculty resources and expertise, and to simultaneously teach all of the affected medical students. Formed and organized by division director Joanne Crowley, MD, MSEd, with extensive contributions by Allyson McDermott, MD, MAcM, and Dr. Mary Brown of Tufts University, the result of this collaboration was the New England Pediatric Education Collaborative (NEPEC), a virtual Pediatrics curriculum offered to all medical students from the University of Connecticut, Tufts University, and Quinnipiac University who were scheduled to be on their pediatric clerkship from March 23, 2020, through April 17, 2020. This innovative and unprecedented collaboration allowed minimal interruption to clinical education during the most trying of times. Content goals and objectives were based upon the recently revised 2019 COMSEP General Pediatric Clerkship Curriculum. Our curriculum was delivered via the Blackboard Collaborate platform using various methodologies including didactic sessions, case-based conferences, interactive tutorials, live oral presentation practice, team-based learning clinical reasoning, journal club, and a virtual simulation session. Each NEPEC session had specific learning objectives and pre-conference assignments, and each live session allowed for student participation via video and audio, small breakout groups, and real-time audience polling. To maximize engagement during conferences, emphasis was placed on visual diagnosis, video demonstrations, and audience response systems.

All sessions were recorded, and students were asked to complete conference evaluations as part of curriculum evaluation and improvement.

The NEPEC resulted in 40 sessions with over 60 hours of content. A total of 71 students participated in our virtual curriculum, with up to 55 learners "attending" any given individual conference. The majority of students who completed conference evaluations rated all conferences combined as "excellent" or "good" for overall quality of the conference (86 percent), effectiveness of the conference presenter (86 percent), and level of active engagement of the conference (76 percent). Comments from students described acquisition of new knowledge, additional learning questions, and constructive feedback on each session. Student comments for several conferences indicated they especially appreciated educators who highlighted the relevance of their conference content in the context of the Covid-19 pandemic.

This collaborative effort has resulted in an online curricular product including learning objectives, conference pre-work assignments and video-recorded conferences. Due to its innovative nature, this work has been accepted and disseminated as oral presentations at two national conferences, the Council on Medical Student Education in Pediatrics (COMSEP), and the Association of American Medical College's (AAMC's) Group on Educational Affairs in 2021.

STAFF

Joanne Crowley, MD, MSEd
Director, Pediatric Undergraduate Medical Education

Allyson McDermott, MD, MAcM
Assistant Clerkship Director, Inpatient Pediatrics

Andrea Richardson
Medical Education Registrar

CLINICAL RESEARCH

Clinical Research's mission is to conduct and catalyze high-impact, internationally recognized research and policy work that improves the health, health care, well-being, and population health of infants, children, adolescents, and communities.

This mission is accomplished through several mechanisms: 1) conducting research on high impact topics such as health services research, cutting-edge treatment modalities, and translational research; 2) providing a comprehensive research infrastructure to support all Connecticut Children's investigators, which includes research support staff, a statistical core, and expert input on research operations and management; 3) mentoring early investigators, including high-school students, undergraduates, medical students, residents, fellows, and junior faculty; and 4) disseminating and publicizing the research findings of Connecticut Children's investigators. Clinical Research is staffed by more than 35 highly skilled professionals, including research managers, associates, and assistants, biostatisticians, and certified clinical trial study coordinators and nurses. Connecticut Children's research portfolio is supported by grants from a variety of federal agencies (the National Institutes of Health, Health Resources and Services Administration, Canada Institutes of Health Research, the Centers for Disease Control and Prevention, and the National Science Foundation), state agencies (the Connecticut Department of Public Health, and the Connecticut Department of Children and Families), foundations (Alvord Foundation, National Pediatric Cancer Foundation, Crohn's and Colitis Foundation of America, and the GSD Foundation), philanthropy, and the pharmaceutical industry. Connecticut Children's has robust research collaborations with UConn Health, UConn Storrs, and the Jackson Laboratory for Genomic Medicine.

There were several noteworthy accomplishments for the Department of Research in 2020. These include the successful recruitment of a director of Research Operations, implementation of a Covid-19 repository study, national and international presentations, ground-breaking clinical trials, recruitments and promotions, research training programs, advances in translational research, and the publication of 18 articles.

We are excited to announce the successful recruitment of Garry Lapidus, PA-C, MPH, as director of Research Operations and Development. Mr. Lapidus is former director and co-founder of the Injury Prevention Center at Connecticut Children's. He is a national leader in injury prevention research, education and training, community-based programs, and public policy. In recognition of his contributions, he has received the Charles Huntington Award from the Connecticut Public Health Association (2013), and the Distinguished Career Award from the American Public Health Association (2020).

In addition to his work as director, Mr. Lapidus fills a clinical role in providing care as a physician assistant to sick and injured children in the Department of Emergency Medicine. In 2020, he was also named co-director of the Office of Advanced Practice, and he provides institutional leadership for Connecticut Children's physician assistants and advanced practice registered nurses. Mr. Lapidus holds a senior faculty appointment as an associate professor in Pediatrics and Public Health at the University of Connecticut School of Medicine.

At the beginning of the Covid-19 pandemic, Physician-in-Chief Juan Salazar, MD, MPH, supported by Katherine Herbst, MS, and Mabeline Velez, MS, collaborated with the Jackson Laboratories to develop a research resource for scientists studying Covid-19 and Covid-related conditions in children. The Patients Under Investigation for Covid-19 Repository captures data and biological samples from children hospitalized at Connecticut Children's for Covid-19 and related conditions including multisystem inflammatory syndrome in children (MIS-C). The team was able to rapidly develop and initiate the repository in early April, resulting in the successful recruitment of over 50 severely ill children.

The repository is an invaluable body of information that is available to scientists in Connecticut and across the country.

Ms. Herbst continued in her role as a member of the European Society for Paediatric Urology's Research Committee. She presented an invited educational session entitled "Basic Statistics: Find Out If You Are Average or If You Are Mean" at the Society's ESPU Virtual 2020 meeting. The meeting included 35 colleagues presenting from 17 different countries and three continents.

Our Clinical Trials team supported several leading-edge studies that hold promise for new treatment options for our patients in including the successful implantation of a new device. With Frederic Bernstein, DO, as principal investigator, and coordinated by James Santanelli, MS, MPH, we are pleased to announce the successful implantation of a Lifetech CeraFlex FASD closure device for a patient with a congenital diagnosis of secundum atrial septal defect through the FDA's compassionate use program. This is the first in-human implantation performed in the United States for this device.

Throughout the pandemic, Clinical Trials team members, including Hendriana Nielsen, RD, BSN, Robin Arens, BS, CCRP, and Mr. Santanelli, successfully ensured uninterrupted access to critical treatment trials for patients in Hematology/Oncology, Neurology, and Gastroenterology. In addition, Clinical Trials team members collaborated with the Office for Sponsored Programs and other ancillary departments to quickly open a trial for two patients with Duchenne's muscular dystrophy who needed access to a critical investigational medication and had been previously traveling out-of-state to obtain access.

Clinical Trials team members, including Bunly Kuoch and James Ransom, MA, quickly pivoted to support the Research Department for Dr. Salazar's Patients Under Investigation for Covid-19 Repository, in the successful collection and delivery of bio specimens to the Jackson Laboratories.

We are pleased to announce the promotion and awards of several of our team members including:

- Michael Brimacombe, PhD, was promoted to associate professor in the Department of Pediatrics, University of Connecticut School of Medicine.
- Danielle Chenard, BS, was awarded the Capital Area Health Consortium T. Stewart Hamilton, MD, Fellowship scholarship.
- Jennifer Querim was awarded the Pillars of Nursing Excellence Award, which recognizes her work in the Magnet domain of New Knowledge and Innovation. She is the second Clinical Trials team member to receive this award.

In support of education in research, Clinical Research, in collaboration with the University of Connecticut School of Medicine, welcomed nine students from its Pathway to Clinician Scholar Capstone Program. The program facilitates matching medical students with mentors at Connecticut Children's in order to carry out independent research investigations. Lee Pace, MD, mentored two students, Lilah Fones and David Chiu, at the Center for Elite Sports Medicine. Ms. Fones received the Lawrence G. Raisz Award for Excellence in Musculoskeletal Research for her work on re-injury rates post-ACT reconstruction. Naveed Hussain, MD, mentored two students, Erin Hannon and Christian Schauffler, who successfully completed projects that resulted in the presentation of findings at society meetings as well as the submission of two manuscripts to peer review journals. Alexandra Clement, mentored by Garry Lapidus, presented her work on the role of physicians in counseling firearm safety, to the Injury Prevention Center. Sharon Smith, MD, mentored two students, Christine Donat and Brock Chimileski, whose research investigated areas of asthma and food security. Vikram Lyall was mentored by Raina Sinha, MD, MPH, on a project focused on factors associated with early extubation after congenital heart surgery. Melissa Morales continued her work with Melissa Held, MD, on a study focused on assessing the inpatient medicine and advanced inpatient medicine clinical clerkship curricula for cultural competency.

We are excited to announce two inventions from the institution's Clinical Research investigators: an esophageal device developed by Surgeon-in-Chief Christine Finck, MD, FACS, Liisa Kuhn, PhD, Kelly Burke, and Todd Jensen, MHS, and a novel automated craniometrics acquisition tool developed by pediatric neurosurgeon Markus Bookland, MD, division chief of Pediatric Neurosurgery Jonathan Martin, MD, FAANS, FACS, FAAP, and Petronella Stolz, APRN, DNP.

Version two of Dr. Finck's medical device is being fabricated with help from commercial companies that specialize in building small and complex devices. The first trial of her product, which was conducted in a rabbit, was overall a success but modification to the device is necessary for optimal performance. Dr. Finck and her team plan to test a second version of the device in early 2021, with hopes of finding a company interested in licensing their product idea following further feasibility and safety tests.

Dr. Bookland and his team have been developing innovative new techniques to extend the care and evaluation of newborns with cranial deformities into the telemedicine arena. The Division of Neurosurgery now sees over a third of cranial facial consults via telemedicine. Using digital images of the patient, novel automated craniometric acquisition software, and the software's artificial intelligence, the team can reliably screen for more than 95 percent of craniosynostosis types remotely. This internally developed software gives our craniofacial providers the ability to objectively screen deformities and present insurance-relevant measurements of deformities, and it partially automates the telemedicine screening process for cranial deformities. Leveraging these new technologies will result in the reduction in use of radiation-intensive adjuncts and make it easier for families and pediatricians to get the answers they need regarding newborn cranial deformities.

PUBLICATIONS

Caldwell J, Matson A, **Mosha M**, Hagadorn JI, Moore J, Brownell E. Maternal H-antigen secretor status is an early biomarker for potential preterm delivery. J Perinatol. 2020 Nov 24. doi: 10.1038/s41372-020-00870-1. Epub ahead of print.

Fones L, Kostyun RO, **Cohen AD**, Pace JL. Patient-reported outcomes, return-to-sport status, and reinjury rates after anterior cruciate ligament reconstruction in adolescent athletes: minimum 2-year follow-up. Orthop J Sports Med. 2020 Nov 19;8(11):2325967120964471.

Jarmoc G, Bar-Yam N, Hagadorn JI, **Tosi L**, Brownell EA. Demographics and geographic distribution of mothers donating to a nonprofit milk bank. Breastfeed Med. 2020 Oct 21. doi: 10.1089/bfm.2020.0197. Epub ahead of print.

Davey B, Sinha R, **Lee JH**, Gauthier M, **Flores G**. Social determinants of health and outcomes for children and adults with congenital heart disease: a systematic review. Pediatr Res. 2020 Oct 17. doi: 10.1038/s41390-020-01196-6. Epub ahead of print.

Herbst KW, Beckers GMA, Harper L, Bägli DJ, Nieuwhof-Leppink AJ, Kaefer M, Fossum M, Kalfa N; ESPU research committee. Don't be mean, be above average: understanding data distribution and descriptive statistics. J Pediatr Urol. 2020 Sep 13:S1477-5131(20)30532-5.

Kashat L, Carter B, **Mosha M**, Kavanagh KR. Mindfulness education for otolaryngology residents: a pilot study. OTO Open. 2020 Jul 31;4(3):2473974X20945277.

Weiss AR, Chen YL, Scharschmidt TJ, Chi YY, Tian J, Black JO, Davis JL, Fanburg-Smith JC, Zambrano E, Anderson J, **Arens R**, Binitie O, Choy E, Davis JW, Hayes-Jordan A, Kao SC, Kayton ML, Kessel S, Lim R, Meyer WH, Million L, Okuno SH, Ostrenga A, Parisi MT, Pryma DA, Randall RL, Rosen MA, Schlapkohl M, Shulkin BL, Smith EA, Sorger JI, Terezakis S, Hawkins DS, Spunt SL, Wang D. Pathological response in children and adults with large unresected intermediate-grade or high-grade soft tissue sarcoma receiving preoperative chemoradiotherapy with or without pazopanib (ARST1321): a multicentre, randomised, open-label, phase 2 trial. Lancet Oncol. 2020;21(8):1110-1122.

Flaherty MR, Raybould T, Savarino J, Yager P, Mooney DP, Farr BJ, Giuliano JS Jr, Neeman E, Campbell BT, **Thaker S**, McKiernan C, Lewis D, Epp TK, Baertschiger RM, Jackson CA, Rideout L, Shah A, Falank C, Ontengco J, Cairo S, McLoughlin RJ, Aidlen JT, Watson-Smith D, Wills H, Masiakos PT. Unintentional window falls in children and adolescents. Acad Pediatr. 2020 Jul 9:S1876-2859(20)30428-9.

Harper L, Kalfa N, Beckers GMA, Kaefer M, Nieuwhof-Leppink AJ, Fossum M, **Herbst KW**, Bagli D; ESPU Research Committee. The impact of Covid-19 on research. J Pediatr Urol. 2020 Jul 9:S1477-5131(20)30412-5.

Flores G, Mendoza F, **Brimacombe MB, Frazier W 3rd**. Program evaluation of the research in academic pediatrics initiative on diversity (RAPID): impact on career development and professional society diversity. Acad Med. 2020 Jun 2. doi: 10.1097/ACM.0000000000003531. Online ahead of print.

Paveglio S, Ledala N, Rezaul K, Lin Q, Zhou Y, Provatas AA, **Bennett E**, Lindberg T, Caimano M, Matson AP. Cytotoxin-producing Klebsiella oxytoca in the preterm gut and its association with necrotizing enterocolitis. Emerg Microbes Infect. 2020 Dec;9(1):1321-1329.

Kaefer M, Kalfa N, **Herbst KW**, Harper L, Beckers GM, Bagli D, Fossum M; ESPU research committee. How to more effectively determine what is true: the limits of intuition. J Pediatr Urol. 2020 May 13:S1477-5131(20)30171-6.

Bayne AP, **Herbst KW**, Corbett ST, Nelson ED. Parental perception of bladder spasms and hematuria after surgery for vesicoureteral reflux: a prospective multicenter study. J Pediatr Urol. 2020 Apr 30:S1477-5131(20)30129-7.

Kashat L, Falcone T, **Carter B**, Parham K, Kavanagh KR. Taking a systematic approach to resident wellness: a pilot study. Otolaryngol Head Neck Surg. 2020 Apr;162(4):489-491.

Perrin MT, Belfort MB, Hagadorn JI, McGrath JM, Taylor SN, **Tosi LM**, Brownell EA. The nutritional composition and energy content of donor human milk: a systematic review. Adv Nutr. 2020 Jul 1;11(4):960-970.

Mehta K, **Mosha MH**, Kavanagh KR. A targeted tracheostomy care educational initiative to augment resuscitation training in the pediatric setting. Int J Pediatr Otorhinolaryngol. 2020 Jun;133:109944.

D'Alessandri-Silva C, **Carpenter M**, Ayoob R, Barcia J, Chishti A, Constantinescu A, Dell KM, Goodwin J, Hashmat S, Iragorri S, Kaspar C, Mason S, Misurac JM, Muff-Luett M, Sethna C, Shah S, Weng P, Greenbaum LA, Mahan JD. Diagnosis, treatment, and outcomes in children with congenital nephrogenic diabetes insipidus: a pediatric nephrology research consortium study. Front Pediatr. 2020 Jan 21;7:550.

Wong J, Goodine S, Samela K, Vance KS, Chatfield B, **Wang Z**, Sayej WN. Efficacy of dairy free diet and 6-food elimination diet as initial therapy for pediatric eosinophilic esophagitis: a retrospective single-center study. Pediatr Gastroenterol Hepatol Nutr. 2020 Jan;23(1):79-88.

STAFF

Research

Glenn Flores, MD, FAAP, *Department Director, Chief Research Officer, and Associate Chair of Research*

Stephanie Johnson, MT (ASCP), MPH, *Director, Research Operations*
Katherine Herbst, MS, *Clinical Research Manager*
Michael Brimacombe, PhD, *Senior Biostatistician*
Melinda Carpenter, MS, *Research Associate*
Bridgette Carter, BS, *Research Associate*
Danielle Chenard, BS, *Research Program Manager*
Aeron Fitzgerald, BA, *Research Assistant*
Willie Frazier, III, MPH, *Research Program Manager*
Brenda Labbe, *Administrative Assistant*
Ji Hyun Lee, MD, MPH, *Instructor, Research Scientist*
Rosalie Lyons, BS, *Research Associate*
Maua Mosha, MPH, *Biostatistician*
Rosa Rodrigues, *Research Associate*
Kathleen Sala, MPH, *Research Associate*
Shefali Thaker, CCRP, MPH, *Research Associate Team Lead*
Lauren Tosi, MPH, *Research Associate*
Mabeline Velez, MS, *Research Associate*

Clinical Trials Department

Alison Oville, BA, CCRC, CHRC, *Director*

Michael Isakoff, MD, *Medical Director, Clinical Trials Division*
Robin Arens, BS, CCRP, *Lead Clinical Trials Associate, Hematology/Oncology Department*
Julieta Bonvin-Sallago, MS, *Lead Clinical Research Associate*
Alexzandrea Buscarello, BS, *Clinical Research Assistant*
Megan Elias, BS, *Clinical Research Associate*
Dayna Kennedy, MPH, *Clinical Research Associate*
Bunly Kuoch, *Clinical Research Assistant*
Lisa Little, *Regulatory Specialist*
Masai McIntosh, BA, *Clinical Research Associate*
Hendriana Nielsen, RD, BSN, *Clinical Research Nurse Manager*
Adrienne Nguyen, BS, *Clinical Research Assistant*
Jennifer Querim, MS, *Clinical Research Nurse Coordinator*
James Ransom, MA, *Clinical Research Associate*
James Santanelli, MS, MPH, *Lead Clinical Research Associate*
Michaela Siver, BS, *Clinical Research Associate*
Jennifer Twachtman-Bassett, MS, *Research Coordinator*


VIVID

OFFICE FOR SPONSORED PROGRAMS

The Office for Sponsored Programs (OSP) supports Connecticut Children's investigators and staff by applying for, procuring, and managing extramural funding, and ensures compliance with the policies and regulations of Connecticut Children's, its sponsors, and federal and state oversight agencies. In addition, the OSP Contracts Office negotiates and processes all agreements related to research and sponsored programs, and issues all contracts for research-related collaborations, material transfers, and data sharing.

The OSP experienced continued growth in 2020 despite the worldwide pandemic. In 2020, the OSP managed over $21 million in related funding, submitted 83 proposals, and processed 526 contracts. In addition, the OSP has implemented and went live with infoEd®, a grants management system that will help manage and streamline the growing research portfolio. InfoEd is an electronic research administration tool that will aid Connecticut Children's in realizing cost savings, improving data integrity, streamlining administrative processes, and enhancing compliance. In 2021, the OSP will work with other stakeholders at Connecticut Children's, such as Information Systems, Finance and Supply Chain to optimize the use of the Lawson Financial System. This project will help streamline processing and maximize efficiency, and coupled with infoEd, it will enhance reporting capabilities.

The year 2020 was a period of transition for the OSP with the promotion of new leaders, loss of staff, and the addition of new staff members who are highly experienced and knowledgeable. Throughout all of this, the OSP team persevered through and continued to provide high quality service to all of our clients and each other.

STAFF

Kimberly Davey, MBA, *Director, Office for Sponsored Programs and Research Finance*

Neal Breen, MBA, *Senior Manager Post Award and Research Finance*

Zach Andrews, BS, *Departmental Grants Management Specialist*

Alixandra Borgert, MRA, CRA, *Departmental Senior Grants Management Specialist*

Gena Dixon, MS, CRA, *Departmental Associate Grants Management Specialist*

Laura Friedeberg, MS, *Departmental Senior Grants Management Specialist*

James Gallagher, Esq., *Assistant General Council*

Kathy Lawrence, *Administrative Assistant*

Karen Long, BS, *Associate Grants Management Specialist*

Aubree Siebert, MS, *Clinical Trials Senior Grants Management Specialist*

Lana Soh, MS, *Central Associate Grants Management Specialist*

Marlene Tzickas, *Central Grants Management Specialist*

OFFICE FOR COMMUNITY CHILD HEALTH

OFFICE FOR COMMUNITY CHILD HEALTH

Connecticut Children's Office for Community Child Health (OCCH) is recognized as a pioneer in utilizing a cross-sector approach to build stronger systems to serve children, strengthen families and advance equity. OCCH guides its 15 community-oriented programs to promote the optimal health, development and well-being of children. Under the leadership of Paul H. Dworkin, MD, OCCH helps shape federal, state and local policy regarding child services; builds partnerships between internal and external programs across all sectors that influence child health and development; and cultivates innovations to support children and families that are the most at risk for adverse health and life outcomes.

In 2020, children and families needed the services and supports provided by OCCH programs perhaps more than ever before. The global Covid-19 pandemic proved challenging, making it difficult for many to meet their basic needs and to endure stay-at-home orders in crowded and unhealthy environmental settings. OCCH pivoted its priorities to deliver an extraordinary level of care and support under these unprecedented circumstances.

OCCH also embraced the challenge raised by the Black Lives Matter movement to address longstanding issues of racial and social injustice. In response to a call from Connecticut Children's executive leadership to embed diversity, equity, and inclusion in all aspects of the organization, OCCH leadership formed a Pathways to Action work group to identify areas of opportunity in the workplace. The Pathways work group developed a strategic plan to guide OCCH's efforts along with improvements to ensure OCCH workplace culture is welcoming and inclusive.

In addition to these achievements, OCCH is excited to share the following updates from its programs during the past year:

The **Childhood Prosperity Lab** advances innovative strategies that address the social, environmental, and behavioral drivers of health and help children reach their full potential. The Lab works with organizations in sectors known to impact the healthy development of children, including child welfare, early care and education, and nutrition. The Lab provides consultation, technical assistance, coaching, and other supports as organizations pursue their desired level of impact. During 2020, the Lab advanced five innovative strategies addressing different facets of child health, including integrating the developmental promotion, screening, referral, and linkage strategies of our nationally renowned Help Me Grow® program into WIC (the Special Supplemental Nutrition Program for Women, Infants, and Children) settings. The Lab also consulted with seven change-makers.

The **Children's Center on Family Violence** represents a collaboration between the Injury Prevention and Child Abuse programs at Connecticut Children's and the Connecticut Coalition Against Domestic Violence (CCADV). This group works to reduce the impact of family violence on children and has three new initiatives born of the pandemic. The first involves deploying messages about domestic violence resources via Connecticut Children's telephone hold messaging and developing content for virtual waiting rooms and the electronically generated after-visit summary. A second initiative under development focuses on enhancing CCADV advocacy for children entering shelters and motels, leveraging expertise at Connecticut Children's to help CCADV advocates support these children in new ways. Finally, a third initiative involves piloting universal education about domestic violence and its impact on children in Connecticut Children's child abuse outpatient clinic (and via telehealth visits).

The adoption of our Co-Management program's CLASP (Connecticut Children's Leaders in Advanced Solutions in Pediatrics) referral guidelines significantly increased during 2020 by 77 percent, upping our verified clinical provider users to 426 across the region. Co-Management debuted an easier-to-navigate Internet experience, in which pediatric primary care providers can search for referral guidelines by specialties and conditions. Such guidelines help providers expand their scope of practice by screening, evaluating, and

managing common pediatric health concerns more independently within their own practices instead of referring them to specialists. The website improvements also provide enhanced data on users, which allowed the program to determine that adoption of the tools by region is increasing over time. In a 10-month period, page views exceeded 3,100, and the top three most viewed tools were lipid abnormalities, migraines, and obesity co-morbidities. This past year, the program increased its CLASP portfolio to cover six new conditions, with its overall portfolio comprising 41 conditions. Also during this past year, the program transitioned the operational and administrative infrastructure of our Co-Management program into Connecticut Children's Care Network and its Quality/ Medicaid Committee.

Connecticut Children's Center for Care Coordination was awarded its third consecutive, five-year Department of Public Health (DPH) grant for Children and Youth with Special Health Care Needs. These state and federal dollars, $418,001 awarded yearly to the center, allowed for the expansion of community-based supports including a pivot to remote support focused on Covid-related needs as well as a steady increase in behavioral health care coordination. The DPH grant, along with smaller grant and endowment dollars, support efforts to engage pediatric practices through **Connecticut Children's Care Network**. This partnership ensures patients of Care Network providers can easily access needed clinical and community-based services. The center continues to leverage relationships formed with community partners in the **North Central Regional Care Coordination Collaborative** as well as leadership in the Regional Network of Care. In fiscal year 2020, the center supported 1,461 patients and their families. The center is uniquely qualified to provide care coordination to children with complex medical and behavioral health conditions, and those who are at risk for poor health and well-being outcomes. Lastly, the center developed and implemented a new model of enhanced care coordination throughout Connecticut Children's. The goal is to harness the organization's expertise to impact more children by creating an integrated care coordination program. By leveraging organizational

synergies, lean improvements, and technology platforms, the center provides best-in-class services to children and families. Under the model, four departments – inpatient case management, inpatient/outpatient social work, community care coordination, and the Emergency Department's behavioral health social work – have integrated their areas of expertise to provide care across the continuum.

Despite the pandemic that resulted in a temporary shutdown of **Connecticut Children's Healthy Homes Program**, interest increased over the previous year. During 2020, application volume jumped 50 percent, and the program expanded from servicing 15 towns to more than 40. Healthy Homes redesigned key elements of its program in an effort to support social distancing measures. Household education, contract signings, and screening for cross-sector referral opportunities all shifted to virtual formats. Also, in partnership with the Connecticut Department of Housing, Healthy Homes in 2020 secured a new $5 million grant from the U.S. Department of Housing and Urban Development. The grant will continue to support Healthy Homes' expansion to meet the needs of the entire state. Additionally, it will support investment in job creation in healthy housing fields with a focus on hiring in communities served by the program. The grant also includes support to expand the Building for Health program from a Hartford-based pilot project that began in 2019 to a statewide cross-sector referral network.

Connecticut Children's Injury Prevention Center (IPC) contributed to the examination of the impact of Covid-19, publishing "Initial Impact of Covid-19's Stay-at-Home Order on Motor Vehicle Traffic and Crash Patterns in Connecticut: An Interrupted Time Series Analysis," which was first published in October 2020 in the journal *Injury Prevention*. Also, the Injury Control and Emergency Health Services (ICEHS) section of the American Public Health Association (APHA) selected Garry Lapidus, PA-C, MPH, to receive the 2020 Distinguished Career Award. Mr. Lapidus is the former director of Connecticut Children's Injury Prevention Center. In addition, the Hayley Petit Injury and Violence Prevention Fellowship, a program that provides a funded fellowship for women pursuing a degree to learn the science of injury prevention, pivoted to be fully online in the last year. For the IPC's annual grand rounds session, Flaura Winston, MD, PhD, of the Children's Hospital of Philadelphia, presented on the impact of Covid-19 on teen driving behavior. In addition, the IPC hosted two medical residents as part of the Resident Education in Advocacy and Community Health program. Their work focused on issues related to suicide risk screening and the uptick in crash fatalities during the Covid period.

The **Easy Breathing**© asthma management program is now more accessible than ever through digital technology that enabled continued use by providers during the pandemic. Providers at the Community Health Center (CHS) in Hartford folded digital Easy Breathing into their telehealth visits, ensuring patients with asthma would continue to receive the same level and frequency of care they relied upon prior to the shift. CHS prioritized patients with asthma for telehealth visits to assess asthma control and make sure asthma treatment plans remained up-to-date. The Cigna Foundation funds this project.

Educating Practices shifted its presentations and training sessions to an online format so pediatric practices are able to remain up-to-date on important child health issues and resources in their communities to support families during Covid-19. This includes 21 virtual training modules available to pediatric practices, an online presentation for pediatric providers addressing family stress during the pandemic, and a webinar for pediatric providers covering behavioral health resources for families. Educating Practices is a signature innovation of the Child Health and Development Institute (CHDI) that is supported by OCCH.

The **Hartford Youth HIV Identification and Linkage Consortium** provides innovative youth-focused HIV, STD and Hepatitis C prevention and outreach through a variety of youth-friendly educational and community opportunities. During 2020, the program pivoted due to Covid-19 and expanded its capacity to deliver prevention education, access to biomedical interventions, and routine screening services. Project staff used their provider platforms to inform the community about Covid-19 testing sites, and they have continued to engage youth throughout the pandemic. They distributed more than 200 prevention educational kits at bus stops in the Greater Hartford area and reached more than 2,500 people through Facebook Live with information in English and Spanish on HIV prevention services including PrEP (pre-exposure prophylaxis) and the new HIV Home Test. The program also provided adolescent reproductive health services education information, including HIV, PrEP, PEP (post-exposure prophylaxis), nPEP (non-occupational post-exposure prophylaxis) and STD (sexually transmitted diseases), to nearly 40 people enrolled in a summer youth employment services program. Program leaders also presented a syndemics approach to providing Covid-19 education as well as PrEP Navigation services during an *Ask the Experts* webinar attended by more than 160 medical providers.

The Covid-19 pandemic has called for new ways in which the **Help Me Grow® (HMG) National Center** can support its national affiliate network, comprised of over 100 Help Me Grow systems across 31 states. The HMG National Center prioritized the dissemination of innovative and promising practices utilized by affiliates to leverage their established Help Me Grow infrastructure to mobilize an efficient response to the crisis. The HMG National Center also pivoted the annual in-person forum to a successful virtual format and leveraged relationships with funders to secure support for the emergency provision of basic needs items for infants, which were given directly to communities across the country.

As part of our **Person-Centered Medical Home** program, the National Committee for Quality Assurance recertified Connecticut Children's Primary Care East and West locations as Person-Centered Medical Homes in April 2020. In addition, the sites implemented telehealth in response to the Covid-19 pandemic. In October 2020, the National Health Services Corps recertified the Primary Care East location as a recognized site providing care in an underserved area. Primary Care East is in East Hartford. Primary Care West relocated from West Hartford to Farmington in June 2020.

The **Practice Quality Improvement** program reimagined work that is supported by the Hartford Foundation for Public Giving. The program pivoted from holding an in-person training event for parents and caregivers on the Center for the Study of Social Policy's Strengthening Families Protective Factors Framework to donating 130 My Family Is Strong! Community Care Bags to Hartford residents to meet direct pandemic-related needs. Each bag included a $100 Visa gift card, hand sanitizer, and helpful information for managing stress and building resilience during the pandemic. Hartford Food & Nutrition Services employees, members of the New Dimensions Christian Center, and other organizations received the care bags for distribution to their members.

Our **Resident Education in Advocacy and Community Health** (REACH) program received an $8,000 grant from the Children's Fund of Connecticut to further the work of pediatric residents in the community. In addition, one of our residents, Nancy Presnick, DO, was accepted into the American Academy of Pediatrics Federal Advocacy Internship, which is a first for the residency program. As part of the internship, Dr. Presnick will learn about child health policy, the legislative process, federal advocacy, and public affairs. In addition, Amritha Patel, MD, won the Capitol Area Health Consortium community service award, which marks the third year in a row the award has been given to a REACH resident.

Throughout Covid-19, the Kohl's **Start Childhood Off Right** (SCOR) program continued to virtually engage with community partners in the Hartford Childhood Wellness Alliance. SCOR also pivoted to host virtual community wellness events including prenatal yoga classes in collaboration with the Stronger Families, Stronger Futures program; a Zumbini class on its Facebook page; and grab-and-go health promotion activities with a reinforcing preschool book offered in collaboration with the Hartford Public Library. SCOR has continued to distribute toolkits and feeding guidelines to pediatric practices in Hartford. The program also has participated in Connecticut Children's-sponsored activities such as a Facebook Live healthy eating event, an *Ask the Experts* presentation for pediatric child health providers, and authoring several articles for the Connecticut Children's blog.

PUBLICATIONS

OCCH *Leadership*

Roman SB, **Dworkin PH**, Dickinson P, Rogers SC. An analysis of care coordination needs for families of children with special health care needs. J Dev Behav Pediatr. 2020;41(1)58-64. doi: 10.1097/DBP.0000000000000734.

Dworkin PH, Kelly DP, Schonfeld D. Strategic principles to inform workforce development in Developmental and Behavioral Pediatrics. J Dev Behav Pediatr. 2020;41(4):316-318. PMID: 31842066.

Asthma Center

Langton CR, Whitcomb BW, Purdue-Smithe AC, Sievert LL, Hankinson SE, Manson JE, Rosner BA, Bertone-Johnson ER. Association of parity and breastfeeding with risk of early natural menopause. JAMA Netw Open. 2020 Jan 3;3(1):e1919615.

Simoneau T, Langton CR, Kuo CL, **Marrero J**, Gherlone N, **Cloutier MM, Hollenbach JP**. A school nurse-led asthma program reduces absences: evaluation of Easy Breathing for schools. Acad Pediatr. 2020 Jan-Feb;20(1):73-80.

Langton CR, Hollenbach JP, Simoneau T, Cloutier MM. Asthma management in school: parents' and school personnel perspectives. J Asthma. 2020 Mar;57(3):295-305.

Cicutto L, Gleason M, Haas-Howard C, White M, **Hollenbach JP**, Williams S, McGinn M, Villarreal M, Mitchell H, **Cloutier MM, Vinick C, Langton C**, Shocks DJ, Stempel DA, Szefler SJ. Building bridges for asthma care program: a school-centered program connecting schools, families and community health care providers. J Sch Nurs. 2020 Jun;36(3):168-180.

Gherlone ND, Schifano ED, Blodgett A, **Hollenbach JP**, Trapp C, **Cloutier MM.** Support from key individuals prolongs breastfeeding duration in a low-income, predominantly Latina sample. AMSRJ. 2020;7(1).

Gherlone N, Hill DR, Feinn R, **Hollenbach JP.** Hair cortisol concentrations among urban and rural-dwelling mother-child dyads, La Romana, Dominican Republic. Stress. 2020 Nov.

Injury Prevention Center

Bentivegna K, McCollum S, Wu R, **Hunter AA**. A statewide analysis of pediatric scald burns by tap water, 2016–2018. Burns. 2020.

Campbell BT, Thaker S, Fallat ME, Foley DS, McClure E, Sakran JV, Levy M. A multicenter evaluation of a firearm safety intervention in the pediatric outpatient setting. J Pediatr Surg. 2020;55(1):140-145.

Doucette ML, Tucker A, Auguste ME, **Watkins A**, Green C, Pereira FE, **Borrup K, Lapidus G.** Initial impact of Covid-19's stay-at-home order on motor vehicle traffic and crash patterns in Connecticut: an interrupted time series analysis. Inj Prev. 2020. http://dx.doi.org/10.1136/injuryprev-2020-043945.

Doucette ML, Dayton H, **Lapidus G, Borrup KT, Campbell BT**. Firearms, dementia, and the clinician: development of a safety counseling protocol. J Am Geriatr Soc. 2020 May 1. https://doi.org/10.1111/jgs.16450.

Doucette ML, Borrup K, Whitehill J, Crifasi CK, **Lapidus G.** 82 effect of Washington and Colorado's cannabis legalization on completed suicides. Inj Prev. 2020;26(suppl 1):A9.

Grasso DJ, Drury S, Briggs-Gowan M, Johnson A, Ford J, **Lapidus G**, Covault J. Adverse childhood experiences, post-traumatic stress, and FKBP5 methylation patterns in postpartum women and their newborn infants. Psychoneuroendocrinology. 2020;114:104604.

Hunter AA, Livingston N, **DiVietro S**, Reese LS, **Bentivegna K**, Bernstein B. Child maltreatment surveillance following the ICD-10-CM transition,

2016-2018. Inj Prev. 2020. http://dx.doi.org/10.1136/injuryprev-2019-043579.

Hunter AA, Flores G. Social determinants of health and child maltreatment: a systematic review. Pediatr Res. 2020;1-7. PMID: 32977325. doi: 10.1038/s41390-020-01175-x.

Kuhls DA, Falcone RA Jr, Bonne S, Bulger EM, **Campbell BT**, Cooper Z, Dicker RA, Duncan TK, Kuncir EJ, Lamis DA, Letton RW Jr, Masiakos PT, Stewart RM, Knudson MM. Prevention of firearm injuries: it all begins with a conversation. J Trauma Acute Care Surg. 2020 Feb;88(2):e77-e81.

O'Dea N, **Clough M, Beebe R, DiVietro S, Lapidus G, Grasso DJ**. Using child protective services case record data to quantify family-level severity of adversity types, poly-victimization, and poly-deprivation. Child Abuse Neglect. 2020;108:104688.

Schwab-Reese LM, Murfree L, Coppola EC, Liu PJ, **Hunter AA**. Homicide-suicide across the lifespan: a mixed methods examination of factors contributing to older adult perpetration. Aging Ment Health. 2020;1-9. PMID: 32686960. doi: 10.1080/13607863.2020.1795620.

Stover CS, Beebe R, **Clough M, DiVietro S**, Madigan L, Grasso DJ. Evaluation of a statewide implementation of Fathers for Change: a fathering intervention for families impacted by partner violence. J Fam Violence. 2020 Sep;1-11. doi: 10.1007/s10896-020-00199-5.

GRANTS, GIFTS & AWARDS

- Connecticut Children's Healthy Homes Program, through the Connecticut Department of Housing, was awarded a $5 million grant from the U.S. Department of Housing and Urban Development to continue remediating lead and other concerns in homes and apartments across Connecticut.
- Connecticut Children's Injury Prevention Center received a grant for $350,000 from the Connecticut Department of Transportation to continue the Watch for Me CT pedestrian and bicycle safety outreach and education program.
- Connecticut Children's Injury Prevention Center received a $75,000 from the Connecticut Department of Transportation Highway Safety Office to support child passenger safety.
- Connecticut Children's Injury Prevention Center received a $150,000 grant from the Connecticut Department of Transportation Highway Safety Office to support the Where's Baby? Look Before You Lock campaign.
- Connecticut Children's Injury Prevention Center received a $240,000 grant from the Connecticut Department of Children and Families to support and evaluate the agency response in cases of family violence.
- Connecticut Children's Injury Prevention Center received a $55,000 grant from Connecticut Department of Public Health in support of the National Violent Death Reporting System.
- Connecticut Children's Injury Prevention center received a $50,000 grant from the Connecticut Department of Public Health to support the Rape Prevention and Education program, looking at the impact of Covid-19.
- Connecticut Children's Injury Prevention Center received a $35,000 grant from the national Safe States Alliance to lead one of four Safety Teams around the country that will research, develop and implement new evidence-based strategies aimed at reducing injuries and fatalities related to impaired, drugged and distracted driving.
- Connecticut Children's Injury Prevention Center received a $20,000 grant from the Jordon Porco Foundation to support the evaluation of college-based suicide prevention programs.
- Connecticut Children's Injury Prevention Center received a $100,000 grant from the Connecticut Elks Association to support Safe Kids Connecticut.
- The Asthma Center was awarded the Environmental Protection Agency's Healthy Communities Grant ($25,000) in October. This grant will fund the implementation of the school-nurse-led asthma program, Easy Breathing for Schools, across Hartford Public Schools. The goal is to improve program adoption with the support of a bilingual/bicultural certified asthma educator that will improve asthma morbidity, control and school absenteeism.
- The Help Me Grow National Center received a grant of $402,468 from Pediatrics Supporting Parents to develop and pilot a novel, integrated pediatric screening platform designed for effectiveness at the level of the child, parent, and provider. The platform will include various tools and will offer medical integration and the capacity to interface with electronic medical records. This technology will maximize parent engagement with the child health provider and promote children's optimal health, development, and well-being.

STAFF

Paul H. Dworkin, MD, *Professor of Pediatrics; Executive Vice President, Office for Community Child Health*

Kimberly Martini-Carvell, MA, *Associate Director for Capacity Building, Organizational Learning & Professional Advancement*

Scott Orsey, MBA, *Associate Director for Operations, Business Strategy & Institutional Engagement*

Center for Care Coordination

Allison Matthews-Wilson, LCSW, *Interim Director of Care Integration, Clinical Social Work Manager*

Katherine Ramirez, MS, *Center for Care Coordination Manager*
Nancy Caperino, LCSW
Courtney Downs, BS
Christina Homa, BS
Shioban Gordon, LMSW
Ann Riley, MSN, RN
Damaris Rodriguez
Jacquelyn Rodriguez
Rachel Tirrell, BSN, RN
LaKisha Thomas, BS
Kerri Zimmerman, LMSW

Childhood Prosperity Lab

Jacquelyn Rose, MPH, *Program Manager*

Children's Center on Family Violence

Karen Jarmoc, MA, *Program Co-director*

Nina Livingston, MD, *Program Co-director*

Liza Andrews, MSW
Kelly Annelli, MHSV
Linda Blozie, BA
Sara Goldstein, LMSW
Damien Grasso, PhD,
Associate Professor of Psychiatry
Tonya Johnson, MPA
Erica Tirado, MBA

Co-Management

Karen Rubin, MD, *Program Manager*

Michele Krivickas

Community Relations

Luis Rivera, MSW, *Community Relations Manager*

Easy Breathing©

Jessica Hollenbach, PhD,
Co-director, Asthma Center

Sigrid Almeida, BS
Brian Lesmes, BS

Educating Practices

Abby Alter, MPA
Eminet Abebe Gurganus, MPH
Susan Macary, MPH
Maggy Morales, BA

Hartford Youth HIV Identification and Linkage Consortium

Danielle Warren-Dias, MS, HS-BCP,
Program Co-leader

Nilda Fernandez, LMSW, *Program Co-leader*

Wanda Henriquez
Gail Karas, RN
Myrna Millet-Saez, MS, HS-BCP
Consuelo Munoz, MS
Angel Ruiz, BS

Healthy Homes

Patricia Garcia, MD, *Medical Director*

Marcus Smith-Miner, MBA, *Senior Manager*
Chris Corcoran
Esther Figueroa
Olga Fruster
Maria Guzman
Thomas Rotchford
Taysha Thompson, BA

Help Me Grow® National Center

Kimberly Martini-Carvell, MA, *Executive Director*

Noshin Ahmed, MPH
Erin Cornell, MPH
Sara Sibley, MBA
Cassandra Therriault, MPH
Sarah Zucker, BA

Injury Prevention Center

Kevin Borrup, DrPH, JD, MPA, *Executive Director; Assistant Professor in Pediatrics*

Rebecca Beebe, PhD,
Assistant Professor in Pediatrics
Brendan Campbell, MD, MPH, FACS,
Associate Professor of Surgery and Pediatrics
Heather Clinton
Meghan Clough, MA
Susan DiVietro, PhD,
Assistant Professor in Pediatrics
Mitch Doucette, PhD, MS,
Assistant Professor in Health Science, Eastern Connecticut State University
Damion Grasso, PhD,
Associate Professor of Psychiatry
Amy Hunter, MPH, PhD,
Assistant Professor in Public Health Sciences
J. Leslie Knod, MD,
Assistant Professor of Surgery and Pediatrics
Jake Kochin
Garry Lapidus, MPH, PA-C, *Associate Professor in Pediatrics and Public Health Sciences*
Steven C. Rogers, MD, MS-CTR, *Associate Professor of Pediatrics and Emergency Medicine*
Amy Watkins, MPH

Person-Centered Medical Home

Catherine Wiley, MD, *Program Manager*

Practice Quality Improvement

Cabrini Merclean, MSR, *Program Manager*

Resident Education in Advocacy and Community Health

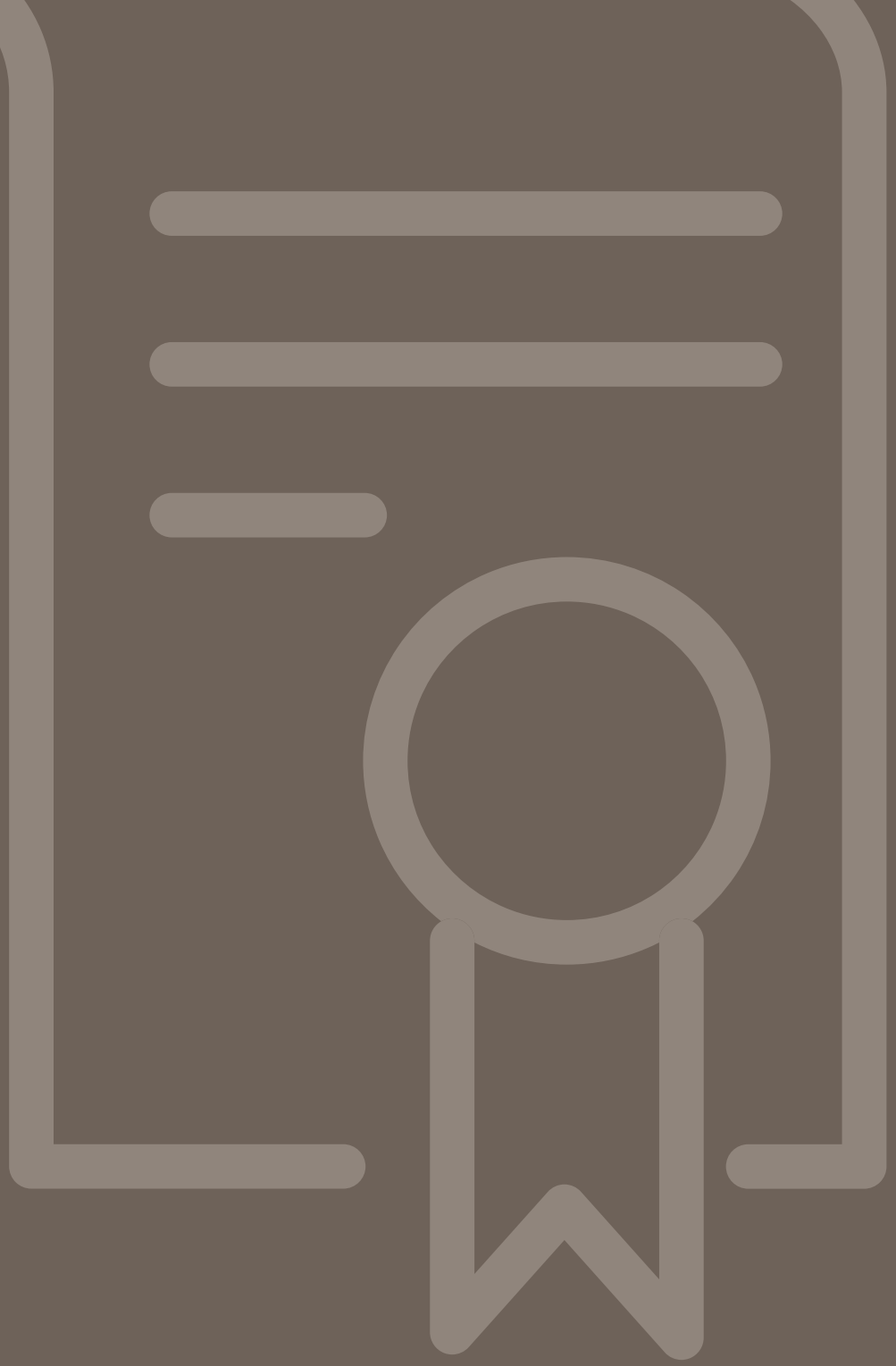
Patricia Garcia, MD, MPH, *Program Manager*

Start Childhood Off Right (SCOR)

Stacey Chandna, MS, *Program Co-director*
Nancy Trout, MD, MPH, *Program Co-director*

Aedra Jones, MEd, BS

GRANTS



PRINCIPAL INVESTIGATOR	AWARD / STUDY TITLE	FUNDING SOURCE PRIMARY / (SECONDARY)	AMOUNT RECEIVED THROUGH 12/31/2020	START DATE	END DATE	PRIMARY SITE
ASTHMA CENTER						
Hollenbach, Jessica	Creating An Asthma Network: Improving Asthma Management For Children In The North Hartford Promise Zone	The Cigna Foundation	$100,000	11/01/20	10/31/21	Connecticut Children's
Hollenbach, Jessica	Easy Breathing© in Schools	U.S. Environmental Protection Agency	$25,000	10/01/20	09/30/21	Connecticut Children's
CHILD ABUSE PEDIATRICS						
Livingston, Nina	Child Abuse Centers of Excellence (Cace)	State of Connecticut - Department of Children & Families	$518,671	07/01/19	06/30/20	Connecticut Children's
Livingston, Nina	Child Abuse Centers of Excellence (Cace)	State of Connecticut - Department of Children & Families	$518,671	07/01/20	06/30/21	Connecticut Children's
Livingston, Nina	Connecticut Children's Sexual Abuse Medical Services For Northern Connecticut	U.S. Dept of Justice / State of CT Judicial Branch	$389,178	07/01/19	06/30/20	Connecticut Children's
Livingston, Nina	Connecticut Children's Sexual Abuse Medical Services For Northern Connecticut	U.S. Dept of Justice / State of CT Judicial Branch	$389,178	07/01/20	06/30/21	Connecticut Children's
Livingston, Nina	Child Abuse Centers of Excellence (Cace)	DHHS / State of Connecticut - Department of Children & Families	$220,500	07/01/19	06/30/20	Connecticut Children's
Livingston, Nina	Child Abuse Centers of Excellence (Cace)	DHHS / State of Connecticut - Department of Children & Families	$220,500	07/01/20	06/30/21	Connecticut Children's
Livingston, Nina	Child Abuse Centers of Excellence (Cace)	State of Connecticut - Department of Children & Families	$52,852	07/01/19	06/30/20	Connecticut Children's
Livingston, Nina	Child Abuse Centers of Excellence (Cace)	State of Connecticut - Department of Children & Families	$52,852	07/01/20	06/30/21	Connecticut Children's
CRITICAL CARE						
Carroll, Christopher	Penn State University's Translational Center for Child Maltreatment Studies TCCMS	DHHS / NIH / Penn State	$55,061	04/20/17	03/31/21	Connecticut Children's
Carroll, Christopher	Understanding Covid-19 Among Critically Ill Children in the Pediatric Acute Lung Injury and Sepsis Investigator (PALISI) Network	CDC / Boston Children's	$21,625	04/06/20	10/08/21	Connecticut Children's
Carroll, Christopher	Penn State University's Translational Center for Child Maltreatment Studies TCCMS	NIH / NICHHD / (Pennsylvania State University)	$15,000	04/01/20	03/31/21	Connecticut Children's
Carroll, Christopher	Penn State University's Translational Center for Child Maltreatment Studies TCCMS	Penn State	$10,125	04/20/17	03/31/21	Connecticut Children's
Cowl, Alison	PROSpect – Prone and Oscillation Pediatric Clinical Trial	NIH / University of Pennsylvania	$25,500	06/15/18	07/31/21	Connecticut Children's
DEVELOPMENTAL AND REHABILITATION MEDICINE						
DuMont-Mathieu, Thyde	Early Detection of Autism Spectrum Disorder	NIH (Drexel Univ)/ UConn Storrs	$90,720	03/01/15	05/31/20	Connecticut Children's

PRINCIPAL INVESTIGATOR	AWARD / STUDY TITLE	FUNDING SOURCE PRIMARY / (SECONDARY)	AMOUNT RECEIVED THROUGH 12/31/2020	START DATE	END DATE	PRIMARY SITE
DuMont-Mathieu, Thyde	Connecting the Dots: An RCT-relating Standardized ASD Screening, Intervention Access, and Long-term Outcomes	NIH (Drexel Univ) / UConn Storrs	$58,686	09/07/17	05/31/21	Connecticut Children's
DuMont-Mathieu, Thyde	Bridging the Gap: Early Intervention for Underserved Children Within the Medical Home	Connecticut Health Foundation	$50,000	01/01/20	12/31/20	Connecticut Children's
DuMont-Mathieu, Thyde	Bridging the Gap: Providing Equitable Early Treatment of ASD by Finding Children, Wherever They Are	DHHS / OEC / UConn Storrs	$15,825	02/01/20	08/31/20	Connecticut Children's
DIGESTIVE DISEASES, HEPATOLOGY & NUTRITION						
Emerick, Karan	An Open-label, Multicenter Study to Evaluate the Pharmacokinetics, Safety, and Efficacy of Glecaprevir/Pibrentasvir in Pediatric Subjects With Genotypes 1 – 6 Chronic Hepatitis C Virus (HCV) Infection (DORA)	AbbVie Ltd	$20,461	07/19/18	N/A	Connecticut Children's
Emerick, Karan	A 5-year Longitudinal Observational Study of Patients with Nonalcoholic Fatty Liver or Nonalcoholic Steatohepatitis (NASH)	TARGET PharmaSolutions, Inc.	$375	03/13/19	N/A	Connecticut Children's
Hyams, Jeffrey	Dosing and Pilot Efficacy of 2'-Fucosyllactose in Inflammatory Bowel Disease	NIH / NIDDK / Cincinnati Children's Hospital Medical Center	$347,233	07/01/18	03/31/21	Connecticut Children's
Hyams, Jeffrey	A Multicenter, Prospective, Long-term, Observational Registry of Pediatric Patients With Inflammatory Bowel Disease, DEVELOP®	Janssen Biotech, Inc.	$138,745	10/01/10	N/A	Connecticut Children's
Hyams, Jeffrey	Precision Crohn's Disease Management Utilizing Predictive Protein Panels	Helmsley Charitable Trust / Cincinnati Children's Hospital Medical Center	$47,843	03/01/20	02/28/21	Connecticut Children's
Hyams, Jeffrey	Pathogenic Heterogeneity in Mucosal Stem Cells in Pediatric Crohn's Disease	NIH / NIDDK / University of Houston	$46,953	07/01/20	06/30/21	Connecticut Children's
Hyams, Jeffrey	Pilot and Feasibility Study of 2'-FL as a Dietary Supplement in Pediatric and Young Adult IBD Patients Receiving Stable Maintenance Anti-TNF Therapy	NIH	$36,189	07/12/18	03/31/21	Connecticut Children's
Hyams, Jeffrey	Risk Stratification and Identification of Immunogenetic and Microbial Markers of Rapid Disease Progression in Children with Crohn's Disease, Version 12.17.09	Crohn's & Colitis Foundation of America	$34,528	01/01/18	N/A	Connecticut Children's
Hyams, Jeffrey	A Phase 2b, Extension Study to Determine the Long-term Safety of Vedolizumab IV in Pediatric Subjects With Ulcerative Colitis or Crohn's Disease	Takeda Development Center Americas, Inc	$30,905	10/03/17	N/A	Connecticut Children's

PRINCIPAL INVESTIGATOR	AWARD / STUDY TITLE	FUNDING SOURCE PRIMARY / (SECONDARY)	AMOUNT RECEIVED THROUGH 12/31/2020	START DATE	END DATE	PRIMARY SITE
Hyams, Jeffrey	A Phase 3 Randomized, Open-label Study to Assess the Efficacy, Safety, and Pharmacokinetics of Golimumab Treatment, a Human Anti-TNFa Monoclonal Antibody, Administered Subcutaneously in Pediatric Participants With Moderately to Severely Active Ulcerative Colitis, PURSUIT 2	Janssen Research & Development LLC	$30,750	05/20/19	N/A	Connecticut Children's
Hyams, Jeffrey	Protocol I6T-MC-AMBU(a) A Multicenter, Open-label PK Study of Mirikizumab in Pediatric Patients With Moderately to Severely Active Ulcerative Colitis SHINE-1	Eli Lilly & Co.	$26,500	05/04/20	N/A	Connecticut Children's
Hyams, Jeffrey	A Long-term Non-interventional Registry to Assess Safety and Effectiveness of Humira® (Adalimumab) in Pediatric Patients with Moderately to Severely Active Crohn's Disease (CD) – CAPE	AbbVie Ltd	$26,158	08/08/15	N/A	Connecticut Children's
Hyams, Jeffrey	A Phase 3, Multicenter, Open-label Continuation Study With Budesonide Oral Suspension (BOS) for Adolescent and Adult Subjects With Eosinophilic Esophagitis (EoE)	Shire Development	$25,250	04/11/19	N/A	Connecticut Children's
Hyams, Jeffrey	A Phase 2, Randomized, Double-blind, Dose-ranging Study to Determine the Pharmacokinetics, Safety and Tolerability of Vedolizumab IV in Pediatric Subjects With Ulcerative Colitis or Crohn's Disease	Takeda Development Center Americas, Inc	$21,119	09/22/17	N/A	Connecticut Children's
Hyams, Jeffrey	Pharmacodynamic Targets to Enrich a Personalized Infliximab Dosing Dashboard (RADAR Study)	Crohn's and Colitis Foundation / Cincinnati Children's Hospital Medical Center	$7,320	01/01/19	12/31/21	Connecticut Children's
Hyams, Jeffrey	Pharmacodynamic Targets to Enrich Personalized Anti-TNF Dosing (RADAR)	Crohn's & Colitis Foundation of America	$6,620	01/01/19	N/A	Connecticut Children's
Hyams, Jeffrey	Development and Evaluation of the TUMMY CD-index: A Patient-reported Signs and Symptoms Index for Pediatric Crohn's Disease	Izaak Walton Killam Health Centre	$4,851	10/27/16	09/30/50	Connecticut Children's
Hyams, Jeffrey	Development and Evaluation of the TUMMY-UC Index: Patient Reported Signs and Symptoms Index for Pediatric Ulcerative Colitis	Shaare Zedek Medical Center	$3,825	03/26/19	09/30/50	Connecticut Children's
Hyams, Jeffrey	Precision Crohn's Disease Management Utilizing Predictive Protein Panels (ENvISION)	The Leona M. and Harry B. Helmsley Charitable Trust	$2,000	03/01/20	N/A	Connecticut Children's
Hyams, Jeffrey	Precision Crohn's Disease Management Utilizing Predictive Protein Panels - Per Patient Enrollment	Helmsley Charitable Trust / Cincinnati Children's Hospital Medical Center	$2,000	03/01/20	02/28/21	Connecticut Children's
EMERGENCY MEDICINE						
Rogers, Steve	A Systems Analysis of Mental Health Care From the Perspective of Pediatric Primary Care	State of Connecticut - Department of Children & Families	$50,000	03/01/20	02/28/21	Connecticut Children's

PRINCIPAL INVESTIGATOR	AWARD / STUDY TITLE	FUNDING SOURCE PRIMARY / (SECONDARY)	AMOUNT RECEIVED THROUGH 12/31/2020	START DATE	END DATE	PRIMARY SITE
Rogers, Steve	Grants for Expansion and Sustainability of the Comprehensive Community Mental Health Services for Children with Serious Emotional Disturbances	DHHS / CHDI	$49,000	10/01/20	09/30/21	Connecticut Children's
Rogers, Steve	An Interprofessional Approach to Pediatric Behavioral Health Acuity Assessment in the Emergency Department	Child Health and Development Institute of Connecticut	$40,000	12/01/19	09/30/21	Connecticut Children's
Rogers, Steve	Enhanced Care Coordination Evaluation	Kenworthy Smith Foundation	$18,000	07/01/20	06/30/21	Connecticut Children's
ENDOCRINOLOGY & DIABETES						
Dunbar, Nancy	An Observational, Longitudinal, Prospective, Long-term Registry of Patients With Hypophosphatasia	Alexion	$12,295	12/08/16	N/A	Connecticut Children's
Germain-Lee, Emily	The Role of G Protein-coupled Signaling in Neurocognitive and Psychosocial Abnormalities	NIH	$349,808	10/28/16	02/28/20	UConn Health
Germain-Lee, Emily	The Role of G Protein-coupled Signaling in Neurocognitive and Psychosocial Abnormalities	NIH / NICHD / (UCHC)	$38,503	03/01/17	02/28/20	Connecticut Children's
Germain-Lee, Emily	Bed to Bench (BTB) Collaboration for Skeletal Research	UCHC / Office of the Vice President for Research	$20,000	09/01/19	02/28/20	Connecticut Children's
Germain-Lee, Emily	Bed to Bench (BTB) Collaboration for Skeletal Research	UCHC / Office of the Vice President for Research	$10,000	03/01/20	07/31/20	Connecticut Children's
Rubin, Karen	Diagnostic and Treatment Center Services for the Connecticut Newborn Screening Program	State of CT - Department of Public Health	$1,856,531	07/01/18	06/30/21	Connecticut Children's
Rubin, Karen	Leveraging Telehealth and the Family Voice to Deliver on the Promise of Newborn Screening	Association of Maternal and Child Health Programs (AMCHP)	$100,000	10/01/20	04/30/21	Connecticut Children's
Rubin, Karen	Telehealth Network Grant Program	DHHS / HRSA (Community Health Center, Inc)	$57,150	09/01/16	08/31/20	Connecticut Children's
EXCELLENCE IN PATIENT SAFETY AND CLINICAL QUALITY						
Tory, Heather	A Long-term, Open-label Follow-up Study of Tofacitinib for Treatment of Juvenile Idiopathic Arthritis (JIA)	Pfizer	$10,854	01/24/17	N/A	Connecticut Children's
Tory, Heather	Patient and Physician Discordance of Global Disease Assessment in Juvenile Dermatomyositis: Findings From the Childhood Arthritis & Rheumatology Research Alliance Legacy Registry	Childhood Arthritis and Rheumatology Research Alliance (CARRA)	$2,755	01/24/20	N/A	Connecticut Children's
GENERAL PEDIATRICS						
Haile, Jennifer	Childhood Lead Poisoning Prevention Program - Hospital	State of CT - Department of Public Health	$135,126	07/01/19	06/30/20	Connecticut Children's
Haile, Jennifer	Childhood Lead Poisoning Prevention Program - Hospital	State of CT - Department of Public Health	$134,229	07/01/20	06/30/21	Connecticut Children's

PRINCIPAL INVESTIGATOR	AWARD / STUDY TITLE	FUNDING SOURCE PRIMARY / (SECONDARY)	AMOUNT RECEIVED THROUGH 12/31/2020	START DATE	END DATE	PRIMARY SITE
Trout, Nancy	Start Childhood Off Right	Kohls	$364,808	10/01/19	09/30/21	Connecticut Children's
GLYCOGEN STORAGE DISEASE PROGRAM						
Lee, Youngmok	Development of Kidney Direct Gene Therapy and Research to Improve the Efficacy of AAV Mediated Gene Therapy in GSD-Ia Mice	The Children's Fund for Glycogen Storage Disease Research	$357,667	12/03/19	06/30/21	UConn Health
Lee, Youngmok	Evaluation of the Efficacy of Gene Therapy to Arrest or Abrogate Preexisting HCA/HCC in Glycogen Storage Disease Type Ia	The Children's Fund for Glycogen Storage Disease Research	$199,056	12/03/19	06/30/21	UConn Health
Lee, Youngmok	Exosome Marker Development for Heptocellular Adenoma in Human GSD-1a	The Children's Fund for Glycogen Storage Disease Research	$37,039	09/01/18	08/30/20	UConn Health
Riba-Wolman, Rebecca	A Phase 1/2, Open-Label Safety and Dose Finding Study of Adeno-Associated Virus (AAV) Serotype 8 (AAV8)-Mediated Gene Transfer of Glucose-6-Phosphatase(G6Pase) in Adults with Glycogen Storage Disease Type 1a	Ultragenyx Pharmaceuticals, Inc.	$833,495	05/18/18	11/30/20	UConn Health
Riba-Wolman, Rebecca	A Long-Term Follow-up Study to Evaluate the Safety and Efficacy of Adeno-Associated Virus (AAV) Serotype 8 (AAV8)-Mediated Gene Transfer of Glucose-6-Phosphatase (G6Pase) in Adults with Glycogen Storage Disease Type Ia (GSDIa)	Ultragenyx Pharmaceuticals, Inc.	$494,443	07/15/19	11/30/24	UConn Health
Weinstein, David	Whole Exome/Genome Sequencing for the Assessment of Unclassified Glycogen Storage Diseases and Disorders of Energy Metabolism	Jewish Community Foundation	$82,850	09/01/19	09/01/21	UConn Health
Weinstein, David	A Comparison of Glycosade® and Uncooked Cornstarch (UCCS) for the Dietary Management of Hepatic Glycogen Storage Diseases (GSD)	Vitaflo International Ltd	$22,750	12/29/16	N/A	Connecticut Children's
HEMATOLOGY-ONCOLOGY						
Boruchov, Donna	Baxalta 261203 - Phase 3, Prospective, Multicenter, Open-label Study to Investigate Safety, Immunogenicity, and Hemostatic Efficacy of PEGylated Factor VIII (BAX 855) in Previously Untreated Patients (PUPs) <6 Years With Severe Hemophilia A (FVIII <1%)	Baxalta Inc	$22,500	10/16/19	N/A	Connecticut Children's
Boruchov, Donna	A Randomized, Open-label, Active-Controlled, Safety and Descriptive Efficacy Study in Pediatric Subjects Requiring Anticoagulation for the Treatment of a Venous Thromboembolic Event	Pfizer	$13,316	05/08/15	N/A	Connecticut Children's
Boruchov, Donna	Single-Dose Study to Evaluate the Pharmacokinetics, Pharmacodynamics, Safety, and Tolerability of Apixaban in Pediatric Subjects at Risk for a Venous or Arterial Thrombotic Disorder	Bristol-Myers Squibb	$5,080	11/22/13	N/A	Connecticut Children's

PRINCIPAL INVESTIGATOR	AWARD / STUDY TITLE	FUNDING SOURCE PRIMARY / (SECONDARY)	AMOUNT RECEIVED THROUGH 12/31/2020	START DATE	END DATE	PRIMARY SITE
Boruchov, Donna	A Natural History Cohort Study of the Safety, Effectiveness, and Practice of Treatment for People With Severe Von Willebrand Disease (VWD)	American Thrombosis and Hemostasis Network (ATHN)	$1,590	01/22/20	N/A	Connecticut Children's
Boruchov, Donna	A Phase III Open-label, Multicenter, Extension Study to Assess the Safety and Efficacy of Recombinant Coagulation Factor VIII (rVIII-SingleChain, CSL627) in Subjects With Severe Hemophilia A	Behring	$1,495	10/27/14	N/A	Connecticut Children's
Frederick, Natasha	Distress in the Pediatric Oncology Setting: Intervention Versus Natural Adaptation - A Multicenter Study	American Family Life Assurance Company (AFLAC)	$2,500	07/01/20	N/A	Connecticut Children's
Isakoff, Michael	A Phase III Randomized, Open-label, Multicenter Study of the Safety and Efficacy of Apixaban for Thromboembolism Prevention Versus No Systemic Anticoagulant Prophylaxis During Induction Chemotherapy in Children With Newly Diagnosed Acute Lymphoblastic Leukemia (ALL) or Lymphoma (T or B cell) Treated With Asparaginase	Bristol-Myers Squibb	$28,162	01/15/16	N/A	Connecticut Children's
Isakoff, Michael	MCC Protocol 19487, a Phase Ib/II Study to Evaluate the Safety, Feasibility and Efficacy of Nivolumab or Nivolumab in Combination With Azacitidine in Patients With Recurrent, Resectable Osteosarcoma	National Pediatric Cancer Foundation (NPCF) / BMS	$12,294	12/23/16	N/A	Connecticut Children's
Isakoff, Michael	COG Per Case Study	CHOP/St. Baldrick's/COG	$11,250	03/01/12	N/A	Connecticut Children's
Isakoff, Michael	MCC20320, Blood-based Biomarkers for Minimal Residual Disease Detection in Pediatric Sarcomas	National Pediatric Cancer Foundation (NPCF)	$4,955	07/29/20	N/A	Connecticut Children's
Isakoff, Michael	Neuroblastoma and Meduloblastoma Translational Research Collaborative	NMTRC	$4,000	10/01/10	N/A	Connecticut Children's
Isakoff, Michael	Eisai E7389-G000-223, ADVL1722, A Phase 2, Multicenter, Open-label Study to Assess Safety and Preliminary Activity of Eribulin Mesylate in Pediatric Subjects With Relapsed/ refractory Rhabdomyosarcoma (RMS), Non-rhabdomyosarcoma Soft Tissue Sarcoma (NRSTS) and Ewing Sarcoma (EWS)	Eisai Inc	$2,000	03/20/18	N/A	Connecticut Children's
Isakoff, Michael	A Phase 2 Study of the JAK1/JAK2 Inhibitor Ruxolitinib With Chemotherapy in Children With De Novo High-Risk CRLF2-Rearranged and/ or JAK Pathway–Mutant Acute Lymphoblastic Leukemia	Incyte Corp / COG	$1,000	04/28/17	N/A	Connecticut Children's

PRINCIPAL INVESTIGATOR	AWARD / STUDY TITLE	FUNDING SOURCE PRIMARY / (SECONDARY)	AMOUNT RECEIVED THROUGH 12/31/2020	START DATE	END DATE	PRIMARY SITE
Isakoff, Michael	Phase II Study of Nab-Paclitaxel in Combination With Gemcitabine for Treatment of Recurrent/Refractory Sarcoma in Teenagers and Young Adults	Moffitt Cancer Center and Research Institute	$750	11/12/16	N/A	Connecticut Children's
HOSPITAL MEDICINE						
Bezler, Natalie	Protocol # 54767414ALL2005 An Open-label, Multicenter, Phase 2 Study Evaluating the Efficacy and Safety of Daratumumab in Pediatric and Young Adult Subjects Greater Than or Equal to 1 and Less Than or Equal to 30 Years of Age With Relapsed/Refractory Precursor B-cell or T-cell Acute Lymphoblastic Leukemia or Lymphoblastic Lymphoma	Janssen Research & Development LLC	$55,098	09/05/19	N/A	Connecticut Children's
Waynik, Illana	Nasal MicroRNA During Bronchiolitis and Age 6y Asthma Phenotypes: MARC-35 Cohort	NIH / Mass General	$25,353	12/01/16	11/30/21	Connecticut Children's
Waynik, Illana	Prospective Cohort Study of Severe Bronchiolitis and Risk of Recurrent Wheezing	NIH / NIAID	$3,074	12/06/16	11/30/21	Connecticut Children's
INFECTIOUS DISEASES & IMMUNOLOGY						
Salazar, Juan	Ryan White Title IV Women, Infants, Children, Youth and Affected Family Members AIDS Health Care	HRSA	$491,441	08/01/19	07/31/20	Connecticut Children's
Salazar, Juan	Ryan White Title IV Women, Infants, Children, Youth and Affected Family Members AIDS Health Care	HRSA	$357,831	08/01/20	07/31/21	Connecticut Children's
Salazar, Juan	Ryan White D	HRSA	$183,117	08/01/20	07/31/21	UConn Health
Salazar, Juan	Ryan White Part A and Minority AIDS Initiative (MAI) for Fiscal Year 2018-2021	HRSA / City of Hartford	$113,996	03/01/20	02/28/21	Connecticut Children's
Salazar, Juan	Ryan White Part A and Minority AIDS Initiative (MAI) for Fiscal Year 2018-2021	HRSA / City of Hartford	$110,684	03/01/19	02/29/20	Connecticut Children's
Salazar, Juan	The Jonah Pournazarian Fund for Glycogen Storage Disease Type 1b Research	UConn Health Foundation	$106,512	12/01/16	N/A	UConn Health
Salazar, Juan	DPH HIV Prevention	DPH	$100,000	01/01/19	12/31/21	UConn Health
Salazar, Juan	Ryan White B	DPH	$97,607	04/01/20	03/31/21	UConn Health
Salazar, Juan	A Global Syphilis Vaccine Targeting Outer Membrane Proteins of Treponema pallidum - Project 1	NIH / NIAID / UCHC	$16,820	05/01/20	04/30/21	UConn Health
Salazar, Juan	A Global Syphilis Vaccine Targeting Outer Membrane Proteins of Treponema pallidum - Project 1	NIH / NIAID / UCHC	$16,387	05/01/19	04/30/20	UConn Health

PRINCIPAL INVESTIGATOR	AWARD / STUDY TITLE	FUNDING SOURCE PRIMARY / (SECONDARY)	AMOUNT RECEIVED THROUGH 12/31/2020	START DATE	END DATE	PRIMARY SITE
Salazar, Juan	A Global Syphilis Vaccine Targeting Outer Membrane Proteins of Treponema pallidum - Project 2	NIH / NIAID / UCHC	$79,096	05/01/20	04/30/21	UConn Health
Salazar, Juan	A Global Syphilis Vaccine Targeting Outer Membrane Proteins of Treponema pallidum - Project 2	NIH / NIAID / UCHC	$68,828	05/01/19	04/30/20	UConn Health
Salazar, Juan	A Global Syphilis Vaccine Targeting Outer Membrane Proteins of Treponema pallidum - Project 3	NIH / NIAID / UCHC	$50,441	05/01/20	04/30/21	UConn Health
Salazar, Juan	A Global Syphilis Vaccine Targeting Outer Membrane Proteins of Treponema pallidum - Project 3	NIH / NIAID / UCHC	$49,161	05/01/19	04/30/20	UConn Health
Salazar, Juan	Ryan White D (Housing)	HRSA	$77,122	08/01/19	07/30/20	UConn Health
Salazar, Juan	Department of Public Health HIV Prevention	State of Connecticut - Department of Public Health	$75,000	01/01/20	12/31/20	Connecticut Children's
Salazar, Juan	Glycogen Storage Disease Program Fund	UConn Health Foundation	$31,650	11/01/16	N/A	UConn Health
Salazar, Juan	Ryan White HIV/AIDS Program Part D WICY Covid-19 Response	HRSA	$26,268	04/01/20	03/31/21	Connecticut Children's
Salazar, Juan	Department of Public Health HIV Prevention	DHHS / CDC / Connecticut Department of Health	$25,000	01/01/20	12/31/20	Connecticut Children's
Salazar, Juan	Nina Contreras D'Agosto Fund	UConn Health Foundation	$19,233	08/27/18	N/A	UConn Health
Salazar, Juan	Expanded Access IND Program to Provide Stamaril® Vaccine to Persons in the United States for Vaccination Against Yellow Fever	Sanofi Pasteur Inc.	$13,455	06/08/17	N/A	Connecticut Children's
Salazar, Juan	Global Center Glycogen Storage Disease Fund	UConn Health Foundation	$12,500	10/01/16	N/A	UConn Health
Salazar, Juan	Ryan White HIV/AIDS Program Part A Covid-19 Response	HRSA / City of Hartford	$10,328	04/01/20	03/31/21	Connecticut Children's
Salazar, Juan	Ryan White A	CCSG	$8,282	09/18/20	02/28/20	UConn Health
Salazar, Juan	The Ethan Ikauniks Fund for Glycogen Storage Disease Type 9 Research	UConn Health Foundation	$5,200	03/10/20	N/A	UConn Health
Salazar, Juan	GSD Type 1b General Research Fund	UConn Health Foundation	$1,905	10/19/18	N/A	UConn Health
Salazar, Juan	The Jamie Konieczka Fund for Glycogen Storage Disease Type 1B Research	UConn Health Foundation	$1,225	09/01/17	N/A	UConn Health
Salazar, Juan	Registry of Patients With Primary Immune Deficiency Disorders	United States Immunodeficiency Network	$700	09/30/14	01/31/20	Connecticut Children's
Schwarz, Gavin	Efficacy, Safety, Tolerability, Immunogenicity and Pharmacokinetic Evaluation of HYQVIA in Pediatric Subjects With Primary Immunodeficiency Diseases	Baxalta Inc	$32,342	12/07/17	N/A	Connecticut Children's

PRINCIPAL INVESTIGATOR	AWARD / STUDY TITLE	FUNDING SOURCE PRIMARY / (SECONDARY)	AMOUNT RECEIVED THROUGH 12/31/2020	START DATE	END DATE	PRIMARY SITE
NEONATAL-PERINATAL MEDICINE						
Hagadorn, James	Preterm Infant Outcomes Following Changes in Oxygen Saturation Targets in California Neonatal ICUs	NIH / NICHHD	$100,764	04/01/20	03/31/21	Connecticut Children's
Lainwala, Shabnam	Multi-omics Analysis of Pain/Stress Impact on Neurodevelopment in Preterm Infants	DHHS / NIH / NINR / UConn Storrs	$415,981	09/14/17	07/31/21	Connecticut Children's
Matson, Adam	Neonatal Microbiome Project	Stevenson Fund (CCMC MOU)	$235,000	12/31/19	12/31/22	UConn Health
Matson, Adam	Multi-omics Analysis of Pain/Stress Impact on Neurodevelopment in Preterm Infants	NIH/Storrs	$9,743	09/14/17	07/31/21	UConn Health
Wolkoff, Leslie	A Randomized, Double-blind, Parallel-group, Placebo-controlled Study to Evaluate the Efficacy and Safety of IBP-9414 in Premature Infants 500-1500g Birth Weight in the Prevention of Necrotizing Enterocolitis – The Connection Study	Infant Bacterial Therapeutics	$15,846	08/29/19	N/A	Connecticut Children's
Wolkoff, Leslie	A Phase 2/3 Randomized, Double-blind, Palivizumab-controlled Study to Evaluate the Safety of MEDI18897, a Monoclonal Antibody With an Extended Half-life Against Respiratory Syncytial Virus, in High-risk Children (MEDLEY)	AstraZeneca / MedImmune	$9,000	10/03/19	N/A	Connecticut Children's
NEPHROLOGY						
Mason, Sherene	Maintenance Therapy Withdrawal of Mycophenolate Mofetil in Pediatric Proliferative Lupus Nephritis: A Multicentered Retrospective Cohort Study	CARRA	$15,351	04/21/17	03/09/20	Connecticut Children's
Silva, Cynthia	CureGN: Cure Glomerulonephropathy Network	NIH	$7,630	08/16/19	N/A	Connecticut Children's
NEUROLOGY						
Acsadi, Gyula	Care Center Grant	Muscular Dystrophy Association	$218,411	01/01/17	06/30/21	Connecticut Children's
Acsadi, Gyula	An Open-label Extension Study for Patients With Spinal Muscular Atrophy Who Previously Participated in Investigational Studies of ISIS 396443	Biogen MA Inc	$107,709	07/05/18	N/A	Connecticut Children's
Acsadi, Gyula	Care Center Grant	Muscular Dystrophy Association	$80,500	01/01/17	06/30/21	Connecticut Children's
Acsadi, Gyula	SMA Care Center Network	Cure SMA	$60,000	10/01/19	03/31/21	Connecticut Children's
Acsadi, Gyula	Randomised, Double-blind, Placebo Controlled, Multicenter Study to Evaluate the Efficacy and Safety of Givinostat in Ambulant Patients With Duchenne Muscular Dystrophy	Italfarmaco	$31,681	09/15/17	N/A	Connecticut Children's
Acsadi, Gyula	Open-label, Long-term Safety, Tolerability, and Efficacy Study of GIVINOSTAT in All DMD Patients Who Have Been Previously Treated in One of the Givinostat Studies	Italfarmaco	$20,715	07/29/20	N/A	Connecticut Children's

PRINCIPAL INVESTIGATOR	AWARD / STUDY TITLE	FUNDING SOURCE PRIMARY / (SECONDARY)	AMOUNT RECEIVED THROUGH 12/31/2020	START DATE	END DATE	PRIMARY SITE
Acsadi, Gyula	An Intermediate Access Protocol for AVXS-101 Gene Therapy of Spinal Muscular Atrophy (SMA)	AveXis	$15,565	08/14/19	N/A	Connecticut Children's
Acsadi, Gyula	An Open-Label Extension Study for Patients with Duchenne Muscular Dystrophy Who Participated in Studies of SRP-5051	Sarepta Therapeutics, Inc.	$15,396	07/15/20	N/A	Connecticut Children's
OFFICE FOR COMMUNITY CHILD HEALTH						
Borrup, Kevin	Mapping Dimensional Aspects of Biobehavioral Threat Reactivity in Young, Violence-Exposed Children: Linkages to Fear and Distress	NIH / UCHC	$917,550	07/01/18	06/30/23	Connecticut Children's
Borrup, Kevin	Intimate Partner Violence	State of Connecticut - Department of Children & Families	$720,000	07/01/20	06/30/24	Connecticut Children's
Borrup, Kevin	Violent Death Reporting System	CDC-DPH	$642,430	02/15/16	12/31/20	Connecticut Children's
Borrup, Kevin	Rape Prevention and Education (RPE) Program: Using the Best Available Evidence for Sexual Violence Prevention	State of CT - Department of Public Health	$250,000	06/28/19	01/31/24	Connecticut Children's
Borrup, Kevin	Safe States Driver Safety	Safe States Alliance/NHTSA	$34,999	03/02/20	12/31/21	Connecticut Children's
Borrup, Kevin	Fresh Check Day	Jordan Porco Foundation	$20,000	02/01/21	01/31/22	Connecticut Children's
Dworkin, Paul	Help Me Grow® National Center Strategic Planning for Accelerated Scaling and Impact of Help Me Grow	Pritzker Children's Initiative	$500,000	07/01/20	12/31/20	Connecticut Children's
Dworkin, Paul	Help Me Grow® National Center Covid-19 Response Innovation Dissemination	Pritzker Children's Initiative	$54,050	05/01/20	07/31/20	Connecticut Children's
Ramirez, Katherine	Health Care Needs SID 21531	State of CT - Department of Public Health	$240,194	07/01/20	06/30/21	Connecticut Children's
Ramirez, Katherine	Health Care Needs SID 21531	State of CT - Department of Public Health	$202,718	07/01/19	06/30/20	Connecticut Children's
Ramirez, Katherine	Health Care Needs SID 12126	State of CT - Department of Public Health	$177,807	07/01/20	06/30/21	Connecticut Children's
Ramirez, Katherine	Health Care Needs SID 12126	State of CT - Department of Public Health	$168,209	07/01/19	06/30/20	Connecticut Children's
Rose, Jacquelyn	Innovations Deployed in Primary Care in Response to the Covid-19 Pandemic	Children's Fund of Connecticut / (Child Health and Development Institute of Connecticut)	$15,000	07/20/20	11/30/20	Connecticut Children's
PAIN & PALLIATIVE MEDICINE						
Zempsky, William	Multi-site Randomized Clinical Trial of FIT Teens for Juvenile Fibromyalgia	NIH / NIAMS (CCHMC)	$587,198	06/21/17	05/31/21	Connecticut Children's
Zempsky, William	I Can Cope With Sickle Cell Disease	NIH / NICHD (Seattle Children's Research Institute)	$265,574	09/01/16	08/31/21	Connecticut Children's
Zempsky, William	Pediatric Pain Specialists: Planning for the Future	The Mayday Fund	$99,000	01/01/19	12/31/21	Connecticut Children's

PRINCIPAL INVESTIGATOR	AWARD / STUDY TITLE	FUNDING SOURCE PRIMARY / (SECONDARY)	AMOUNT RECEIVED THROUGH 12/31/2020	START DATE	END DATE	PRIMARY SITE
Zempsky, William	M1 Mentoring Program	Connecticut Institute for Clinical & Translational Science (CiCATS)	$68,008	07/01/17	06/30/20	Connecticut Children's
Zempsky, William	Innovation in the Treatment of Persistent Pain in Adults with NF1: Implementation of the ICanCope Mobile Application	Department of Defense / Yale University	$56,534	08/01/19	07/31/21	Connecticut Children's
Zempsky, William	Effectiveness of an mHealth Psychosocial Intervention to Prevent Transition From Acute to Chronic Postsurgical Pain in Adolescents (UH3)	NIH / NICHD / Seattle Children's Hospital	$23,306	09/01/20	08/31/21	Connecticut Children's
Zempsky, William	Effectiveness of an mHealth Psychosocial Intervention to Prevent Transition From Acute to Chronic Postsurgical Pain in Adolescents (UG3)	NIH / NICHD / Seattle Children's Hospital	$22,658	09/30/19	08/31/20	Connecticut Children's
Zempsky, William	Skype-based Peer-to-Peer Support (iP2P) for Youth With Sickle Cell Disease - A Feasibility Randomized Controlled Trial	Pfizer / Hospital for Sick Children	-	11/01/19	12/31/21	Connecticut Children's
PEDIATRIC NEUROSURGERY						
Bookland, Markus	Research Support	CT Brain Tumor Alliance (CCMC-MOU)	$39,782	10/01/16	N/A	UConn Health
PEDIATRIC ORTHOPAEDIC SURGERY						
Ounpuu, Sylvia	A Study of the Correlation Between Gait Abnormalities, Activity Monitoring Parameters, CMTPeds and a Biomarker With Charcot-Marie-Tooth Disease	The University of Pennsylvania - Orphan Disease Center	$60,330	02/01/20	07/31/21	Connecticut Children's
Ounpuu, Sylvia	Analysis of Walking Ability and Correlation With Disease Severity in Pediatric CMT	Harold and Rebecca H. Gross Foundation	$50,000	10/31/19	10/31/20	Connecticut Children's
Ounpuu, Sylvia	Analysis of Disease Progression and Treatment Outcomes in Children with CMT	Harold and Rebecca H. Gross Foundation	$50,000	09/16/20	09/16/21	Connecticut Children's
Ounpuu, Sylvia	A Study of the Correlation Between Gait Abnormalities, Activity Monitoring Parameters, CMTPedS and a Biomarker in Children with Charcot-Marie-Tooth Disease	Harold and Rebecca Gross Foundation	$19,872	02/01/20	N/A	Connecticut Children's
Ounpuu, Sylvia	Long-term Follow-up of Individuals With Cerebral Palsy Who Underwent Gait Analyses	Shriners Hospitals for Children	$5,103	12/07/18	09/30/20	Connecticut Children's
PEDIATRIC OTOLARYNGOLOGY - HEAD AND NECK SURGERY						
Schoem, Scott	A Prospective, Single-arm, Multicenter Study to Evaluate Effectiveness and Safety of Tympanostomy Tube Placement Using the Tula Iontophoresis and Tube Delivery Systems for Children in an Office Setting (OTTER; in-Office Tympanostomy Tube placemEnt in childRen)	Tusker Medical	$5,024	04/16/18	N/A	Connecticut Children's

PRINCIPAL INVESTIGATOR	AWARD / STUDY TITLE	FUNDING SOURCE PRIMARY / (SECONDARY)	AMOUNT RECEIVED THROUGH 12/31/2020	START DATE	END DATE	PRIMARY SITE
PEDIATRIC SURGERY						
Finck, Christine	A Retrievable Autologous Bioengineered Esophageal Implant as a Novel Treatment for Long-gap Esophageal Atresia	SBIR/Biostage	$789,287	04/01/18	09/30/21	UConn Health
Finck, Christine	Esophageal Astresia	Biostage Supply Funds (CCMC-MOU)	$462,560	08/01/18	N/A	UConn Health
Finck, Christine	Clinical Development of a Novel Pleural and Tracheal Sealant	University of Vermont/ Department of Defense	$289,237	07/01/19	06/30/22	UConn Health
Finck, Christine	Regenerative Medicine	Glenn Greenberg Fund (CCMC-MOU)	$20,000	01/01/19	N/A	UConn Health
Finck, Christine	Regenerative Medicine	Nixon Family Fund (CCMC-MOU)	$10,000	10/01/16	N/A	UConn Health
Finck, Christine	Regenerative Medicine	Boyer Family Fund (CCMC-MOU)	$10,000	10/01/17	N/A	UConn Health
PSYCHOLOGY						
Santos, Melissa	Pain and Weight Treatment: Development and Trial of PAW	NIH / NIDDK	$463,879	04/01/19	03/31/22	Connecticut Children's
Wakefield, Emily	The Impact of Social Rejection: Pain-related Stigma in Adolescents With Chronic Widespread Musculoskeletal Pain (K23)	NIH / NIAMS	$129,828	02/01/20	01/31/25	Connecticut Children's
Wakefield, Emily	The Impact of Social Rejection: Investigating Pain-related Stigma in Adolescents With Chronic Widespread Musculoskeletal Pain (K23 Supplement)	NIH / NIAMS	$54,000	02/01/20	01/31/21	Connecticut Children's
PULMONARY MEDICINE						
Lapin, Craig	CASK - Controlling and Preventing Asthma Progression and Severity in Kids	NIH / NIAID / Boston Children's Hospital	$112,072	05/01/18	06/30/21	Connecticut Children's
Lapin, Craig	2020 CF Center Award: CC117	Cystic Fibrosis Foundation	$93,210	07/01/20	06/30/21	Connecticut Children's
Lapin, Craig	Mental Health Coordinator	Cystic Fibrosis Foundation	$72,882	01/01/18	06/30/20	Connecticut Children's
Lapin, Craig	2019 CF Center Award: CC117	Cystic Fibrosis Foundation	$70,775	07/01/19	06/30/20	Connecticut Children's
Lapin, Craig	Controlling and Preventing Asthma Progression and Severity in Kids (CASK)	NIAID	$12,072	01/01/19	12/31/19	Connecticut Children's
RESEARCH						
Flores, Glenn	APA Research in Peds (RAPID)	NIH / (APA)	$76,279	08/01/17	04/30/20	Connecticut Children's
Flores, Glenn	APA Research in Peds (RAPID)	NIH / (APA)	$25,548	05/01/20	04/30/21	Connecticut Children's
RHEUMATOLOGY						
Edelheit, Barbara	Observational Study of Pediatric Rheumatic Diseases: The CARRA Registry	Childhood Arthritis and Rheumatology Research Alliance (CARRA) / Duke University	$27,755	11/18/15	09/30/50	Connecticut Children's


stryker
BRAKE