

Annual Academic Report 2017





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Chair's Summary

Dear Colleagues and Friends,

It is with great pleasure that we present the eighth annual report from the Department of Pediatric Surgical Subspecialties of Connecticut Children's Medical Center and the fourth combined report with the Department of Pediatrics. This report continues to reflect the solid alignment between surgery and pediatrics and the continued multi-disciplinary growth of combined surgical and pediatric programs at Connecticut Children's.

Over the last year we have seen several key recruitments, continued growth in surgical volume, and we have welcomed new leaders to the organization. Gil Peri joined us as president and COO from Colorado Children's Hospital. In addition, Glenn Focht, MD, joined us as president of Connecticut Children's Specialty Group, coming to us from Boston Children's Hospital. These new recruits, in addition to the Executive Management Team and CEO Jim Shmerling, have significant expertise in health care and are positioning Connecticut Children's to be a regional and national leader.

The Department of Surgery celebrated its 2017 ranking in *U.S. News & World Report* in the following areas: Urology, GI and GI surgery, Cardiology and Heart Surgery. Additionally, the surgical services have continued to experience growth, performing procedures on over 10,649 children this year with 2,016 of these cases being performed at our ambulatory surgery center in Farmington, CT. Due to the growth of our surgical volume at the ambulatory center, we are opening a third operating room in February 2018. We continue to aggressively pursue our vision to bring the very best surgical care to the children of the region while simultaneously pursuing two other core missions: research and education.

Some specific highlights from the past year:

- We have recruited two experts in Sports Medicine, Dr. Lee Pace and Dr. Jonathan Gelber. Both bring new skill sets to Elite Sports Medicine. Additionally, Dr. Sonia Chaudhry completed her hand fellowship, which further broadens the expertise in the Division of Orthopaedics.
- Innovation through research is integral to the mission of the department. We continue to focus efforts on children with solid tumors, premature lung disease, esophageal disease, 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. Finally, we have developed an Innovation Center to harness new ideas generated by the faculty.
- Connecticut Children's Medical Center remains the exclusive site for pediatric surgical subspecialty training for the University of Connecticut School of Medicine surgical residency programs. Annually, dozens of residents from the University of Connecticut and other institutions receive their required pediatric surgical experience at Connecticut Children's. The Pediatric General Surgery, Pediatric Orthopaedics, and Pediatric Anesthesia programs continue to train the future leaders in surgical subspecialties and have graduated several successful fellows since the last report.

As we continue to champion innovative programs and serve as educators for the next generation of pediatric surgeons, we remain focused on providing the highest quality, state-of-the-art care for children of the region.

Sincerely,



Christine Finck, MD, FACS

Peter Deckers, MD, Endowed Chair of Pediatric Surgery

Vice-Chairman Department of Surgery

Associate Professor Surgery and Pediatrics

University of Connecticut School of Medicine

Executive Vice President, Surgeon-in-Chief

Connecticut Children's Medical Center



*Juan C. Salazar,
MD, MPH, chair of
the Department of
Pediatrics, with former
chair Dr. John Raye at
the department's 50th
anniversary celebration*

Chair's Summary

Dear Colleagues and Friends,

The year 2017 was one of tremendous growth and achievement for the Department of Pediatrics and for Connecticut Children's Medical Center, and a year of continued successes that are the result of the strong partnership and alignment between the departments of surgery and pediatrics. It is once again my pleasure to share with you just a few highlights of our last year together, complete with numerous awards, multiple appearances in local and national media, and the addition of incredible new talents to our faculty.

Connecticut Children's received several significant awards, most notably *U.S. News & World Report* ranked Connecticut Children's as one of the country's best children's hospitals for 2017-18, and singled out four divisions, Gastroenterology and GI Surgery, Nephrology, Cardiology and Heart Surgery, and Urology, as among the best in the nation.* The Women's Choice Awards placed Connecticut Children's on its Best Hospitals list and honored the Emergency Department as one of the nation's finest. Our Emergency Medicine Division also received the prestigious Lantern Award. Individual awards included the esteemed 2017 Respiratory Health Public Service Award, given to Dr. Michelle Cloutier by the American Thoracic Society, and the 2017 Public Policy and Advocacy Award given to Dr. Glenn Flores by the Academic Pediatric Association.

There was no shortage of appearances by our faculty and staff in the media. Dr. Nicholas Bennett was a guest on Discovery Channel's *Monsters Inside Me*. Dr. Paul Dworkin co-authored an article that appeared on the front page of the Center for Disease Control's *Morbidity and Mortality Weekly Report*.

Our educational programs continue to be held in the highest regard. Our pediatric rotations for 3rd and 4th year medical students continue to be among the most highly rated at the University of Connecticut School of Medicine. Our residency and fellowship programs continue to attract and graduate high-achieving residents and fellows. In 2017, we added our newest accredited fellowship program in Hematology/Oncology. Our academic achievements included over 1,300 academic presentations, participation on over 500 committees, and over 600 new grants and program applications. We introduced MOC part 2 credit as part of our continuing medical education (CME) portfolio and have seen steadily increasing participation in all of our CME activities.

We were fortunate to have several nationally and internationally recognized talents join the staff of Connecticut Children's in 2017, including Dr. David Weinstein and his internationally known Glycogen Storage Disease Program, and Dr. Glenn Flores as our chief research officer and director of the Health Services Research Institute. Drs. Weinstein and Flores will work with our incredibly talented staff to further expand our research efforts in the areas of rare diseases, health services, and oncology. At the end of 2017, we welcomed two new talents to our executive team: Dr. Glenn Focht joined us as president of the Connecticut Children's Specialty Group, and Gil Peri came onboard as our chief operating officer. In just a short time under their leadership, we have been re-energized and inspired to think big and swing for the fences while continuing to provide the highest quality care to our patients, and medical education for our learners.

Of all that we accomplished in 2017, perhaps the most unforgettable was our 50th Anniversary Celebration for the Department of Pediatrics in November. More than 200 of us gathered to share a day filled with memories, tributes to our founding colleagues, and recognition of the many contributions that helped to shape today's Department of Pediatrics and Connecticut Children's. As you read the special Anniversary feature in this report, take a moment to reflect on our collective 50-year journey, and the many possibilities the next 50 years hold for us. Many thanks to Dr. Adam Silverman, Esperanza Lesmes, Annamarie Beaulieu, Rachel Cunningham, Marianne Custer, Brenda McCauliff, Erin Blinn-Curran, and the entire Academic Affairs team for their tireless efforts to make the celebration the success that it was.

Our great work and many accomplishments in 2017 would not have been possible without the dedication of the talented, hard-working faculty and staff listed on the pages that follow. In all of our endeavors, we are grateful for the support and assistance of the academic leadership at the UConn School of Medicine and UConn Storrs, Connecticut Children's Chief Executive Officer Jim Shmerling, our Executive Management Team, and our Board of Directors.

In this report, you will find evidence of the excellence, achievement and compassionate care that defines Connecticut Children's. I am proud to represent our outstanding staff, and to stand alongside them all as we serve the patients and families of Connecticut Children's.

Sincerely,



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 Medical Center

*(The *U.S. News & World Report* rankings for Cardiology & Heart Surgery, and Urology are for joint programs shared with Yale New Haven Children's Hospital.)

Highlights



NATIONAL HONORS & AWARDS

U.S. News & World Report ranked Connecticut Children's as one of the country's best children's hospitals for 2017-18. Four divisions, Gastroenterology and GI Surgery, Nephrology, Cardiology and Heart Surgery, and Urology, were singled out as among the best in the nation. (Cardiology and Heart Surgery, and Urology, are for joint programs shared with Yale New Haven Children's Hospital.)

For the second consecutive year, the Women's Choice Awards placed Connecticut Children's on its Best Hospitals list, and for the first year, it honored the Emergency Department as one of the nation's finest.

Connecticut Children's Emergency Medicine Division was one of only 22 in the United States to receive the prestigious Lantern Award bestowed by the Emergency Nurses Association. This award recognizes emergency departments that demonstrate exceptional and innovative performance in leadership, practice, education, advocacy, and research.

Under the leadership of Dr. Brendan Campbell, who is the Don Hight Endowed Chair, Connecticut Children's earned reverification by the American College of Surgeons as a

Level I Pediatric Trauma Center.

Under the leadership of division head Dr. Craig Schramm, the Pulmonology Division's pediatric Cystic Fibrosis Program continues to have some of the best pulmonary and nutritional outcomes in the country. The division's new CF Newborn Screening Program was ranked number one nationally by the Cystic Fibrosis Foundation for diagnosing infants within the first seven days of life.

The hospital's Extracorporeal Membrane Oxygenation (ECMO) program continues to produce outcomes that exceed national benchmarks. Overseen by medical director Dr. Heather Schlott of the Critical Care Division and surgical director Christine Rader of the Pediatric Surgery Division in partnership with physician colleagues in Pediatric Surgery and Neonatology, as well as colleagues in nursing and respiratory therapy, and perfusion team members, the program received a Silver Award (the highest award possible for a program of its size) from the national Extracorporeal Life Support Organization for its excellent outcomes.

In January of 2017, Connecticut Children's Help Me Grow® program was cited as a federal early childhood

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system model. A joint policy statement, released by the U.S. Departments of Education and Health and Human Services, included a recommendation for states to adopt a centralized intake, screening and referral process, specifically naming the Help Me Grow® system model.

In May, Connecticut Children's Easy Breathing® for Schools program was recognized by Jackson Healthcare as a Program of Promise for the 2016 Hospital Charitable Services Awards. The program was honored for its innovative approach in providing school nurses with a systematic way to assess asthma, educate children and families about asthma, improve medication adherence and communicate with primary care physicians with the goal of reducing asthma-related school absenteeism. Only 15 programs out of 50 applications received an award.

Connecticut Children's Medical Center has been named an accredited facility by the Intersocietal Accreditation Commission for Echocardiography for pediatric transthoracic, pediatric transesophageal and fetal echocardiography. This accreditation recognizes Connecticut Children's ECHO lab for its quality levels of patient care, made possible by team collaboration and the development and advancement of various protocols and educational programs.

Connecticut Children's Primary Care at East Hartford was notified in October that their application to be a site with the National Health Service Corps (NHSC) was approved. Drs. Larry Scherzer and Paula Lucuara Revelo will join the NHSC in their mission to build healthy communities through supporting health care providers dedicated to working in underserved areas.

MEDIA

Dr. Nicholas Bennett, division head of Infectious Diseases and Immunology, appeared on the *NBC Nightly News* and on Discovery Channel's *Monsters Inside Me* to discuss the Powassan virus, a rare tick-borne illness that he diagnosed at Connecticut Children's in the summer of 2017.

Dr. Paul Dworkin, founder and director of Connecticut

Children's Office for Community Child Health (OCCH), co-authored an article that appeared on the front page of the Center for Disease Control's *Morbidity and Mortality Weekly Report* (MMWR). The article, based on a 2016 CDC Public Health Grand Rounds session, highlights the importance of identifying and addressing health disparities early in childhood in order to improve health outcomes over a lifespan. MMWR is distributed to an audience of millions of people worldwide.

HealthCare's Most Wired® survey, published annually by *Hospitals & Health Networks* (H&HN), named Connecticut Children's among hospitals nationwide using technology the most to enhance patient care. The 2017 Most Wired® survey and benchmarking study is a leading industry barometer measuring information technology (IT) use and adoption among hospitals nationwide.

A total of 315 providers affiliated with Connecticut Children's Medical Center were named to the 2017 *Hartford Magazine's* Best Doctors list.

NOTABLE RECRUITS

Pediatric endocrinologist and scientist Dr. David Weinstein joined the staff of Connecticut Children's in January bringing with him his internationally known Glycogen Storage Disease Program. Dr. Weinstein and many of his team members relocated from the University of Florida (Gainesville) to Hartford, CT, to begin clinical care and scientific research in affiliation with both Connecticut Children's and UConn. The GSD Program is the largest of its kind in the world, providing clinical care to patients worldwide with this rare metabolic liver disease.

Glenn Flores, MD, FAAP, was named chief research officer and director of the Health Services Research Institute at Connecticut Children's, and professor of Pediatrics and associate chair of Research. He arrived in August. Dr. Flores is an internationally recognized advocate for the medically underserved, and has worked passionately and effectively to eliminate racial and ethnic disparities and address language barriers in health care. Prior to his move, he was the inaugural distinguished chair of Health Policy

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Research at the Medica Research Institute, affiliate professor of Pediatrics and Health Policy and Management at the University of Minnesota Schools of Medicine and Public Health, and research affiliate in the Department of Health Sciences Research at the Mayo Clinic.

Glenn Focht, MD, joined the staff in December as president of the Connecticut Children's Specialty Group. His appointment followed an extensive national search. Dr. Focht arrived with close to 20 years of experience as a physician and health care clinician and administrator. He serves as a member of the executive management team. Most recently, Dr. Focht worked at Boston Children's Hospital where he was the chief medical officer for the Pediatric Physicians' Organization at Children's (PPOC).

After an extensive national search, Gil Peri was named president and chief operating officer of Connecticut Children's, effective September 25, 2017. Peri has more than two decades of leadership experience in strategic planning, performance improvement and business development for health care systems. He serves as a member of the executive management team. Previously, he worked at Children's Hospital Colorado, where he served as the senior

vice president and chief strategy officer for three years.

CLINICAL ADVANCES & IMPROVEMENTS TO PATIENT CARE

Patients at Connecticut Children's Medical Center now have a state-of-the-art, high-tech playroom. The inpatient playroom on the 8th floor of the hospital was renovated to create a Lion's Den Room, an interactive space where patients can connect with their classmates and family. The Lion's Den is home to 3 Xbox game consoles and a large-screen TV that includes a web camera so patients can watch movies with patients in other Lion's Den Rooms across the country. Not only that, the web-based video chatting allows patients to interact with patients at other hospitals in real time. The Masotta family of Hamden made a \$200,000 donation to the Companions in Courage Foundation to fund the room. The foundation was founded by NHL Hall of Famer, Pat LaFontaine in 1997 and raises funds to build interactive playrooms in hospitals throughout the United States and Canada.

The year 2017 marked the creation of Connecticut

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Children's Center for Rare Bone Disorders, an international center directed by Dr. Emily Germain-Lee, division head of Endocrinology. The center is made up of individual units devoted to specific rare bone diseases. Among them is the Albright Center, which focuses on Albright hereditary osteodystrophy (AHO) and follows the largest population of Albright patients worldwide. Through this center, patients with AHO from all over the United States and the world seek Dr. Germain-Lee's clinical expertise and participate in her research studies, which are funded by NIH and foundation grants.

The Endocrinology Division also marked the establishment and launch of the new OI Center devoted to osteogenesis imperfecta (OI), also known as brittle bone disease. This center is co-directed by Drs. Emily Germain-Lee and Nancy Dunbar and is listed as an official center by the national OI Foundation as a major New England site; its launch was featured in the OI Foundation's *Breakthrough Newsletter* in the spring of 2017.

The Bariatric Surgical Program under the leadership of Connecticut Children's Surgeon-in-Chief, Pediatric Surgery Division Head, and Peter Deckers Endowed Chair Dr. Christine Finck and Dr. Meghna Misra has been joined by the Weight Management Program under the leadership of Drs. Melissa Santos and Jessica Zimmerman. This allows patients and their families to be evaluated in one location by multiple disciplines.

The Center for Airway, Voice, and Swallowing, also known as Aerodigestive Diseases, was started in 2011, and in 2017 was formally designated as a surgical division within Otolaryngology. Under the direction of Dr. Nicole Murray, the multidisciplinary program combines and coordinates the efforts of pediatric specialists from Otolaryngology, Pulmonology, Gastroenterology, Speech and Language (Swallow) Pathology, General Surgery, and Social Work. Appointments with the team include a coordinated visit with pertinent specialists, and concurrent diagnostic tests or interventions.

Connecticut Children's Medical Center was lauded by the Connecticut Consumer Protection Agency to be the first health care organization in the state to have

successfully integrated the hospital's electronic health records system with the state prescription drug database. This accomplishment is evidence of Connecticut Children's commitment to patient safety and compliance with prescription drug monitoring.

Connecticut Children's Division of Excellence in Patient Safety & Clinical Quality, under the direction of Dr. Andrea Benin, has overseen the growth and expansion of the Simulation Program, led by Dr. Carla Pruden and supported by Dr. Mariann Nocera. The breadth and impact of the program have been enhanced to provide simulation sessions for multidisciplinary teams covering a range of clinical topics, as well as addressing issues related to communication, disclosure and debriefing.

In the Otolaryngology Division, Christopher Grindle, MD, and Division Head Scott Schoem, MD, have expanded the implantable bone-anchored hearing implant (Baha) program to complement the existing cochlear implant team. Families now have the option of choosing the totally implantable system known as Baha Attract.

STAFF RECOGNITION

Dr. Glenn Flores received the 2017 Public Policy and Advocacy Award from Academic Pediatric Association (APA). This lifetime achievement award recognizes the cumulative contributions of an individual whose public policy and advocacy efforts at the state, regional, national, or international level have improved the health and well-being of infants, children, and/or adolescents. Dr. Flores' NIH-funded research on insuring uninsured children (the Kids' HELP trial) resulted in the 2017 introduction of a bill (H.R. 2959) into the U.S. Congress entitled the "Child Health Outreach and Mentorship Program Act." It was converted into a mark-up in the Children's Health Insurance Program (CHIP) reauthorization bill.

The American Thoracic Society awarded Dr. Michelle Cloutier the 2017 Respiratory Health Public Service Award. The Public Service Award recognizes contributions to public health related to improvement of indoor and outdoor

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air quality, eradication of tobacco usage, prevention of lung disease, improved management of communicable respiratory diseases, or improvement in the ethical delivery, and access to health care in areas related to lung diseases, sleep disorders, or critical care. There is a special emphasis on efforts that have the potential to eliminate gender, racial, ethnic or economic disparities.

Dr. Karen Rubin of the Endocrinology Division received the 2017 Paul Kaplowitz, MD, Endowed Lectureship for her contributions in quality and cost-effective care in pediatric endocrinology. The award was presented at the 10th International Meeting of Pediatric Endocrinology in Washington, D.C. The conference was a joint meeting of the world's Pediatric Endocrinology Societies where over 4,000 pediatric endocrinologists from throughout the world convened.

Scott Schoem, MD, was the recipient of the Section on Otolaryngology – Head and Neck Surgery 2017 Advocacy Award, presented at the annual AAP NCE, for his work on prevention of choking hazards and button battery injuries, insurance coverage for hearing aids, and improvement of HPV vaccination rates.

Zev Davidovics, MD, Division of Digestive Diseases, Hepatology and Nutrition, was awarded an Early Career Investigator Award at the annual Digestive Disease Week (DDW) conference in Chicago. Dr. Davidovics was recognized for his work analyzing bacteria in dendritic cells and how they may help transport bacteria from the intestine to breast milk. The DDW is attended by over 15,000 hepatologists and gastroenterologists from across the nation and around the world to exchange the latest information on hepatology, gastroenterology, and gastrointestinal surgery.

Dr. Charles Castiglione co-edited a textbook, *Complications in Maxillofacial Cosmetic Surgery*, which was published online in December 2017. The print edition is scheduled for release in January 2018.

Members of the Center for Airway, Voice, and Swallowing were selected to lead a teaching session at the 5th Annual Contemporary Management of Aerodigestive Diseases in Children conference, which was held in November 2017 in Denver, CO.

Dr. Jasmeet Mokha, Division of Digestive Diseases, Hepatology and Nutrition, published novel work concerning the relationship of the intestinal microbiome and cholestasis in premature infants

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receiving parenteral nutrition. Dr. Mokha won the Nutrition Award at the World Congress of Pediatric Gastroenterology, Hepatology, and Nutrition in Montreal, Canada.

Dr. Adam Silverman, director of Connecticut Children's Center for Global Health, was recognized as a 2017 Healthcare Hero for his many years of service to the children of Haiti. Dr. Silverman has dedicated countless hours to patient care, and to training residents and staff to carry on clinical care in Haiti year round. This year, he trained medical staff on newborn resuscitations, and trained this same staff to be newborn resuscitation instructors to help perpetuate this critical knowledge.

Dr. Michael Bourque, senior partner in the General Surgery Division, was honored with the Connecticut Children's Physician of the Year Award. The prize, bestowed annually, was given in recognition of Dr. Bourque's dedication and his compassion for his patients.

Dr. Victor Herson, former division head of Neonatology, earned the Leon Chameides Lifetime Achievement Award for his outstanding leadership in training and education.

Katherine Herbst, MS, manager, Urology and Nephrology, was named a member of the European Society for Paediatric Urology (ESPU) Research Committee. The committee is comprised of eight members serving four-year terms. Herbst is one of only three members from North America on the Research Committee, and the first non-MD to be seated on any of the ESPU's committees. In addition, she was named chief data scientist for the Consortium on Urolithiasis in Pediatrics (CUP).

Connecticut Children's Director of Nursing Research Jacqueline McGrath, PhD, RN, FNAP, FAAN, was honored with the Lifetime Achievement in Neonatal Nursing Award at the 2017 National Association of Neonatal Nurses conference. The award recognizes professionals' commitment and impact on neonatal nursing.

Hendriana Nielsen, RN, clinical research facilitator, was awarded the Pillar of Nursing Excellence Award. This award recognizes nurses at Connecticut Children's for their hard work in any one of the four Magnet domains exemplifying

nursing excellence. Hendriana was commended for exemplifying excellent patient care, vast clinical knowledge, and leadership influencing the practice of research.

GRANTS

Dr. Emily Germain-Lee received funding as co-investigator on a new NIH R01 grant examining the role of circulating signaling molecules on bone density and metabolism throughout the lifespan, which she is carrying out in collaboration with the Jackson Laboratory.

The General Surgery Division began participation in a national multi-center study to determine the timing of inguinal hernia repair in premature infants. The principal investigator is Dr. Meghna Misra.

The Division of Digestive Diseases, Hepatology and Nutrition, under the leadership of Dr. Jeffrey Hyams, remains the Clinical Coordinating Center for a \$10.4 million grant from the National Institutes of Health to lead the PROTECT Study: Predicting Response to Standardized Pediatric Colitis Therapy. This five-year effort coordinates the resources of 29 leading pediatric IBD centers in North America to study newly diagnosed children with ulcerative colitis. PROTECT, along with the Crohn's and Colitis Foundation of America (CCFA) RISK stratification study of 1,200 newly diagnosed children with Crohn's disease, has squarely placed Connecticut Children's at the epicenter of pioneering research in pediatric inflammatory bowel disease.

In 2017, the 15-person staff of the Office of Grants and Sponsored Programs (OGSP) managed \$10,873,222.99 in 154 open accounts for extramural funding, submitted 100 proposals, processed 706 contracts, and had zero findings on its annual audits.

EDUCATION

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 ACGME.

Highlights



Under the direction of Dr. Melissa Held, 3rd and 4th year medical students continued to have outstanding training and experience in their clinical rotations at Connecticut Children's. Their rotations continue to be among the most highly rated at the School of Medicine. The residency program, led by Dr. Edwin Zalneraitis, and assistant program directors Drs. Christine Skurkis, Sharon Smith, Patricia Joyce and Mark Greenstein, continued to attract talented participants who achieved highly, and went or will be going on to valued practices and highly desirable fellowships.

In 2017, the Pediatric Fellowship programs graduated seven fellows and successfully filled nine of 12 available fellowship positions. In preparation for the 2018-2019 academic year, coordinators effectively supported recruitment of 108 applicant interviews across 58 days. The Pediatric Hematology/Oncology Fellowship Program, led by Dr. Andrea Orsey, was newly accredited in January 2017.

The Office of Continuing Medical Education accredited a total of 884 hours of instruction to 910 individual participants for a total of 34,965 contact hours. Accredited CME offerings include Grand Rounds, Pediatric and Mental Health Lecture series, regularly scheduled educational

series, and half-, full- and multi-day conferences.

EXPANSION OF SERVICES

Connecticut Children's Medical Center will be forming an alliance with Western Connecticut Health Network (WCHN: Danbury Hospital, Norwalk Hospital and New Milford Hospital). The medical center and its staff were selected to enhance and expand WCHN's inpatient and outpatient pediatric services not only because of Connecticut Children's significant expertise, but also because of our singular focus on children.

The Critical Care Division's Pediatric Sleep Center has grown under the leadership of Dr. Jay Kenkare to over 1,800 studies annually. In 2017 Connecticut Children's opened a new sleep center location in Glastonbury and expanded sleep clinics from six to 14 sessions per week.

The Center for Airway, Voice, and Swallowing cared for a record numbers of patients. The center has added a second monthly Hartford clinic and initiated a new Farmington team clinic, which has tripled the availability of appointments for outpatients. In January of 2018, operative team capacity will double.

Department of Pediatrics 50th Anniversary

UNIVERSITY OF CONNECTICUT DEPARTMENT OF PEDIATRICS - A CELEBRATION OF 50 YEARS OF COLLABORATION

The year 2017 marked the 50th anniversary of the establishment of the University of Connecticut School of Medicine Department of Pediatrics. The university admitted its first class in 1968 but the Department of Pediatrics was established in October 1967 with the appointment of Dr. Martha Lepow as acting director. Dr. Milton Markowitz, the first director of pediatrics, arrived in 1969 and began appointing the first faculty, which consisted of Drs. Martha Lepow, Robert Kramer, Robert Greenstein, and Patricia Hurbrink.

Since the Farmington facility was not ready, the original clinical activities of the department took place in McCook Hospital in Hartford. This arrangement proved untenable and was discontinued in 1972. Dr. John Raye, the department's first neonatologist, arrived in 1971 and developed a NICU at New Britain General Hospital (now the Hospital of Central Connecticut). Other members of the early faculty included Drs. Arnold Altman (hematology), Mark Ballow (immunology), John Quinn (hematology), David Rowe (endocrinology), and Anthony Phillips (neonatology). Over the next few years,

specialists in infectious diseases, nephrology, developmental pediatrics, and neurology were added. Specialists in endocrinology and neurology were shared with Newington Children's Hospital starting in 1981. Dr. Markowitz and Dr. Leon Chameides, director of pediatrics at Hartford Hospital, made an informal agreement not to duplicate specialty services so as to enable a seamless as possible future merger. In keeping with this agreement, cardiology and gastroenterology were developed at Hartford Hospital and pulmonology at St. Francis Hospital. The university research facilities on the Farmington campus opened in 1974 and were followed by the opening of the John Dempsey Hospital in 1975.

Connecticut Children's Medical Center

Connecticut Children's Medical Center, which opened on April 2, 1996, is unique because three medical institutions, Hartford Hospital (HH), Newington Children's Hospital (NCH), and John Dempsey Hospital (JDH) of the University of Connecticut, after lengthy negotiations, voluntarily closed their services for children and joined forces to develop a freestanding comprehensive children's hospital under



Department of Pediatrics 50th Anniversary

the academic leadership of the University of Connecticut Department of Pediatrics. St. Francis Hospital and Medical Center, although not directly involved in the negotiations, developed a number of pediatric programs, which were incorporated into Connecticut Children's. Leadership structure included having the same individual be the university chairman of the Department of Pediatrics and the physician-in-chief. Dr. John Raye was chairman of the department from 1992-1998 and the first to hold these dual positions (1996-1998). Dr. Paul Dworkin followed (1998-2013) and stepped down in order to dedicate his time to leading the Office for Community Child Health (OCCH) at Connecticut Children's Medical Center. In 2013, Dr. Juan C. Salazar, MD, MPH, FAAP, was appointed chairman of the Department of Pediatrics and physician-in-chief. The University of Connecticut's Department of Pediatrics remains in full academic partnership with Connecticut Children's Medical Center under Dr. Salazar's leadership. This close relationship between UConn and Connecticut Children's Medical Center is one that benefits and enhances both institutions, serves the community best, and perpetuates a long and fruitful tradition of collaboration that began 50 years ago.

Hartford Hospital (HH) was founded in 1854 as a general community hospital. A children's ward was established in 1891 and the first volunteer pediatrician was appointed in 1907. Over the next 60 years, the attending staff and the department directors were volunteer community pediatricians. In 1963, Dr. Fred Flynn was appointed a half-time director. Dr. Leon Chameides, the area's first hospital-based pediatric subspecialist, was appointed in January 1967 to start a cardiology program. In 1971, Dr. Chameides also became director of pediatrics, a position he held until 1980. An infant ICU, which gradually became a NICU, was inaugurated in 1969 under the direction of Dr. Robert Harris, and a pediatric ICU in 1974. Working in conjunction with the university, specialty programs gradually expanded to include gastroenterology, rheumatology, intensive care, infectious diseases, nephrology, and neurology. A pediatric residency, started in 1946, was strengthened over time and was merged with the university's program in 1975.

HH programs incorporated into Connecticut Children's: *Neonatology and NICU, Pediatric Intensive Care, Cardiology, Cardiovascular Surgery, Gastroenterology, Infectious Disease, Nephrology, Neurology, Primary Care, and the Childhood Injury Prevention Center.*

Newington Children's Hospital (NCH) was founded in 1898 as the "Home for Incurables" to care for children with severe disabilities. It underwent a number of name changes to reflect its changing mission: "Newington Home for Crippled Children" in 1918; "The Newington Home and Hospital for Crippled Children" in 1947; "Newington Hospital for Crippled Children" in 1958; and "Newington Children's Hospital" in 1968, but never became an acute care hospital. A brace shop to produce prosthetics and orthotics opened in 1927 and developed a number of patented innovations. In 1963, Dr. Burr Curtis, an orthopaedic surgeon became medical director, and Dr. F. Flynn a half-time director of pediatric services. Dr. Curtis became the driving force behind a new building program, the expansion of surgical services, the development of services for muscular dystrophy, and numerous surgical innovations.

NCH programs incorporated into Connecticut Children's: *Gait Analysis Laboratory, Muscular Diseases, Neurology, Orthopaedic Surgery, Rehabilitation and Physical Therapy Services, and Rheumatology.*

John Dempsey Hospital (please see above for early history of the department). Specialty programs were developed in genetics, neonatology, hematology/oncology, immunology, endocrinology including diabetes, infectious diseases, nephrology, and developmental pediatrics. A pediatric residency was started in 1969. In 1975, the area's residency programs were combined and included rotations through six hospitals (UConn, Hartford, Newington Children's, St. Francis, Mt. Sinai, and New Britain General Hospital). This proved too unwieldy and was reduced to three hospitals (JDH, HH, and NCH) in 1979.

Department of Pediatrics 50th Anniversary

JDH programs incorporated into Connecticut Children's: *Developmental, Endocrinology, Genetics, Hematology/Oncology, Immunology, Infectious Diseases, Neonatology, NICU and a regional transport system, Nephrology, and Neurology.*

St. Francis Hospital and Medical Center was established by the Sisters of Saint Joseph of Chambéry in 1897, and the care of children has always been part of its mission. The pediatric staff consisted of practicing community pediatricians until 1968, when Dr. William E. Hart, Jr., was appointed as the first full-time director. Over the next few years, full-time physicians were added in the ambulatory service, NICU (opened in 1977), and pulmonology. Dr. Paul Dworkin was the second director (1992-1998).

St. Francis programs incorporated into Connecticut Children's: *Adolescent Medicine, Child Abuse Prevention, Developmental-Behavioral Pediatrics, Pulmonary including treatment of cystic fibrosis, sickle cell, and educational services for medical students and other trainees in General Pediatrics, Neonatology and Newborn Services, and Inpatient Pediatrics.*

For the details in this history, we are grateful for the help provided by Leon Chameides, MD, former director of pediatrics at Hartford Hospital and emeritus director of Pediatric Cardiology at Connecticut Children's, Paul Dworkin, MD, former physician-in-chief of Connecticut Children's and emeritus chair of the Department of Pediatrics at the UConn School of Medicine, and Francis DiMario, MD, professor of Neurology and associate chair, Academic Affairs.



Academic Affairs

As an academic teaching hospital, Connecticut Children's Medical Center strives to encourage, support, and recognize the academic activities and achievements of its faculty, and support the highest quality Continuing Medical Education and Pediatric Fellowship programs. The mission of our Academic Affairs team is to empower faculty, 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.

With faculty based at multiple institutions and throughout the community, administration of the Department of Pediatrics, staffed at the University of Connecticut Health Center by Theresa Ahearn, administrative manager, Laurie Papacs, administrative officer, and Theresa George, administrative fiscal assistant, is comprised of centrally managed academic functions and decentralized business and research management functions.

The Office of Academic Affairs, in cooperation with the offices for the chairs of both Pediatrics and Surgery, staffed at Connecticut Children's, manages academic appointment, promotion, and development activities, merit tracking for both in-residence and affiliated faculty, academic faculty contracts, and produces the combined *Department of Pediatrics & Pediatric Surgical Subspecialties Annual Report* and the *Faculty Resource Guide*. In 2017, the office of Academic Affairs continued to develop and implement the Department of Pediatrics three-year (2016-2019) strategic plan, and support the Departments of Pediatric Surgery three-year (2017-2020) strategic plan.

The academic operations are staffed by Esperanza Lesmes, academic operations program manager; with assistance from Deborah Hornblow, per diem editor, and include the following offices:

FACULTY APPOINTMENTS AND PROMOTIONS

In 2017, eight affiliated faculty members from the Department of Pediatrics and one affiliated faculty member from the Department of Orthopaedic Surgery were

promoted to senior rank effective September 6, 2017. In addition, two community faculty members from the Department of Pediatrics were promoted to senior rank effective September 6, 2017. Similarly, the three nominations for appointments that were submitted to the Senior Appointments and Promotions Committee (SAPC) were granted the appointment to senior rank. Seventeen new members from the Department of Pediatrics and four from the Departments of Surgery were provided with junior faculty appointments.

CONTINUING MEDICAL EDUCATION (CME)

The Office of Continuing Medical Education, supported by Deirdre Palmer, Diane Mouradjian, Brenda McCauliff (May 2017) and Kenneth Spiegelman, MD, accredited a total of 884 hours of instruction to 910 individual participants for a total of 34,965 contact hours. Accredited CME offerings include Pediatric Grand Rounds, Pediatric Evening and Mental Health Lecture series, regularly scheduled educational series, and half-, full- and multi-day conferences. After more than eight years as the CME operations coordinator for Pediatric Grand Rounds, Deirdre Palmer retired from Connecticut Children's in January 2017.

FELLOWSHIPS

Marianne Custer, C-TAGME, fellowship program manager, and fellowship program coordinators Lindsay Haythorn, Amanda Ross, Jack Wakefield, Opeyemi Aina and Kierstyn Callahan (December 2017) supported 12 pediatric subspecialty fellowships and 20 fellows. Opeyemi Aina relocated in August 2017, and Jack Wakefield retired in October 2017.

In 2017, the pediatric fellowship programs graduated seven fellows and successfully filled nine of 12 available fellowship positions. In preparation for the 2018-2019 academic year, coordinators effectively supported recruitment of 108 applicant interviews across 58 days. Due to low index case volumes, the Pediatric Urology Fellowship Program will pursue re-accreditation in the upcoming year. The Pediatric Hematology & Oncology Fellowship Program was newly accredited in 2017.

Academic Affairs

PRACTICE QUALITY IMPROVEMENT AND MAINTENANCE OF CERTIFICATION

Eminet Abebe Gurganus, MPH, program development and implementation manager, along with Jessica Ryan, program specialist, and Taylor Dauphin, program associate, collaborated with faculty and community partners to develop four new QI/MOC activities for a total of 30 (16 internal and 14 community-focused) projects. QI/MOC projects promote quality improvement efforts within the hospital and serve as a bridge to the community to disseminate the hospital's excellent quality improvement work to regional practitioners. We also welcomed Cabrini Merclean, MS, program manager, in 2017. The generous support of UnitedHealthcare continues to fund our PQI/MOC activities.

MEDICAL PHOTOGRAPHY

Erin Blinn-Curran started as medical photographer for Connecticut Children's in January 2017. She regularly supports photography needs in the craniofacial and bariatric clinics (130 clinic visits this year) and works closely with our SCAN (Suspected Child Abuse and Neglect) Program medical team. Erin also supports legal documentation requests, continuing medical education, and public relations efforts through quality photographic images that enhance our website, publications, research articles and medical records. Erin took 235+ professional headshots and made 35+ department visits for photos in 2017. Photography highlights this year include our featured *Women in Surgery; Surgeons by Day, Moms by Night* multimedia feature, the Department of Pediatrics 50th Anniversary Celebration, the patient portraits that are on display in our Elite Sports Medicine facility, and images for the 2017 edition of the *Department of Pediatrics & Pediatric Surgical Subspecialties Annual Report*.

Departmental highlights over the last year include:

- In September, Maintenance of Certification (MOC) Part 2 was blended with Pediatric Grand Rounds. Learners who successfully participated and completed the weekly CME activity were eligible to earn up to 1 MOC point in the American Board of Pediatrics' (ABP) MOC program. To date, 166 MOC points have been awarded.

- In October, our office sponsored two new conferences that provided a total of 225 *AMA PRA Category 1 Credit(s)*TM. One internal conference was hosted in partnership with Connecticut Children's Quality Improvement division titled a "Year in Review – Resilience in Health Care." The second, an external conference titled "The Opioid Epidemic: Become a Part of the Solution," was jointly sponsored with the Physician Assistant Society.
- Pediatric Hematology/Oncology was approved by the ACGME as a new UConn School of Medicine Fellowship program, to reside at Connecticut Children's, led by Dr. Andrea Orsey as program director.
- In July, Dr. Jennifer Trzaski assumed the position of program director of the Neonatology Fellowship Program.
- Also in July, Dr. Rebecca Riba-Wolman assumed the position of program director of the Endocrinology Fellowship Program.

STAFF

Annamarie Beaulieu, MPH, BBA

*Senior Director, Academic Affairs,
Grants and Sponsored Programs*

Theresa Ahearn, MS

*Administrative Manager, Department of Pediatrics
University of Connecticut School of Medicine*

Laurie Papacs, MS, MBA

*Administrative Officer, Department of Pediatrics
University of Connecticut School of Medicine*

Theresa George (through November 2017)

*Administrative Fiscal Assistant, Department of Pediatrics
University of Connecticut School of Medicine*

Esperanza Lesmes

*Academic Operations Manager
Connecticut Children's Medical Center*

Diane Mouradjian

Continuing Medical Education Coordinator

Academic Affairs

Deirdre Palmer (retired January 2017)
Continuing Medical Education Coordinator

Brenda McCauliff
Continuing Medical Education Coordinator

Brian Lesmes
Administrative Assistant and Research Intern

Marianne Custer, C-TAGME
Fellowship Program Manager

Jack Wakefield (retired October 2017)
Fellowship Coordinator

Opeyemi Aina (relocated August 2017)
Fellowship Coordinator

Lindsay Haythorn
Fellowship Coordinator

Amanda Ross
Fellowship Coordinator

Kierstyn Callahan
Fellowship Coordinator

Cabrini Merclean, MS
*Program Manager, Office for
Community Child Health (OCCH)*

Eminet Gurganus, MPH
*Program Development and Implementation Manager,
OCCH and PQI/MOC*

Jessica Ryan
Program Specialist, OCCH and PQI/MOC (per diem)

Taylor Dauphin (relocated November 2017)
Program Associate, OCCH and PQI/MOC

Erin Blinn
Medical Photographer



Adolescent Medicine

The Division of Adolescent Medicine had a transition in leadership in 2017 as Alyssa Bennett, MD, became the new division head following the retirement of Nancy Miller, MD, in July. We thank Dr. Miller for her years of service. The division also developed a referral-based consultative clinic in Farmington, CT.

EXPANSION

We opened the Adolescent Medicine Clinic at Connecticut Children's Medical/Surgical Center at 505 Farmington Ave., in Farmington, CT, in February 2017. The clinic provides outpatient consultative services including medical management of eating disorders, menstrual disorders, and contraception.

COLLABORATIONS

The fall of 2017 marked the second year of a partnership between Connecticut Children's and Trinity College Health Center in Hartford, CT. Dr. Alyssa Bennett serves as the Health Center's medical director and works closely with its staff to facilitate both specialty care and emergency care at Connecticut Children's.

CLINICAL SERVICES

The Division of Adolescent Medicine provides clinical care at the following locations:

- Connecticut Children's Adolescent Medicine Clinic: referral-based consultative care of adolescents and young adult patients ages 12 to 24, located at 505 Farmington Ave., Farmington, CT
- CHC at Connecticut Children's: primary care and consultative care of adolescents and young adult patients ages 13 to 21, located at 76 New Britain Ave., Hartford, CT
- Trinity College Health Center: primary care, urgent care, and consultative care of undergraduate students, located at 300 Summit St., Hartford, CT

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 or third year of training. The residents work with Connecticut Children's providers as well as our community clinical partners during their rotation. In August 2017, we mourned the unexpected passing of Dr. Jeffrey Anderson, the director of medical services at Student Health Services at the University of Connecticut. He taught our residents in the Sports Injury Clinic and demonstrated a clear passion for teaching along with an unmatched sense of humor. We are grateful for Dr. Anderson's contributions to our residency program over the past few years.

The Division of Adolescent Medicine also greatly appreciates the time commitment and excellent teaching of the following clinical preceptors and their colleagues:

- Elite Sports Medicine, Farmington, CT: David Wang, MD, MS, Medical Director
- Hartford Job Corps Center, Hartford, CT: Paul Clarke, MD, Medical Director
- Westminster School, Simsbury, CT: Davis Smith, MD, Medical Director
- Institute of Living Adolescent Day Program, Hartford, CT: Jennifer Zajac, MD (previously Sudeshna Basu, MD)
- Women's Ambulatory Health Services, Teen Clinic, Hartford, CT: Amy Nelson, MD

STAFF

Alyssa Bennett, MD

Division Head

Paul Clarke, MD

Amy Nelson, MD

Davis Smith, MD

David Wang, MD, MS

Jennifer Zajac, MD

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 14 anesthesiologists, over nine CRNAs, and three APRNs. 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 9,000 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 1,000 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 also are covered by our division. Our vision is to provide compassionate care with extraordinary expertise for children in Connecticut.

With the addition of three new APRNs this year, Dr. Greg Rutkowski will lead our Perioperative Surgical Home (PSH) initiative. This is a patient-focused multidisciplinary approach designed to improve the surgical patient's experience and provide improved health care at a lower cost. Dr. Eapen Mathew, in addition to his operating room duties, spends time with the division of Pain and Palliative Medicine rounding on inpatients and staffing a clinic. Dr. Michael Archambault, in addition to his work with simulation-based training of anesthesiology and otolaryngology residents, is director of our fellowship

program. We offer a 12-month ACGME-accredited advanced fellowship (CA-4 year) to those interested in advancing their technical skills and clinical knowledge in Pediatric Anesthesiology. Drs. Craig Bonanni, Ted Cortland and Mark Indelicato are working with Dr. Brendan Campbell in General Surgery on projects using National Surgical Quality Improvement Project (NSQIP) data to decrease blood transfusions in spine surgery and streamline care in appendicitis patients. Dr. Gregory Kernisan continues on the board of directors of the Haitian Health Foundation, overseeing health care and educational activities in Haiti. Dr. Jay McIsaac, MD, MS, is a founding board member of the Trauma Anesthesiology Society, the chair of Disaster Preparedness for the Connecticut State Medical Society, and a member of the ASA Committee on Trauma and Emergency Preparedness. He is an associate clinical professor of Anesthesiology at both the UConn and Quinnipiac schools of medicine.

PUBLICATIONS

Karimi M, Sullivan JM, Linthicum C, **Mathew A**. Blood conservation pediatric cardiac surgery in all ages and complexity levels. *World J Cardiol.* 2017 April 26;9(4):332-8.

STAFF

Craig Bonanni, MD, FAAP

Division Head

Michael Archambault, MD

Christina Biello, DO

Amy Bouchard, DO, FAAP

Edward Cortland, MD, FAAP

Deanne Daggett, MD

John Garrison, MD

Thomas Golembeski, MD

Mark Indelicato, MD, MSc, FAAP

Anesthesiology

Gregory Kernisan, MD
Anil Mathew, MD, FAAP
Eapen Mathew, MD
Joseph Mclsaac, MD, MS
Gregory Rutkowski, MD

Heather Allen, CRNA
Elizabeth Beatson, CRNA

Kelly Gorski, CRNA
Allison Holtman, CRNA
Wendy Lord, CRNA
Dana McCarsky, CRNA
Barbara Richards, CRNA
Christine Rouleau, CRNA
Michelle Stevens, CRNA
Rachel Petree, CRNA

Cheyenne Douglas, APRN
Christine Grem, APRN
Alissa Zalewski, APRN

Fellow

Thomas Manning, MD



Asthma Center

The Asthma Center is the region's leader in pediatric asthma research and premier resource for evidence-based asthma programs. We are dedicated to improving the health and well-being of children and families by conducting community-based collaborative research and programs. In doing so, the Asthma Center works to encourage, facilitate, and provide a mechanism for program dissemination and outcomes assessment of clinical and translational research conducted by investigators with and in 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.

At the onset of 2017, leadership of the Asthma Center transitioned as the founding director, Michelle M. Cloutier, MD, became professor emerita. The center is now led by co-directors Jessica P. Hollenbach, PhD, and Tregony Simoneau, MD. Under this new leadership, the vision for the Asthma Center will be focused on 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 will reduce health disparities and their determinants by conducting multi-faceted, interdisciplinary collaborative research on critical contemporary health issues facing children, including chronic disease, and establish optimal models of health management and best practices.

Dr. Cloutier was awarded the prestigious Public Service Award from the American Thoracic Society during the international meeting in Washington, D.C., in May 2017. This award recognizes contributions to public health related to improvement of indoor and outdoor air quality, eradication of tobacco usage, prevention of lung disease, improved management of communicable respiratory diseases, or improvement in the ethical delivery and access to health care in areas related to lung diseases, sleep disorders, or critical care. There is a special emphasis on efforts that have the potential to eliminate gender, racial, ethnic or economic disparities.

The Easy Breathing® program continues to provide state-of-the-art asthma management guidelines to clinicians

throughout Connecticut as well as across the country. Currently, Easy Breathing® is active in six states – Ohio, Kansas, Kentucky, Florida, New Jersey and Vermont. The Easy Breathing® program also initiated a collaboration with CoHero, a start-up mobile health company. CoHero has developed a metered dose inhaler sensor that links to a smartphone application with the primary goal of improving medication adherence. A randomized clinical trial will begin in January 2018 in collaboration with the Pulmonary Division to understand whether the mobile, sensor-based technology is effective at improving adherence to asthma therapy among adolescents with persistent asthma. Efforts also are underway to digitize the Easy Breathing® program. As a more than 15-year-old paper-based program, we are collaborating with Cigna to create a program that can be integrated across electronic health records and school information systems for the purpose of streamlining asthma management. To support this endeavor, the Asthma Center was invited to submit a request for support from the Cigna Foundation.

Our Easy Breathing® for Schools program continues to gain recognition and expand across the state. In May, Christine Langton, MPH, MSW, presented during the CT Department of Public Health's Annual Asthma Conference. As a result of this exposure, Waterbury Public Schools expressed interest in the program and all of the city's public school nurses were officially trained in August 2017. In addition, our partnership with New Haven Public Schools continues as we entered our second consecutive school year of program implementation and training. Our initial and long-lasting partnership with Hartford Public Schools continues, as we are committed to improving the quality of asthma care provided to all children in Connecticut's capital city. Preliminary data analysis of the program's implementation in Hartford Public Schools suggests a significant reduction in overall days of school missed. These data were submitted to the International Meeting of the American Thoracic Society. Finally, in recognition of the program's commitment to improving school nurse-led pediatric asthma management, we were designated as a Program of Promise by the Hospital Charitable Services Awards, presented by Jackson Healthcare.

In July 2017, Dr. Hollenbach initiated work on her project titled "Interrogating the Placental Microbiome Among

Asthma Center

Pregnant Women with Asthma.” As a mentored clinical research award funded by the Robert E. Leet and Clara Guthrie Patterson Trust, Dr. Hollenbach will spend two years conducting this innovative study that examines the fetal and perinatal origins of childhood asthma among families disproportionately affected by this chronic disease.

Dr. Simoneau represented Connecticut Children's at the International Conference of the American Thoracic Society in May 2017 as the organizer and co-chair of a symposium session titled “A Pro/Con Debate in Pediatric Asthma.” She was also recently granted a mentored clinical research award by the Robert E. Leet and Clara Guthrie Patterson Trust for her project titled “Identifying Biomarkers of Allergic Asthma: What Can the Long Non-coding RNA Tell Us?” This study, which will begin in January 2018, is a collaborative effort with the Jackson Laboratory for Genomic Medicine.

CHILDHOOD OBESITY

The Early Childhood Obesity (ECHO) Prevention Program study, submitted by the Hartford Childhood Wellness Alliance and funded by NICHD, was completed in January 2016, and the final analysis is underway. Early findings suggest a lower maternal/child dyad dropout rate in the intervention group, longer breastfeeding duration with suggestions of delayed introduction of solids, and less sugar-sweetened beverage consumption by the child.

PUBLICATIONS

Hollenbach JP, Schifano ED, Hammel C, **Cloutier MM**. Exposure to secondhand smoke and asthma severity among children in Connecticut. *PLoS One*. 2017 Mar 31;12(3):e017454.

Hollenbach JP, Cushing A, Melvin E, McGowan B, Cloutier MM, Manice M. Understanding clinicians' attitudes toward a mobile health strategy to childhood asthma management: a qualitative study. *J Asthma*. 2017 Sep;54(7):754-60.

Khincha PP, Bertuch AA, Agarwal S, Townsley DM, Young NS, Keel S, et al., (**Simoneau T**, 9/20). Pulmonary

arteriovenous malformations: an uncharacterised phenotype of dyskeratosis congenita and related telomere biology disorders. *Eur Respir J*. 2017 Jan 25;49(1).

Farzan N, Vijverberg SJ, Andiappan AK, Arianto L, Berce V, Blanca-López N, et al., (**Cloutier, MM**, 16/46). Rationale and design of the multiethnic Pharmacogenomics in Childhood Asthma consortium. *Pharmacogenomics*. 2017 Jul;18(10):931-43.

Cloutier MM, Wiley JF, Trapp C, Haile J, Gorin AA. The Childcare Center: an untapped opportunity to engage and educate families in healthy behaviors. *J Racial Ethn Health Disparities*. 2017 Jun 20.

Forno E, Wang T, Yan Q, Brehm J, Acosta-Perez E, Colon-Semidey A, et al., (**Cloutier MM**, 9/13). A multiomics approach to identify genes associated with childhood asthma risk and morbidity. *Am J Respir Cell Mol Biol*. 2017 Oct;57(4):439-47.

Yan Q, Brehm J, Pino-Yanes M, Forno E, Lin J, Oh SS, et al., (**Cloutier MM**, 9/23). A meta-analysis of genome-wide association studies of asthma in Puerto Ricans. *Eur Respir J*. 2017 May 1;49(5).

STAFF

Michelle Cloutier, MD
Professor Emerita

Jessica Hollenbach, PhD
Co-Director, Asthma Center

Tregony Simoneau, MD
Co-Director, Asthma Center

Christine Langton, MSW, MPH
Senior Program Evaluator

Brian Lesmes, BA
Administrative Assistant/Data Entry Intern

Nicole Gherlone, BS
Research Assistant/Data Entry Intern

Sigrid Almeida, BS
Research Assistant

Biomedical Informatics

The year 2017 marked the official inauguration of a Division of Medical Informatics, the newest addition to the Department of Pediatrics. The division's debut year was notable for the recruitment of a fifth faculty member and the launch of formal resident training experiences in Clinical Informatics.

Physicians in the new ABMS specialty of Clinical Informatics develop, implement and optimize health information systems, with the goal of improving health care processes and health outcomes for patients and populations. Here, as in many institutions, the role of physician informatics specialists originated in the adoption of electronic health records (EHRs) and has since evolved to leverage the skills of clinicians whose training in computer and data sciences and whose understanding of care processes enables them to be effective problem-solvers in the changing social, organizational, and economic context in which health care is delivered.

The division overall is committed to excellence in health-care informatics through service, leadership, advocacy and innovation. Members of the division design and evaluate solutions to enhance information acquisition, assimilation and application, focusing on human factors and engineering principles that facilitate efficient review, interpretation and decision-making by clinical care providers and patients. The faculty members are broadly invested in a wide range of process redesign and product development initiatives, and are particularly involved in introducing novel technology to their colleagues. Current projects include virtual reality applications for pain management and telemedicine video visits, both of which will become available for clinical care and research during the coming year. Members of the division have particular interest and expertise in:

- Provider efficiency/usability
- Patient engagement technologies
- Population health
- Decision support and change management
- Clinical research informatics

The Medical Informatics physician team is proud to have led the medical center to becoming the first in Connecticut to achieve EHR integration with the state's Prescription

Drug Monitoring Program; they look forward to introducing functionality to support Electronic Prescribing of Controlled Substances in the new year.

Medical Informatics faculty act as consultants to colleagues and also perform direct EHR system configuration. The division's hands-on approach received recognition from one of the largest EHR vendors, Epic, which ranked Connecticut Children's among the nation's top group of "Physician Builders." Dr. Jessica Zimmerman was the most prolific Epic pediatric physician builder in the country. To further advance their commitment to their colleagues, the division is preparing to host Connecticut Children's first annual Provider IT Summit.

Medical Informatics is an inherently multidisciplinary field; each member of the division also having patient care responsibilities in a primary clinical specialty. Within the institution, Physician Informaticists work closely with providers from every other Department of Pediatrics academic division. Externally, Medical Informatics physicians are collaborating with colleagues at the University of Connecticut on a research project exploring multi-source health information sharing for suicide risk intervention, and with counterparts at Yale, Hartford Healthcare and Trinity Health of New England to identify barriers to uptake of electronic prescription cancellation functionality and collectively advocate for change to improve both efficiency and accurate health information exchange. The division's members regularly present their work, facilitate symposia and contribute to panel discussions at state, regional and national conferences.

STAFF

Richelle deMayo, MD, CM

Division Head

Jessica Zimmerman, MD

Christopher Grindle, MD

Rebecca Riba-Wolman, MD

Bethany Peri, MD, PhD

Cardiology

The mission of the Division of Pediatric Cardiology is to care for and improve the cardiovascular health of newborns, children, and adolescents, and transition them into healthy adulthoods. We strive to embrace discovery, teamwork, integrity and excellence in all that we do. For the first time in 2017, U.S. News & World Report ranked Connecticut Children's Medical Center among the Best Hospitals for Pediatric Cardiology and Heart Surgery.

EXPANSION

Dr. Frederic Bernstein has helped the division with outpatient expansion of Pediatric Cardiology outreach satellites. Along with other members from Cardiology and with strategic planning at Connecticut Children's, the Cardiology Division was successful in launching the new Congenital Cardiology Clinic in Norwich. Dr. Bernstein has been an integral part of marketing and pediatrician engagement for the new location. The Norwich clinic is in addition to our other ambulatory pediatric clinics in Danbury, Glastonbury, Farmington and Shelton. We also support fetal cardiology care in conjunction with our colleagues at Danbury Hospital.

INTERVENTIONAL CARDIOLOGY AND ELECTROPHYSIOLOGY: PROCEDURAL INNOVATIONS

Dr. Bernstein was an invited lecturer via an American College of Cardiology Nationwide webinar, and he discussed his achievements in reduction of radiation exposure, which were made at Connecticut Children's over the past two years.

Dr. Bernstein continues to be involved in an ongoing IRB and consultation with a local Connecticut biomedical firm, Dura Biotech. Over the past 12 months, the joint efforts have led the company to receive a NIH SBIR Phase 2 Award for the development of a new biomedical device.

Interim Medical Director Dr. Shailendra Upadhyay 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.

Dr. Upadhyay remains the only certified pediatric electrophysiologist in the state. Under his guidance, the arrhythmia services at Connecticut Children's provide the full array of cardiac rhythm management to children with heart rhythm disorders. Connecticut Children's provides a dedicated pediatric pacemaker clinic run by a pediatric electrophysiologist and a pacemaker nurse.

Dr. Upadhyay presented a complex congenital heart disease case requiring catheter ablation and complex pacemaker implant at the Catheter and Structural Interventions (CSI) international conference in Frankfurt, Germany, in June 2017.

In addition to cardiac surgery, the division's strengths in interventional cardiology and electrophysiology have been instrumental in inclusion of our hospital in *U.S. News & World Report* rankings.

ADULT CONGENITAL HEART DISEASE PROGRAM

Connecticut Children's Medical Center provides most comprehensive care of adults with congenital heart disease (ACHD) in the state of Connecticut. The program is housed by two board-certified adult congenital cardiologists, Drs. Felice Heller and Shailendra Upadhyay. It continues to expand, and Whitney Fairchild, APRN, who was newly recruited, and Cynthia Hutt, RN, are integral parts of this team. Our outpatient clinic follows nearly 1,000 adults with congenital heart disease on an annual basis. It offers comprehensive pregnancy management for patients with congenital heart disease. We work collaboratively with Hartford Hospital in care of ACHD patients and provide inpatient consultations there. We have developed specific institutional policies to provide best care to these patients. Our program was among the first round of applicants in the country, and the only one in Connecticut, to have applied for accreditation by the Adult Congenital Heart Association (ACHA). A site visit for accreditation took place in July 2017. Our research including metabolic risk factors in adult Fontan

Cardiology

patients was presented by Whitney Fairchild, APRN, at the international Adult Congenital Heart Disease Symposium in Cincinnati, OH, in September 2017.

NON-INVASIVE IMAGING: PEDIATRIC AND ADULT

Our echo lab continues to expand and now includes seven sonographers and performs over 6,500 studies per year. It was certified by the Intersocietal Accreditation Commission (ICAEL) for trans-thoracic, trans-esophageal and fetal echocardiography. ICAEL certification recognizes programs that provide high quality patient care. All of our pediatric cardiology sonographers are certified by the Registry of Diagnostic Medical Sonography and/or Cardiac Credentialing International programs. We continue to maintain quality initiatives, have developed imaging protocols and are engaged with ongoing education for sonographers and cardiology colleagues.

NON-INVASIVE IMAGING: FETAL

Our fetal cardiology program provides comprehensive diagnostic services and management of fetal cardiac disease. We perform more than 200 fetal echocardiograms each year. Our multidisciplinary fetal cardiology team includes cardiologists, nurses, specially trained sonographers, obstetricians, maternal fetal medicine specialists, neonatologists, and pediatric cardiothoracic surgeons. In 2017, we began providing fetal cardiology outpatient services at our satellite clinic in Farmington. We have been involved with teaching fetal imaging to maternal fetal groups at Danbury Hospital to be able to provide quality care and partnership in the Danbury area. One of our sonographers, Kristen Orlando, is certified as a fetal sonographer by the American Registry of Diagnostic Medical Sonography. We have been training an additional sonographer in fetal cardiac imaging to further expand our fetal cardiology program.

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 also has become a standard of care for evaluation of adults with congenital heart disease. Dr. Olga T. Salazar is the only pediatric cardiologist in the state with expertise and formal training in cardiac MRI. Our cardiac MRI program has grown substantially over the years providing state-of-the-art care for children and adults with congenital heart disease and cardio-oncology patients.

NON-INVASIVE IMAGING: CARDIO-ONCOLOGY PROGRAM

The Cardiology and Hematology/Oncology divisions at Connecticut Children's collaborate in developing and implementing 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 have created a registry of cancer patients treated with cardio-toxic medications at Connecticut Children's Medical Center. The program aims to provide uniform, evidence-based cardiac care to childhood survivors of cancer by way of research and innovations.

INPATIENT CARDIOLOGY

The Inpatient Cardiology program underwent significant growth during the 2016-2017 academic year, expanding to include five cardiologists and two APRNs. They continue to serve the hospital for inpatient consultations, and provide 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 Cardiothoracic 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 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, and multiple members of the inpatient team are recipients of the McNeill Teaching Award.

Cardiology

This past year saw implementation of multiple diagnosis-specific care pathways that have been standardized around best practices for post-operative cardiac care. The pathways have been shared with other programs in the state of Connecticut, in an effort to achieve regional standardization of care. These pathways reduce variation and will facilitate measurement of outcomes to drive further improvements. The Inpatient Cardiology team fully engages in Family Centered Rounds, with rounds taking place in the patient rooms and receiving direct input from the families on clinical decision-making.

EDUCATION

Our division is dedicated to medical education of future providers and medical professionals including adult cardiology fellows, pediatric residents, and medical students from UConn. Drs. Heller and Upadhyay provide training in congenital heart disease for adult cardiology fellows from Hartford Hospital and John Dempsey Hospital. We have created a formal one-month rotation for adult cardiology fellows with exposure to all aspects of congenital heart disease. Our cardiology services were rated by UConn's adult cardiology fellows as the best teaching services.

Dr. Alicia Wang provides training in fetal cardiology for the maternal fetal medicine fellows at the University of Connecticut. Division members provide sub-specialty training for pediatric residents in Pediatric Cardiology. We also contribute to the training of medical students at both the University of Connecticut and the state's newest medical school, Quinnipiac University.

The School of Pediatric Cardiac Ultrasound through the Hoffman Heart School of Cardiac Ultrasound is now in its eighth year. It is recognized by the Joint Review Committee on Education in Cardiovascular Technology (JRC-CVT) and by 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.

Dr. Heller has been closely involved as the "content expert" for UConn School of Medicine's first year curriculum. She has prepared teaching material for the new course and led classroom discussion regarding congenital heart disease.

PROFESSIONAL RECOGNITION

Dr. Heller has developed an international reputation as a recognized expert for LMNA cardiomyopathy. In 2017, she was an invited speaker to CURE CMD Family and Scientific Conference in Arlington, VA, and at the IV LMNA Consortium Meeting in Madrid, Spain, on the same topic.

Dr. Seth Lapuk has been appointed as a national reviewer for the Joint Review Committee on Education in Cardiovascular Technology, which is the national review agency for the Allied Health Commission on the accreditation of Allied Health Education programs. Dr. Lapuk was nominated and selected for the Founders Regional Board of the American Heart Association.

Dr. Olga T. Salazar was appointed to the rank of associate professor in the UConn School of Medicine, Department of Pediatrics, effective September 6, 2017.

ACTIVE GRANTS

Establishing Cardiac Magnetic Resonance Imaging as the Standard of Care for Childhood Cancer Patients Exposed to Anthracycline Therapy. Hartford Foundation for Public Giving. PI: Dr. Olga Toro-Salazar. 1/1/2016-12/31/2017.

The Role of Aerobic Exercise to Modulate Cardiotoxicity in Long-Term Cancer Survivors. Hoffman Foundation. PI: Dr. Olga Toro-Salazar. 1/1/2015 – 1/1/2017.

Use of Diversity Outbred Mice to Study Cardiotoxicity of Chemotherapeutic Agents. UConn Institute for Systems Genomics Affinity Research Collaboratives (ARC). PI: Dr. Olga Toro-Salazar. 12/1/2013 – 12/1/2018.

Correlation Between Transthoracic Echocardiography and Cardiac Magnetic Resonance Imaging in the Assessment of

Cardiology

Left Ventricular Function in Patients with Repaired Tetralogy of Fallot. AAP Resident Research Grant. PI: Tam Doan, RDCS, MD. Co-PI, mentor: Dr. Olga Toro-Salazar. 2016-2017.

A Validity Study of Integrated Care Delivery Guidelines for AIC. St. Baldrick's Foundation Supportive Care Research Grant. Co-PI: Dr. Olga Salazar. 06/2017-2018.

PUBLICATIONS

Singhvi S, Agarwal A, Hammond J, Sadiq I, **Upadhyay S**, Darsaklis K. Iatrogenic diversion of inferior vena cava to left atrium after surgical closure of atrial septal defect. *J Am Coll Cardiol*. 2017 Mar;69(11):2208.

Singhvi S, Agarwal A, **Upadhyay S**, Fusco D, Darsaklis K. Right ventricular outflow tract obstruction caused by isolated sinus of valsalve aneurysm. *J Am Coll Cardiol*. 2017 Mar;69(11):2209.

Londono-Obregon C, Goldmuntz E, **Davey BT**, Zhang X, Slap GB, Kim YY. Adult CHD: the ongoing need for physician counseling about heredity and contraceptive options. *Cardiol Young*. 2017 May;27(4):671-6.

Truong VT, Safdar KS, Kalra DK, Gao X, Ambach S, Taylor MD, Moore R, Taylor RJ, Germann J, **Toro-Salazar O**, Jefferies JL, Bartone C, Raman SV, Ngo T, Mazur W. Cardiac magnetic resonance tissue tracking in right ventricle: feasibility and normal values. *Magn Reson Imaging*. 2017 May;38:189-95.

Bayart C, Tamburro J, Vidimos A, Wang L, **Golden A**. Atenolol versus propranolol for treatment of infantile hemangiomas during the proliferative phase: A retrospective noninferiority study. *Pediatr Dermatol*. 2017 Jul;34(4):413-21.

Upadhyay S, Walsh EP, Cecchin F, Triedman JK, Villafane J, Saul JP. Epicardial ablation of tachyarrhythmia in children: Experience at two academic centers. *Pacing Clin Electrophysiol*. 2017 Sep;40(9):1017-1026.



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Alicia Wang, MD

Amy Carlucci Wu, MD

Leon Chameides, MD

Professor Emeritus

Whitney Fairchild, APRN

Kelly Henri, APRN

Lisa McCabe, APRN

Cardiothoracic Surgery

The Pediatric Cardiothoracic Surgery service is an innovative merged practice supported equally by Connecticut Children's Medical Center and Yale-New Haven Children's Hospital. This joint program provides world-class surgical care and support to the children and adults of Connecticut born with congenital heart disease. In 2017, for the first time, U.S. News & World Report ranked Connecticut Children's Medical Center among the Best Hospitals for Pediatric Cardiology and Heart Surgery.

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 with these objective benchmarks and, in 2017, we were for the first time ranked among best U.S. hospitals for heart surgery. Our results are included and updated on the STS website.

The section of Pediatric Cardiothoracic Surgery strives for discovery, teamwork, integrity and excellence in cardiac surgical care. Dr. Mohsen Karimi continues to champion our blood conservation program, allowing for transfusion-free open-heart surgery for many of our patients.

We have developed inpatient post-operative surgical care pathways. This has streamlined a uniform post-operative care to our cardiac surgery patients.

• Innovations

- Minimally invasive surgery for selected congenital heart defects
- Continued work on blood conservation, transfusion-free protocols

• Education

- Ongoing education and support for Cardiac Nurses in PICU.

PUBLICATIONS

Karimi M, Sullivan J, Linthicum C, Matthew A. Blood conservation pediatric cardiac surgery in all ages and complexity levels. *World J Cardiol.* 2017 April 26;9(4): 332-8.

Karimi M, Sullivan J, Lerer T, Hronek C. National trends and variability in blood utilization in paediatric cardiac surgery. *Interact Cardiovasc Thorac Surg.* 2017 Jun 1; 24(6):938-43.

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Center for Airway, Voice, and Swallowing

The Center for Airway, Voice, and Swallowing, also known as Aerodigestive Diseases, was started in 2011 and was designated in 2017 as a surgical division within Otolaryngology. The mission of the center is to provide state-of-the-art care for children with complex disorders affecting airway, breathing, feeding, swallowing, and growth.

The center is truly unique in that it is multidisciplinary, consisting of pediatric specialists from Otolaryngology, Pulmonology, Gastroenterology, Speech and Language (Swallow) Pathology, General Surgery, and Social Work. 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 coordinated approach offers many advantages for patients and families: 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. Perhaps the greatest advantage, however, is that the team collaboration yields a more comprehensive and sophisticated treatment plan.

The year 2017 was an exciting one for the Center for Airway, Voice, and Swallowing. In addition to gaining status as a division within Otolaryngology, record numbers of patients were cared for. The center has added a second monthly Hartford clinic and initiated a new Farmington team clinic, which has tripled the availability of appointments for outpatients. In January of 2018, operative team capacity will double. Nationally, the team was honored to have been selected to lead a teaching session at the 5th Annual Contemporary Management of Aerodigestive Diseases in Children conference, which was held in November 2017 in Denver, CO. Technologically and financially, we are working with our IT partners on a comprehensive Epic build, which will serve as a model for other Connecticut Children’s multidisciplinary teams. Future goals include the addition of a nurse, a nutritionist, and an anesthesiologist, as well as the development of a robust research program.

GRANTS AWARDED

Simoneau T. Patterson Trust Mentored Research Award for the research study: Identifying Biomarkers of Allergic Asthma: What Can the Long Non-Coding RNA Tell Us? Collaborative research study with JAX lab. 2017.

Kavanagh K, **Murray N.** American Academy of Otolaryngology, Women in Otolaryngology Section Grant: Development of a Local Women Otolaryngology (LWIO) Interest Group, 2017.

Lapin C. Principal Investigator: Cystic Fibrosis Clinical Care Grant. Cystic Fibrosis Foundation, 1999 – present.

Lapin C. Therapeutic Development Center Grant, sponsored by Cystic Fibrosis Foundation. Therapeutics Development, Inc., 2008 – present.

Lapin C. A Long-Term Prospective Observational Safety Study of the Incidence of and Risk Factors for Fibrosing Colonopathy in US Patients with Cystic Fibrosis Treated with Pancreatic Enzyme Replacement Therapy: A Harmonized Protocol Across Sponsors. Abbott Laboratories (primary), Aptalis Pharma US, Inc., Janssen Research & Development, LLC, 2012 – present.

Lapin C. A Multi-Center, Placebo-Controlled, Double-Blind, Randomized Study Evaluating the Role of Glutathione on Growth Parameters in Children with Cystic Fibrosis. Sponsored by Cystic Fibrosis Foundation Therapeutics, Inc., 2017 – present.

Lapin C. A Phase 4, Open-label Treatment, Randomized, Multicenter, 2-Arm, Parallel-group, Pilot Study of Adherence to Lumacaftor/Ivacaftor in CF Subjects Homozygous for the F508del-CFTR Mutation. Sponsored by Vertex, 2015 – 2017.

Center for Airway, Voice, and Swallowing

PUBLICATIONS

Khincha PP, Bertuch AA, Agarwal S, Townsley DM, Young NS, Keel S, Shimamura A, Boulad F, **Simoneau T**, et al. Pulmonary arteriovenous malformations: an uncharacterised phenotype of dyskeratosis congenita and related telomere biology disorders. *Eur Respir J*. 2017 Jan;49(1):1601640. doi: 10.1183/13993003.01640-2016.

BOOK CHAPTERS

Murray N. Sinonasal manifestations of cystic fibrosis. In: *Otolaryngology and facial plastic surgery*. Medscape Reference (formerly eMedicine World Medical Library), eMedicine.medscape.com, Inc. 2017, 2015, 2013, 2011, 2008, 2005, 2000.

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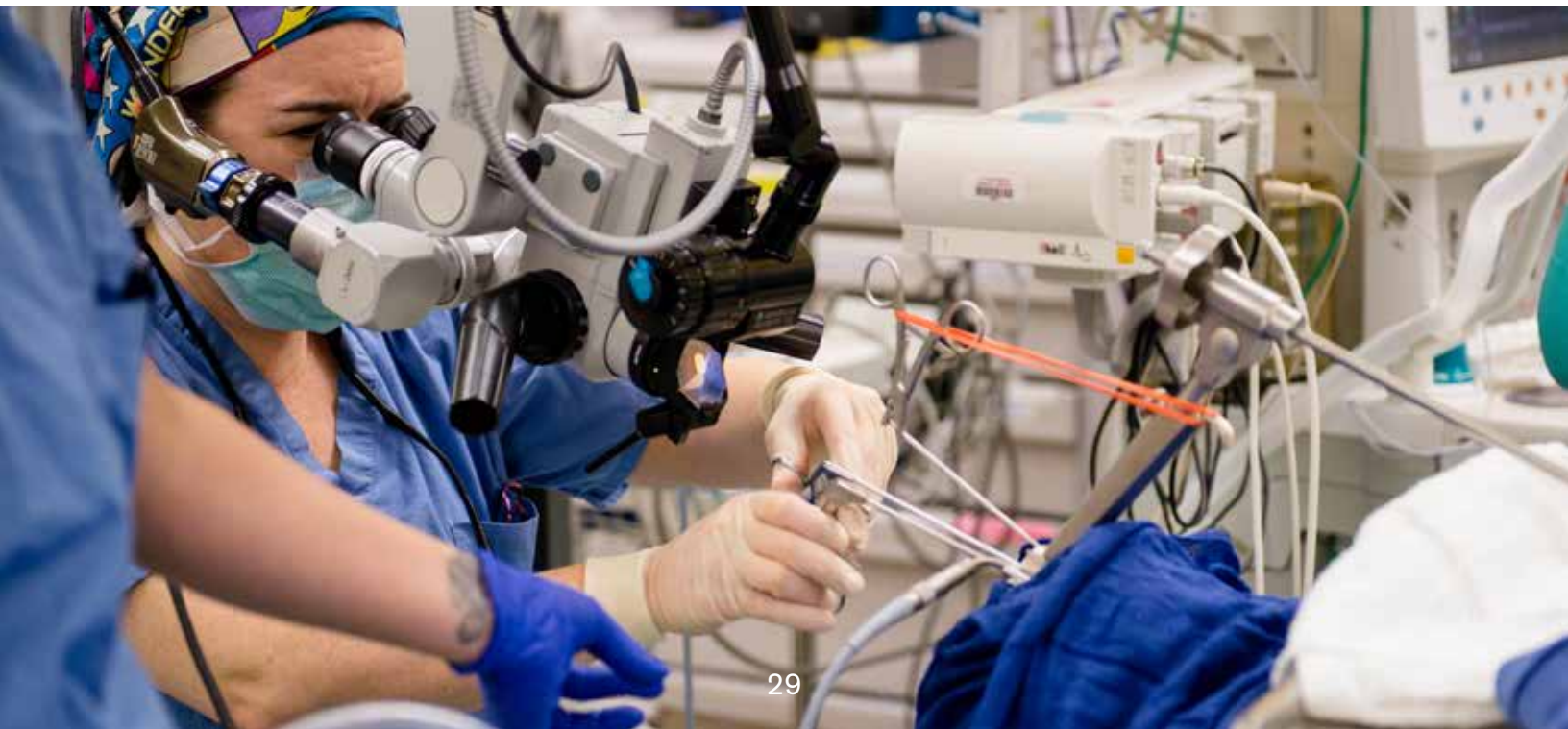
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Center for Behavioral Health

The Center for Behavioral Health (CBH) focuses on developmental and clinical psychology research, especially as it relates to child and adolescent health and pediatric care. The research conducted by CBH is interdisciplinary, collaborative, and emphasizes the psychological and physical health of children, adolescents, and their families. Research conducted by CBH primarily takes place in settings such as Connecticut Children's medical clinics, schools, homes, and community organizations.

In 2017, the Center for Behavioral Health welcomed administrative assistant Sonja Gagnon, BS, and research assistant Melanie Klink, BA.

The past year has been quite busy for the CBH. Our work in 2017 yielded 26 presentations at national conferences including the Society for Research in Child Development, the Society for the Study of Human Development, the National Council on Family Relations, the Society of Pediatric Psychology, the Association for Psychological Science, and the Pediatric Academic Societies annual and biennial meetings. As a group, we published 21 manuscripts, many in top-tier journals. Our research also was featured in many outlets, including *Time* magazine.

Currently, we have a number of active research projects. Projects led by Dr. Christine McCauley Ohannessian include the Adolescent Adjustment Project (AAP), the REACH Project, the BALANCE project, and the PANDA (Predictors of Adolescent Depression and Anxiety) project. Data from our long-term, longitudinal Adolescent Adjustment Project (adolescentadjustmentproject.org) and our REACH project on emerging adults (reachresearchproject.org) have yielded 13 published papers this year. Our NSF-funded BALANCE project also has kept us busy. The BALANCE project is a partnership between Connecticut Children's Medical Center, the University of Maryland, and Georgia State University. The goal of BALANCE is to examine the interplay between parental work and family conflict and the manner in which this interplay is related to adolescent behavioral health. Survey data collection has been completed for 100 families, and laboratory data collection now is underway. We recently submitted our first paper based on the BALANCE project.

Our PANDA (pandaresearchproject.org) project, funded by the Alvord Foundation, also has been extremely active. The primary aim of the PANDA project is to uncover predictors of gender differences in depression and anxiety during early adolescence. We have collected two waves of data from approximately 1,500 middle school students in Connecticut and Massachusetts. Currently, we are preparing for a third wave of data collection to take place this fall. We also submitted our first manuscript based on PANDA data. Numerous students have been involved in these projects this year, including 40 UConn undergraduate students, and interns and fellows from the UConn School of Medicine, Quinnipiac School of Medicine, Springfield College, Trinity College, and Central Connecticut State University. Of note, in 2017, Dr. Ohannessian continued her collaboration as a co-investigator with Dr. Yifrah Kaminer from the Psychiatry Department at UConn Health, and Duke University, on NIH-funded projects focusing on treatments for adolescents with substance use disorders.

During 2017, clinical research projects led by Dr. Jessica Guite continued to focus on the development of interventions for youth with chronic pain/symptoms and their parents, and examined processes to support effective self-management of these challenging problems. Her collaborations with colleagues at Connecticut Children's and external partners generated publications focusing on various aspects of chronic pediatric pain management in the context of interdisciplinary care including obesity, sleep, and medication use. Institutional support for a cross-site pilot study led to a publication and a successful NIH-funded clinical trial planning grant application for "Fibromyalgia Integrative Training Program for Teens (FIT Teens)," to develop a Phase III multi-site clinical trial for this innovative intervention. Dr. Guite serves as the site principal investigator for the trial, "Multi-site randomized clinical trial of FIT Teens for juvenile fibromyalgia (PI: Kashikar-Zuck; <https://clinicaltrials.gov/ct2/show/NCT03268421>)," and Connecticut Children's Medical Center serves as one of seven sites participating in this five-year project (6/15/2017-6/14/2022; Cincinnati Children's Hospital Medical Center-primary site). The project will test whether

Center for Behavioral Health

FIT Teens, an 8-week group intervention combining coping skills (CBT) and neuromuscular exercises to improve strength, fitness and body mechanics, is more effective at reducing disability compared to CBT or Graded Aerobic Exercise (GAE) alone at three months, and if treatment effects are maintained over 12 months. Participation in the RCT has provided opportunities for ancillary research protocol development, with a current project focused on examining pain-related readiness to change as a potential mechanism of action in relation to intervention effects over time. Dr. Guite also served as a co-principal investigator with Beth S. Russell, PhD, for, "Parents as Coping Coaches (PaCC)," a UConn InCHIP/ Connecticut Children's Dual-PI Seed Grant that supported the development of a brief, parent-focused group intervention to improve parenting distress tolerance and caregiver burden (primary aims) and functional outcomes for adolescents with chronic pain syndromes (secondary aim). The year 2017 also welcomed the establishment of a new Pediatric Pain Psychology Postdoctoral Fellowship position that includes clinical research involvement in the FIT Teens RCT and has provided an important foundation for further behavioral health program development and clinical research expansion at Connecticut Children's.

During 2017, the Center for Behavioral Health collaborated with many external partners including the University of Alabama, Columbia University, the University of California Berkeley, the University of Connecticut at Storrs, UConn Health, UConn School of Social Work, the University of Delaware, the University of Maryland, the University of North Carolina, Georgia State University, the University of New Orleans, the State University of New York, Cincinnati Children's Hospital Medical Center/University of Cincinnati, Children's Hospital of Philadelphia/University of Pennsylvania, Children's Hospital of Wisconsin/Medical College of Wisconsin, Hartford Hospital/The Institute of Living, and the Alvord Foundation.

PUBLICATIONS

Elsaesser C, Russell B, **Ohannessian CM**, Patton DU. Parenting in a digital age: a review of parents' role in

preventing adolescent cyberbullying. *Aggress Violent Behav.* 2017;35:62-72.

Galica V, Vannucci A, Flannery K, Ohannessian CM. Social media use and conduct behavior problems in emerging adults. *Cyberpsychol Behav Soc Netw.* 2017;20(7):448-52.

Kaminer Y, **Ohannessian CM**, Burke R. Adolescents with cannabis use disorders: adaptive treatment for poor responders. *Addict Behav.* 2017;70:102-6.

Malooly AM, **Flannery KM, Ohannessian CM.** Coping mediates the association between gender and depressive symptomatology in adolescence. *Int J Behav Dev.* 2017 41(2):185-97.

Ohannessian CM, Cavanaugh A, Cheeseman K. Gender and racial/ethnic differences in anxiety disorders in adolescence. *Adolesc Psychiatry.* 2017;7:1-12.

Ohannessian CM, Milan S, **Vannucci A.** Gender differences in anxiety trajectories from middle to late adolescence. *J Youth Adolesc.* 2017;46(4):826-39.

Ohannessian CM, Vannucci A, Flannery K, Khan S. Social media use and substance use during emerging adulthood. *Emerg Adulthood.* 2017;5(5):364-70.

Puzino K, **Guite JW**, Moore M, Lewen MO, Williamson A. The relationship between parental responses to pain, pain catastrophizing, and adolescent sleep in adolescents with chronic pain. *Child Health Care.* [Epub ahead of print] 2017 May 10. doi: 10.1080/02739615.2017.1327358.

Russell B, **Simpson E, Flannery K, Ohannessian CM.** The impact of adolescent substance use on family functioning: the mediating role of internalizing symptoms. *Youth Soc.* [Epub ahead of print] 2017 Jan 23. doi: 10.1177/0044118X16688708.

Santos M, Murtaugh T, Pantaleao A, Zempsky WT, **Guite JW.** Chronic pain and obesity within a pediatric interdisciplinary pain clinic setting: a preliminary examination of current relationships and future directions. *Clin J Pain.* 2017;33(8):738-45.

Center for Behavioral Health

Shank LM, Crosby RD, Grammer AC, Shomaker LB, **Vannucci A**, Burke NL, et al. Examination of the interpersonal model of loss of control eating in the laboratory. *Compr Psychiatry*. 2017;76:36-44.

Tran ST, **Guite JW**, Pantaleo A, Pfeiffer M, Myer GD, Sil S, et al. Preliminary outcomes of a cross-site cognitive-behavioral and neuromuscular integrative training intervention for juvenile fibromyalgia. *Arthritis Care Res*. 2017;69(3):413-20.

Vannucci A, Flannery KM, Ohannessian, CM. Social media and anxiety in emerging adults. *J Affect Disord*. 2017;207:163-6.

Vannucci A, Ohannessian CM. BMI z-scores and weight status predict conduct disorder symptoms in adolescents. *J Adolesc Health*. 2017;61(5):657-60.

Vannucci A, Ohannessian CM. Body image satisfaction and anxiety trajectories during adolescence. *J Clin Child Adolesc Psychol*. [Epub ahead of print] 2017 Oct 31. doi: 10.1080/15374416.2017.1390755.

Vannucci A, Ohannessian CM. Self-competence and depressive symptom trajectories during adolescence. *J Abnorm Child Psychol*. [Epub ahead of print] 2017 Aug 29. doi: 10.1007/s10802-017-0340-3.

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Center for Global Health

The Center for Global Health (CGH) improves the health of children who live in resource-limited settings by supporting the collaborative, sustainable capacity-building activities of our learners, staff and faculty.

Through the actions of the CGH leadership and volunteers, a culture at Connecticut Children's is created that reinforces our status as world citizens, and the truth that we have the ability, opportunity and responsibility to improve the health of children not just locally, but throughout the world. This mission is accomplished through educational activities such as the Global Healthcare Conference and the Global Health Film Festival. In 2017, in the clinical realm, major successes of the CGH include over five capacity-building missions to Haiti as well as continued growth in the infant cooling program in India. In addition, and in recognition of the increasing influence of global health on the activities of the Department of Pediatrics, the theme of the 50th Anniversary celebration was "Global Impact." Finally, CGH Director Adam Silverman, MD, was awarded the 2017 Healthcare Hero award from the Connecticut Hospital Association as well as a 2017 CHEST Foundation Research Grant in Community Service.

The Center for Global Health is the result of an evolution that began with a hospital-based effort to bring together like-minded individuals who are dedicated to collaboratively exploring and solving complex health challenges in resource-limited settings. The Center for Global Health (CGH) developed into its current status in 2016, at which time Dr. Silverman was named the director and Karen Damon Callahan, MHS, RN, was named the associate director, with support from the Executive Management Team and Physician-in-Chief Juan C. Salazar, MD, MPH, FAAP. The CGH benefits Connecticut Children's by creating a culture that recognizes our role as world citizens and provides opportunities for learners, staff and faculty to participate in philanthropic global health activities, in addition to increasing access to high quality care for children throughout the world. CGH volunteers participate in meaningful global health activities, which have been demonstrated to improve primary role job satisfaction and institutional loyalty, and reduce staff turnover. The CGH

identifies methods for lowering barriers to participation in global health activities as well as training the next generation of global health-care providers and leaders.

During 2017, the CGH continued its mission of education and culture-building by providing a venue for sharing the efforts of health care providers from Connecticut Children's, the UConn School of Medicine, and other institutional health-care partners during the 5th annual Global Healthcare Conference. This event was expanded in 2017 to include speakers from outside institutions, and it highlighted the activities of volunteers who participated in a variety of activities in resource-limited settings including Ghana, Haiti, Jamaica, India, and Nepal. Additionally, the CGH expanded its efforts to educate and bring cultural awareness to health care providers about global health topics and dilemmas at the 4th annual Global Health Film Festival which featured Emmy-winning film director Lisa Russell, MPH, who is internationally recognized for her global health documentaries and filmmaking workshops.

To date, the CGH includes participants who have worked to build capacity in Afghanistan, Botswana, Cameroon, Columbia, Ecuador, Ethiopia, Guatemala, Haiti, India, Iraq, Ivory Coast, Jordan, Nepal, Nicaragua, Paraguay, and Romania. The foundation of these capacity-building activities are collaborations, partnerships and sustainable volunteering opportunities with several organizations including:

- Justinien University Hospital, as volunteers with Konbit Santé in Cap-Haitian, Haiti
- Hôpital Bernard Mevs, as volunteers with Project Medishare in Port-au-Prince, 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

Center for Global Health

PUBLICATIONS

Held MR, Kotler H, Sneller H, Sullivan CB. Lemierre's syndrome presenting as multifocal pyomyositis as young child. *Pediatr Infect Dis J.* 2017; Sept 36(9).

Hussain N. Recent advances in imprinting disorders. *Am Acad Pediatr.* 2017; Sept 18 (9):532-43.



Dr. Adam Silverman and a young patient in Haiti.

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Emergency Medicine Physician, Connecticut Children's Medical Center

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Pediatric Intensive Care Unit (PICU) Nurse, Connecticut Children's Medical Center

Child Abuse

The Division of Child Abuse Pediatrics provides clinical evaluation services through the SCAN (Suspected Child Abuse and Neglect) program at Connecticut Children's Medical Center. 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.

Beyond clinical work, 2017 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 five regional community multidisciplinary teams
- Provision of regular expert testimony in Connecticut courts
- Participation in statewide initiatives focused on child abuse prevention, human trafficking, and abusive head trauma
- Provision of national trainings to attorneys and judges on medical evaluation of abuse and neglect
- Provision of national medical peer review to other medical providers
- Service on national committees for the AAP Section on Child Abuse and Neglect and the Ray E. Helfer Society

2017 DIVISION HIGHLIGHTS

- 50% increase in outpatient clinic volume
- Recruitment of a second APRN (Sarah Dean)
- Initial activities of the new Children's Center on Family Violence, a program of the Connecticut Children's Office for Community Child Health. This is a collaboration between the Injury Prevention and Child Abuse programs of Connecticut Children's and the CT Coalition Against

Domestic Violence (CCADV). The center is co-directed by Dr. Nina Livingston, division director of Connecticut Children's Child Abuse Pediatrics Division, and Karen Jarmoc, CEO of CCADV. This multidisciplinary center seeks to improve outcomes for children impacted by family violence through work in the areas of research, education, clinical care, and public policy.

PUBLICATIONS

Jinna S, **Livingston N, Moles RL**. Cutaneous sign of abuse: kids are not just little people. Clin Dermatol. Epub 2017 Aug 18. <https://doi.org/10.1016/j.clindermatol.2017.08.002>.

Buesser KE, Leventhal JM, Gaither JR, Tate V, Cooperman DR, **Moles RL**, Silva CT, Ehrlich JF, Sharkey MS. Inter-rater reliability of physical abuse determinations in young children with fractures. Child Abuse Negl. 2017 Oct;72:140-6. doi: 10.1016/j.chiabu.2017.08.001. Epub 2017 Aug 10. PMID: 28802910.

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Anabela Coyne

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Child and Adolescent Psychiatry

The Division of Child and Adolescent Psychiatry remains a highly vibrant resource within the Department of Pediatrics at the Connecticut Children's Medical Center. In 2017, we expanded our division to include one additional child and adolescent psychiatrist to serve as consultant to the behavioral health emergency services within the Pediatric Emergency Department and to the inpatient consultation-liaison team. We continue to be actively recruiting new physicians as the demand for child psychiatry services, especially for future collaboration efforts with Connecticut Children's, continues to grow. In addition, our team at Connecticut Children's has continued to partner with the Inpatient Management Team (IMT) to develop clinical pathways for our most complicated patients in order to provide effective collaborative care models based on extensive research of evidence-based treatment and national consensus models.

At Connecticut Children's, the division's services include: a consultation/liaison service that provides inpatient and outpatient evaluation and treatment services of children and adolescents with co-morbid psychiatric and medical conditions; and emergency psychiatric assessment, triage and disposition services within the Connecticut Children's Emergency Department. 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, on the campus of the IOL, we continue to serve as one of the hubs for the new 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 2,200 care coordination activities since the program started in June of 2014. Under the leadership of Dr. Lisa Namerow as medical director, our team has consistently obtained excellent ratings on all hub activities from our PCPs.

On the campus of Connecticut Children's, we continue to work closely with the Inpatient Management Team (IMT), developing collaborative care pathways. We completed a medically unexplained physical symptoms (MUPS) pathway, which went "live" in October of 2016, and we are finalizing a new clinical pathway to target and standardize an approach to acute encephalopathy/delirium. Working in collaboration with Dr. Catherine Wiley, division chief of Primary Care, and Dr. Karen Rubin, director of the Office of Innovative Care, and vice chair of Academic Affairs, we are completing a revision of an outpatient collaborative care pathway for the treatment of anxiety and depression within primary care. With the pathway completed at the end of 2017, we have begun to focus on outcome measures to support the efficacy of standardizing treatment approaches especially in patients who require collaboration between mental health providers and medical providers.

Connecticut Children's and the Institute of Living (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 fellow who joins our consultation-liaison service for 12 months. In 2017, we had over 50 learners assigned to one of our clinical sites. They included pediatric residents who are now rotating through our adolescent service as part of their adolescent medicine training in addition to doing electives in child and adolescent psychiatry on our outpatient and consult services.

In the research area, Dr. Lisa Namerow and her colleagues from the IOL, Dr. Gualberto Ruano and Michael Stevens, PhD, have

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completed their three-year project addressing the role of pharmacogenomics in the treatment of pediatric depression. In addition, Michael Stevens, PhD, remains active in the area of fMRI research in mental health conditions such as ADHD, autism and mood disorders. Our clinical trials program, which includes pediatric psychopharmacology research, is now under the leadership of Dr. Mirela Loftus and continues to have active and ongoing projects.

Our faculty members remain active both in the community and nationally providing presentations on a variety of mental health issues to schools, primary care, and grand rounds. At the American Academy of Child and Adolescent Psychiatry in Washington, D.C., in October 2017, we were honored to have been selected to present on topics including developing a tool for homicide risk assessments, pharmacogenomics, autoimmune encephalopathy, and integration of clinical pathways in pediatrics.

PUBLICATIONS

- Boedhoe PS, Schmaal L, Abe Y, Ameis SH, Arnold PD, Batuszko MC, et al., (**Stevens MC**, 52/66). Distinct subcortical volume alterations in pediatric and adult OCD: a worldwide meta- and mega-analysis. *Am J Psychiatry*. 2017 Jan 1;174(1):60-9. doi: 0.1176/appi.ajp.2016.16020201. Epub 2016 Sep 9. PubMed PMID: 27609241; PubMed Central PMCID: PMC5344782.
- Zempsy WT, **Stevens MC**, Santanelli JP, Gaynor AM, Khadka S. Altered functional connectivity in sickle cell disease exists at rest and during acute pain challenge. *Clin J Pain*. 2017 Mar 7. doi: 10.1097/AJP.0000000000000492. [Epub ahead of print] PubMed PMID: 28272117.
- Ruf BM, Bessette KL, Pearlson GD, **Stevens MC**. Effect of trait anxiety on cognitive test performance in adolescents with and without attention-deficit/hyperactivity disorder. *J Clin Exp Neuropsychol*. 2017 Jun;39(5):434-48. doi: 10.1080/13803395.2016.1232373. Epub 2016 Oct 3. PubMed PMID: 27690740.
- Khadka S, **Stevens MC**, Aslanzadeh F, Narayanan B, Hawkins KA, Austad CS, et al. Composite impulsivity-related domains in college students. *J Psychiatr Res*. 2017 Jul;90:118-25. doi: 10.1016/j.jpsychires.2017.02.016. Epub 2017 Feb 21. PubMed PMID: 28273441.
- Chung YS, Hyatt CJ, **Stevens MC**. Adolescent maturation of the relationship between cortical gyrification and cognitive ability. *Neuroimage*. 2017 Jul 1;158:319-31. doi: 10.1016/j.neuroimage.2017.06.082. [Epub ahead of print] PubMed PMID: 28676299.
- Yao N, Winkler AM, Barrett J, Book GA, Beetham T, Horseman R, et al., (**Stevens MC**, 11/15). Inferring pathobiology from structural MRI in schizophrenia and bipolar disorder: Modeling head motion and neuroanatomical specificity. *Hum Brain Mapp*. 2017 Aug;38(8):3757-70. doi: 10.1002/hbm.23612. Epub 2017 May 8. PubMed PMID: 28480992.
- Hallion LS, Tolin DF, **Assaf M**, Goethe JW, Diefenbach GD. Cognitive control in generalized anxiety disorder: relation of inhibition impairments to worry and anxiety severity. *Cognit Ther Res*. 2017;41(4):610-8. doi:10.1007/s10608-017-9832-2.
- Di Martino A, O'Connor D, Chen B, Alaerts K, Anderson J, **Assaf M**, et al. Enhancing studies of the connectome in autism using the Autism Brain Imaging Data Exchange II. *Sci Data*. 2017 Mar 14; 4:170010. PMCID: PMC5349246.
- Yao N, Winkler A, Barrett J, Book G, Beetham T, Horseman R, (**Assaf M**, 12/15). Inferring pathobiology from structural MRI in schizophrenia and bipolar disorder: modeling head motion and neuroanatomical specificity. *Hum Brain Mapp*. 2017; 38(8):3757-70. PMID: 28480992.
- Rabany L, Diefenbach G, Bragdon LB, Pittman BP, Zertuche L, Tolin DT, Goethe J, **Assaf M**. Resting-state functional connectivity in generalized anxiety disorder and social anxiety disorder: evidence for a dimensional approach. *Brian Connect*. 2017; 7(5):289-98. PMID: 28478685.

Child and Adolescent Psychiatry

Malik S, Azeem MW. Pediatric depression: the latest in diagnosis and treatment. *Psychiatric Annals*. 2017 Oct; 47(10):502-6. doi: 10.3928/00485713-20170911-01.

Malik S, Dogar IA, Haider N, Irfan N, Cheema MA, et al. (2017) Psychiatric co-morbidity and patterns of different substance use among individuals with substance dependence in Pakistan. *J Psychiatry Ment Health*, 2017; 2(2). doi <http://dx.doi.org/10.16966/2474-7769.119>.

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Community Pediatrics

The Division of Community Pediatrics is the largest division at Connecticut Children's Medical Center. There are 21 active, 20 courtesy, and 90 refer-and-follow members.

The division is concerned with issues regarding the advocacy and delivery of health care to children in community-based settings and institutions including office-based practice, well-baby nurseries, community health centers, schools, camps, and foster-care adoptive services. Our members provide primary pediatric care to most children from the Greater Hartford area. Members see to well care, sick care, and behavioral health needs of children. Member pediatricians diagnose most chronic diseases of children in our area. Our members work closely with specialists in other divisions to coordinate care for the sickest children in the community. Members work actively with schools, the Department of Children and Families, Birth-to-Three, and other community resources to plan and coordinate ancillary services for at-risk children.

Pediatricians in the division consult with local school systems to address public health and sports medicine issues. Our members serve on a variety of hospital committees, and they provide most of the newborn care at John Dempsey Hospital in Farmington, Hartford Hospital in Hartford, Manchester Memorial Hospital in Manchester, and Saint Francis Hospital in Hartford. Members are interviewed by public media including radio, television and newspapers on a wide variety of pediatric and public health-care issues of local and national interest, including childhood obesity, school safety and bullying, vaccine advocacy, and changes to guidelines for cold and cough care for young children.

Division members provide instruction and supervision for student and resident continuity practices as well as the pediatric ambulatory rotation for third year students. In addition to providing rich and varied clinical experiences, members educate students and residents about external issues that influence child health care, such as delivery care models, co-management to address health care plans for children with chronic diseases, coding and other business practicalities in community pediatrics, and time and personal

health management. We seek to identify innovative practice styles in health care delivery and opportunities to improve patient education and health outcomes.

Members engage in many collaborative programs within broader department- and state-based initiatives to provide better care for children. These include the Easy Breathing[®] Program, which has led to improved health practices and better outcomes for children with asthma; the Medical Home initiative, to help coordinate care for children with special health-care needs; and the creation of collaborative practice models/co-management guidelines, including migraine headaches, Lyme disease, voiding dysfunctions, premature adrenarche, and concussions.

One of the primary goals of our division is the improvement of care coordination and communication between specialists and generalists. With that purpose in mind, we invite consultants to our monthly meetings to discuss clinical topics of joint interest and address barriers to information sharing. It is our goal to have pediatric care transitions become seamless between hospital and community.

Members are actively involved in ongoing education through grand rounds and evening lecture series in pediatrics and child mental health, to promote topics of interest to the community physicians as well as nurse practitioners, physician assistants, and school nurses who care for children in the community setting.

Dr. Karen Rubin was the recipient of the 2017 Paul Kaplowitz, MD, Endowed Lectureship, for contributions in quality and cost-effective care in pediatric endocrinology. The title of her lecture was: "Expanding Access to Pediatric Endocrinology: A Core Quality Goal and Component of Population Health. It was delivered on Sept. 15, 2017 at the International Meeting of Pediatric Endocrine Societies (IMPES).

The division sponsors a lectureship in honor of Christopher O'Connor, MD, that addresses topics of concern to community-based pediatrics.

Community Pediatrics

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Pediatric 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.

Major awards and academic accomplishments among the division members include important contributions to several national societies and both internal and external collaborations:

Dr. Christopher Carroll continues many clinical and translational research activities and collaborations. He lectures frequently at international conferences about topics including asthma and other respiratory diseases, critical care, and new media. He continues in leadership roles in major medical organizations including:

- Associate editor of two journals: *Chest* and *Journal of Asthma*
- Chair of the New Media Workgroup, as vice chair of the Steering Committee of the Critical Care NetWork, ex-officio of the Scientific Presentation and Awards Committee, member of the Council of Advisors, member of the Board of Trustees for the Chest Foundation, and social media advisor for the American College of Chest Physicians
- Appointment to the Program and Planning committees of the American Thoracic Society
- Chair of the Social Media Committee of the Society of Critical Care Medicine, and an appointment to the Multidisciplinary Critical Care Knowledge Assessment Program Committee

Dr. Adam Silverman continues his support of global health-care activities as the director of the Center for Global Health, which organizes the annual Global Healthcare Fair

and Global Health Film Festival. Over the last two years, he has lectured regionally, nationally and internationally about global health-care topics. He has organized training missions in Haiti to both improve the use of CPAP (continuous positive airway pressure) in newborns and small children, and led educational courses about pediatric critical care topics. He has received grant funding from the Chest Foundation to support this work by translating teaching materials into French. Locally, he continues to support the Global Healthcare Pathway for pediatric residents, provides supervision for electives for pediatric residents at Hôpital Bernard Mevs and St. Damien Pediatric Hospital both in Port-au-Prince, Haiti, and organizes the activities of Connecticut Children's Medical Center staff members who travel to developing countries to help improve the health care of children. In 2017, he was honored as a Healthcare Hero by the Connecticut Hospital Association for his work in Haiti.

Dr. Heather Schlott continues as medical director of the hospital's Extracorporeal Membrane Oxygenation (ECMO) program, in partnership with Pediatric Surgery and Neonatology physician colleagues, as well as nursing, respiratory therapy, and perfusion team members. This technology provides state-of-the-art heart and lung support for our most critically ill and injured patients. The program has grown and been extremely successful, with outcomes that exceed national benchmarks. In fact, Connecticut Children's received a Silver Award (the highest award possible for our size program) for its excellent outcomes from the national Extracorporeal Life Support Organization. Dr. Schlott also led the development and implementation of our continuous renal replacement therapy (CRRT) program, which has grown with excellent clinical results. These capabilities are key components of modern PICU care and specifically crucial to the expansion of our Cardiac Surgery program.

Continuing efforts that began in 2016, Dr. Schlott assumed multidisciplinary leadership responsibility for Connecticut Children's participation in the Children's Hospital Association "Improving Pediatric Sepsis Outcomes" Collaborative, which has a goal of reducing sepsis deaths by 75 percent, and hospital-onset severe sepsis by 75 percent, by 2020.

Pediatric Critical Care

Dr. Kenneth Banasiak continues his lead role in clinical, educational, and performance improvement aspects of a multidisciplinary collaboration with Cardiology and Cardiac Surgery colleagues. He has implemented clinical pathways that standardize and streamline the care of post-operative patients, resulting in improved inter-service communications, patient safety, and staff competency. He continues as co-director of the ECMO program. He also continues creation of a new Critical Care Physiology course for pediatric residents.

Dr. Daniel Fisher, in collaboration with other staff participants in the Simulation Center, has developed a series of interdisciplinary educational activities focusing on in-hospital resuscitation of patients in emergency situations. Using a high-fidelity simulation mannequin, 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. 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.

Dr. Leonard Comeau 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 serves as the chair of the hospital Ethics Committee, which deals with issues related to the appropriateness and decision-making regarding health care for some of our most complicated patients.

Dr. Allison Cowl 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, all with the goal of improving the quality of life of patients both during their time in the PICU and after discharge. These include implementation of clinical research protocols generated by results of a national multicenter study of sedation practices in children with severe respiratory failure, as well as leading a comprehensive initiative to recognize and manage delirium, promote early mobilization of patients, and liberate them from mechanical ventilation support. She serves as the lead for educational efforts in the PICU, including expansion of the Critical Care subtrack with multiple new rotations for pediatric residents who are interested in pursuing careers in acute care pediatrics, with particular focus on Pediatric Critical Care Medicine. She also has completed clinical studies about the role of ECMO in the treatment of asthma, as well as the utilization of two modes of non-invasive pressurized respiratory support devices for treatment of patients with bronchiolitis.

Dr. Rosanne Salonia 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 data. She also continues her clinical research collaboration with the Pediatric Neurocritical Care Research Group (PNCRG), which deals with various aspects of care of patients with severe brain injuries (such as management of sedation and delirium). She also is involved in collaboration with the national Children's Hospitals' Solutions for Patient Safety group, which works to eliminate serious safety events in children's hospitals.

Division head Dr. Aaron Zucker is the chairperson of the Peer Review Committee, which oversees the medical staff's evaluations of individual physician's clinical performance and patient outcomes in pursuit of the best and safest care for our patients. In conjunction with external and intramural facilitators, he continues as the physician champion of a professional development program designed to improve medical staff members' emotional intelligence, resilience, and engagement, all aimed at reducing physician burnout and positively affecting patient care.

Pediatric Critical Care

AWARDS

Dr. Christopher Carroll:

1. Presidential Citation, Society of Critical Care Medicine
2. Society of Critical Care Medicine Research Snapshot Silver Award for outstanding original scientific research at the Critical Care Congress
3. Alfred Soffer Award for Editorial Excellence, journal *Chest*
4. Distinguished Chest Educator, American College of Chest Physicians

PUBLICATIONS

Carroll CL. Can we stop worrying about the age of blood? *Chest Physician*. 2017;12(10):14.

Carroll CL, Bruno K, Ramachandran P. Building community through a #pulmcc Twitter chat to advocate for pulmonary, critical care, and sleep. *Chest*. 2017;152(2):402-9.

Carroll CL, Greenberg S. End of an era for age of blood concerns. *Chest Physician*. 2017;12(2):53-5.

Schramm CM, Sala K, **Carroll CL.** Clinical exam does not predict response to albuterol in children ventilated with bronchiolitis. *Pediatr Crit Care*. 2017;18(1):e18-e23.

Willson DF, Hoot M, Khemani R, **Carroll CL,** Kirby A, Schwarz A, Gedeit R, Nett ST, Erickson S, Flori H, Hays S, Hall M, for the Ventilator-Associated INfection (VAIN) Investigators and the Pediatric Acute Lung Injury and Sepsis Investigator's (PALISI) Network. Pediatric ventilator-associated infections: the Ventilator-Associated INfection Study. *Pediatr Crit Care Med*. 2017; 18(1):e24-34.

Traube C, Silver G, Reeder RW, Doyle H, Hegel E, Wolfe HA, et al. (**Salonia R,** 19/32). Delirium in critically ill children: an international point prevalence study. *Crit Care Med*. 2017 Apr;45(4):584-90.

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Digestive Diseases, Hepatology, and 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 2017, the division, small by the standards of other children's hospitals, was a leader on both the national and international stages. Our Center for Pediatric Inflammatory Bowel Disease (IBD), the largest program in the region between Boston and New York, currently provides care to over 800 children with Crohn's disease and ulcerative colitis. We are the Clinical Coordinating Center for a \$10.4 million grant from the National Institutes of Health to lead the PROTECT Study: Predicting Response to Standardized Pediatric Colitis Therapy. This five-year effort coordinates the resources of 29 leading pediatric IBD centers in North America to study newly diagnosed children with ulcerative colitis. PROTECT, along with the Crohn's and Colitis Foundation of America (CCFA) RISK stratification study of 1,200 newly diagnosed children with Crohn's disease, has squarely placed Connecticut Children's at the epicenter of pioneering research in pediatric inflammatory bowel disease. Dr. Jeffrey Hyams, division chief, heads the IBD program and continues to lead many international efforts to improve the health of children with these disorders.

Our Center for Pediatric Liver Care, directed by Dr. Karan Emerick, provides care to children with a large range of 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, who joined the center in 2016, has helped to develop a formal program to care for children with non-alcoholic fatty liver disease (NAFLD) and works closely with other divisions in the hospital.

Dr. Wael Sayej continues his productive work in the laboratory of Dr. Christine Finck from the Department of Surgery to improve our understanding of the role and function of esophageal epithelial cells in eosinophilic esophagitis (EoE) utilizing biomimetic systems. The team also is working on developing a patient-specific diagnostic

test that will confirm the diagnosis of EoE and identify the triggers responsible in each patient. The team is performing state-of-the-art research on esophageal tissue engineering. Dr. Sayej directs the EoE program, which includes Susan Goodine, RN. We continue to strive to formally establish a clinical center for gastrointestinal eosinophilic disorders. Over 250 patients are currently being cared for in the program.

Dr. Zev Davidovics directs our fecal transplant team for the treatment of refractory *Clostridium difficile* infectio. He collaborates with Dr. George Weinstock at Jackson Laboratories on ground-breaking research on the microbiome of breast milk. At this year's Digestive Disease Week (DDW) conference in Chicago, he was awarded an Early Career Investigator Award for his work analyzing bacteria in dendritic cells and how they may help transport bacteria from the intestine to breast milk. The DDW is attended by over 15,000 hepatologists and gastroenterologists from across the nation and around the world to exchange the latest information on hepatology, gastroenterology, and gastrointestinal surgery.

Our Multi-Disciplinary Intestinal Rehabilitation Team (IRT) is the only one of its kind in the state. Co-directed by Drs. Zev Davidovics and Christine Rader, 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 that also facilitates transition from hospital to home.

Dr. Bella Zeisler is a key member of the increasingly active Aerodigestive Disease Program at Connecticut Children's. This coordinated program of otolaryngologists, pulmonologists, gastroenterologists, and speech therapists care for children with complex airway, pulmonary and gastrointestinal disorders.

Dr. Fran Mohr has been active as the Division Quality and Safety Officer as part of the GI Service Line Development. She has worked closely on standardizing the use of biologic therapy for children with IBD. Dr. Peter Townsend was appointed the divisional liaison to the in-patient service and will work with the Hospitalist Program to improve communication and care of inpatients with gastrointestinal disorders. Dr. Jasmeet Mokha, who completed his fellowship

Digestive Diseases, Hepatology, and Nutrition

at Connecticut Children's, is collaborating with Dr. Erin Young, a pain geneticist at UConn Health Center, exploring the mechanisms of functional gastrointestinal disorders in children.

Our fellowship program under Dr. Sayej's leadership has benefited from the recruitment of highly qualified graduating pediatric residents who spend three years receiving their sub-specialty training. 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 in education makes our fellowship program particularly attractive. Dr. Melissa Fernandes, who completed her fellowship at University of California, San Francisco, serves as the associate director of the fellowship program as well as helping direct the educational experience of residents and students.

Victoria Grossi, DO, and Katherine Baldwin, MD, joined the division as faculty members in September 2017 after completing their GI fellowships at Connecticut Children's and Massachusetts General Hospital, respectively.

Dr. Brad Jerson, our division's pediatric psychologist, has been providing 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

Turner D, Levine A, Walters TD, Focht G, Otley A, López VN, Koletzko S, Baldassano R, Mack D, **Hyams J**, Griffiths AM. Which PCDAI version best reflects intestinal inflammation in pediatric Crohn's disease? *J Pediatr Gastroenterol Nutr.* 2017;64:254-60.

Brant SR, Okou DT, Simpson CL, Cutler DJ, Haritunians T, Bradfield JP, et al., (**Hyams JS**, 32/61). Genome-wide association study identifies African-specific susceptibility loci in African Americans with inflammatory bowel disease. *Gastroenterology.* 2017 Jan;152(1):206-17.

Faubion WA, Dubinsky M, Ruemmele FM, Escher J, Rosh J, **Hyams JS**, Eichner S, Li Y, Reilly N, Thakkar RB, Robinson AM, Lazar A. Long-term efficacy and safety of adalimumab in pediatric patients with Crohn's disease. *Inflamm Bowel Dis.* 2017 Mar;23(3):453-60.

Marigorta UM, Denson LA, **Hyams JS**, Mondal K, Prince J, Walters TD, et al. Transcriptional risk scores link GWAS to eQTLs and predict complications in Crohn's disease. *Nat Genet.* 2017 Aug 14. doi: 10.1038/ng.3936.

Walters TD, Faubion WA, Griffiths AM, Baldassano RN, Escher J, Ruemmele FM, **Hyams JS**, Lazar A, Eichner S, Huang B, Li Y, Thakkar RB. Growth improvement with adalimumab treatment in children with moderately to severely active Crohn's disease. *Inflamm Bowel Dis.* 2017;23:967-75.

Kugathasan S, Denson LA, Walters TD, Kim MO, Marigorta UM, Schirmer M, et al., (**Hyams JS**, 42/43). Prediction of complicated disease course for children newly diagnosed with Crohn's disease: a multicentre inception cohort study. *Lancet.* 2017;389:1710-8.

Hyams JS, Dubinsky MC, Baldassano RN, Colletti RB, Cucchiara S, Escher J, et al. Infliximab is not associated with increased risk of malignancy or hemophagocytic lymphohistiocytosis in pediatric patients with inflammatory bowel disease. *Gastroenterology.* 2017;152:1901-14.

Rosen MJ, Karns R, Vallance JE, Bezold R, Waddell A, Collins MH, Haberman Y, Minar P, Baldassano RN, **Hyams JS**, et al. Mucosal expression of Type 2 and Type 17 immune response genes distinguishes ulcerative colitis from colon-only Crohn's disease in treatment-naive pediatric patients. *Gastroenterology.* 2017;152:1345-57.

Digestive Diseases, Hepatology, and Nutrition

Hyams JS, Davis S, Mack DR, Boyle B, Griffiths AM, LeLeiko NS, et al. Factors associated with early outcomes following standardised therapy in children with ulcerative colitis (PROTECT): a multicentre inception cohort study. *Lancet Gastroenterol Hepatol*. 2017 Sep 19. doi: 10.1016/S2468-1253(17)30252-2.

Boyle B, Collins MH, Wang Z, Mack D, Griffiths A, Sauer C, et al. (**Hyams J**, 21/11). Histologic correlates of clinical and endoscopic severity in children newly diagnosed with ulcerative colitis. *Am J Surg Pathol*. 2017 Aug 31. doi: 10.1097/PAS.0000000000000939. [Epub ahead of print]

Hyams JS, Kugathasan S, Dubinsky MC. Combination therapy in pediatric inflammatory bowel disease: yes, no, maybe. *Inflamm Bowel Dis*. 2017 Oct;23(10):1774-6.

Davidovics ZH, Vance K, Etienne N, **Hyams JS**. Fecal transplantation successfully treats recurrent D-lactic acidosis in a child with short bowel syndrome. *J Parenter Enteral Nutr*. 2017;41:896-7.

Samela K, Mokha J, Emerick K, Davidovics ZH. Transition to a tube feeding formula with real food ingredients in pediatric patients with intestinal failure. *Nutr Clin Pract*. 2017;32:277-81.

Mokha JS, Davidovics ZH, Samela K, Emerick K. Effects of ethanol lock therapy on central line infections and mechanical problems in children with intestinal failure. *J Parenter Enteral Nutr*. 2017;41:625-31.

Wakefield EO, **Jerson B**. Social influences in the evaluation and treatment of biopsychosocial contributors to adolescent chronic pain. *Topics in Pain Management*. 2017;32:1-8.

BOOK CHAPTER

Townsend P, **Hyams JS**. Natural history of ulcerative colitis in children. In: Mamula P, Markowitz J, Baldassano R, editors. *Pediatric inflammatory bowel disease*. 3rd ed. Springer; 2017.

STAFF

Jeffrey Hyams, MD
Division Head

Katherine Baldwin, MD

Zev Davidovics, MD

Karan Emerick, MD

Melissa Fernandes, MD

Victoria Grossi, DO

Brad Jerson, PhD

Franziska Mohr, MD

Jasmeet Mokha, MD

Wael Sayej, MD

Peter Townsend, MD

Bella Zeisler, MD

FELLOWS

Angela Pressley-Wallace, MD

Temara Hajjat, MD

Andrew Fondell, MD



Developmental and Behavioral Pediatrics

The Division of Developmental and Rehabilitation Medicine's mission is: 1) to provide comprehensive and compassionate diagnosis and management for children with neurodevelopmental and behavioral problems that range from normative deviations to rare disorders; 2) to teach health care professionals about these problems; 3) to add to existing knowledge by researching relevant questions in the field; and, 4) to offer advocacy, and to support public policy development.

The Division of Developmental and Rehabilitation Medicine (formerly known as Developmental and Behavioral Pediatrics) is composed of a diverse faculty of Developmental-Behavioral Pediatricians (DBPeds) and an Integrative Medicine (IM) Specialist, all of whom practice at a number of sites throughout the state.

NEW STAFF

The division added Dr. Ana Verissimo, an Integrative Medicine Specialist, in May 2017. Dr. Verissimo provides inpatient and outpatient care for children who have chronic or painful conditions and who benefit from training in relaxation techniques and modalities.

Division clinical services occur in a number of settings – outpatient, inpatient, and community-based (e.g., schools, CT Birth-to-Three system, and other agencies). We provide direct consultation, ongoing clinical care, and school-based program consultation.

The division has focused extensive resources on developing the Autism Spectrum Assessment Program (“ASAP”). We have established a collaboration that includes DBPeds and Speech-Language Pathology. This provides a direct line from the autism diagnosis to standard-of-care clinical and laboratory evaluation. It also provides the option for all patients to participate in our research collaborations.

This year Dr. John Pelegano, who chairs the Complex Care Committee of the American Academy of Cerebral Palsy and Developmental Medicine (AACPDMD), traveled to China to investigate means of supporting efforts in that country to establish a system of care for children with special health care needs.

Dr. Robert Keder presented two workshops at the Society for Developmental-Behavioral Pediatrics Annual Meeting. The topics were bullying, and parent advocacy. He has made significant contributions by revising a textbook chapter about bullying, which will be published by Little, Brown & Co. in 2018 as part of the fourth edition of *Behavioral and Developmental Pediatrics: A Handbook for Primary Care*. Dr. Keder also is at work on a chapter about bullying, co-written with Kimberly Burkhart, PhD, for inclusion in the forthcoming text, *Common Questions and Evidence-based Answers: Behavioral Health Prevention and Intervention in Youths' Health and Mental Health Care*. The book, edited by Michele Knox, PhD, will be published in 2019. He actively participates on the Hospital Advocacy Committee.

Congratulations to Dr. Paul Dworkin who is a co-author of an article published on the front page of *Morbidity and Mortality Weekly Report* (MMWR) published by the Centers for Disease Control and Prevention. The article highlights the importance of identifying and addressing health disparities early in childhood in order to improve health outcomes over a lifespan. It mentions our Help Me Grow® model as an example of a program that is successfully transforming child-serving systems around the country by reducing service gaps for children. MMWR is distributed to an audience of millions of people worldwide.

The division continues to support resident education in DBPeds with ongoing activities in clinics, with the Behavioral Sleep Center, the Child Abuse Program, the Medical-Legal Partnership, the American School for the Deaf, and the Creative Child Care Center at the UConn Health Center, along with other services at Connecticut Children's. Dr. Mark Greenstein continues to teach residents and to help arrange special electives with the division.

Developmental and Behavioral Pediatrics

RESEARCH

- Multidisciplinary “ARC” initiative between Connecticut Children’s Medical Center, UConn Health Center and the Jackson Laboratory: Neuronal Synaptic and Circuit Dysfunction in the Autism Spectrum Disorders. Dr. Milanese is one of the principal investigators. 2013-2018. Funded by: Institute for Systems Genomics.
- Connecticut Children’s Medical Center was awarded an 18-month grant (January 2016-June 2017) to study and promote culturally effective autism screening, referral and service provision in pediatric practices and Birth-to-Three programs. PI: Thyde Dumont-Mathieu, MD, MPH.

GRANTS

Applying Technological Innovations to Support Family Engagement in Developmental Promotion, Early Detection, and Referral and Linkage to Community Resources. Aetna Foundation, 2017. Project director: Paul Dworkin, MD.

Implementing a Key Component of the Hartford Blueprint for Women’s and Children’s Health: Building Early Childhood Providers’ Capacity to Strengthen Families Through Developmental Promotion, Early Detection, and Linkage to Services. Hartford Foundation for Public Giving, 2017. Project director: Paul Dworkin, MD.

GOALS FOR 2018

- Expand the statewide School Consultation Program
- Pursue academic presentations for 2018
- Hire an additional physician who will develop the division’s satellite capacity
- Expand the DBPeds-Primary Care clinical/teaching collaborative relationship

PUBLICATIONS

Eremita M, Semancik E, Lerer T, **Dworkin P**. Can we identify parents who do not verbally share concerns for their children’s development? *J Dev Behav Pediatr*. 2017;224-7. doi: 10.1097/DBP.0000000000000426.

Robinson L, Bitsko RH, Thompson R, **Dworkin P**, McCabe MA, Peacock G, Thorpe P. CDC Grand Rounds: addressing health disparities in early childhood. *MMWR*. 2017;66(29);769–72.

STAFF

Ann Milanese, MD

Division Head

Mark A. Greenstein, MD

Faculty Education Coordinator

Thyde Dumont-Mathieu, MD

Paul H. Dworkin, MD

Robert D. Keder, MD

John Pelegano, MD

Sarah Schlegel, MD

Ana Maria Verissimo, MD

Emergency Medicine

The Division of Emergency Medicine is committed to a continuous quality improvement process, and we have improved our efficiency, the safety of our health care delivery system, and ultimately our patient satisfaction.

In the 2016-17 fiscal year, the Emergency Department of Connecticut Children's Medical Center treated 60,473 patients. The number of behavioral health/mental health patients continues to rise year to year. They represent a challenge as they consume many staff resources to maintain their safety, and because of the lack of inpatient beds, they remain in the Emergency Department for prolonged periods of time. Dr. Steven Rogers has taken on the role for the division as director of Emergency Mental Health Services. He has transitioned the mental health clinicians from a contracted status with the Institute of Living (IOL) to our own staff. He has increased the utilization of resources outside the Emergency Department to help support these patients.

The Division of Emergency Medicine is composed of 16 Pediatric Emergency Medicine board certified/eligible fellowship-trained attendings, four per diem Emergency Medicine trained attendings, one Pediatrician, five per diem Pediatricians, 12 Advanced Practitioners, and four per diem Advanced Practitioners.

The Emergency Department has received several recognitions for excellence. We were the recipient of the Emergency Nurses Association Lantern Award, which recognizes emergency departments that demonstrate exceptional and innovative performance in leadership, practice, education, advocacy, and research. Connecticut Children's Medical Center also received the Women's Choice Award for Best Children's Hospital for Emergency Care.

Two of our faculty received academic promotion. Dr. Jim Parker and Dr. Jesse Sturm were each promoted to associate professor of Pediatrics. Members of the Division of Emergency Medicine continue to be highly involved in leadership and committees at Connecticut Children's with participation by the division in over 35

hospital committees. Regionally, Dr. Jim Parker is the vice chairperson for EMS-C for the State of Connecticut and the North Central Region Medical Advisory Council. Dr. Michael Soltis serves on the state's Child Fatality panel and the Abusive Head Trauma working group. Dr. Steven Rogers is currently a member of the executive board for the Eastern Society for Pediatric Research and co-principal investigator for the Injury Free Coalition for kids.

Education and research continue to be part of our mission. The faculty taught and mentored pediatric residents, emergency medicine residents, family practice residents, medical students, dental students and advanced practitioner students. Drs. Kristin Welch and Lana Friedman share the role of the division's faculty education coordinator and are leading the evolution of our resident orientation and evaluation process. The Pediatric Emergency Medicine Fellowship is now in its 18th year. Dr. Matt Laurich is the fellowship director. The fellowship currently has a complement of six fellows, two for each of the three-year fellowships. An undergraduate research assistant program that was developed by Dr. Sharon Smith and taught by our faculty supports the research productivity of our division. Dr. Smith also serves as the division's director of research and is the director of Pediatric Advanced Life Support (PALS) for the institution. Research projects covering topics such as violence prevention, simulation, ultrasound-guided IV placement, lethal means restriction, assessment of urinary tract infection, nutrition, and asthma are ongoing.

Dr. Carla Pruden has led the division and the institution's efforts in simulation. She has assumed the role as medical director of simulation. Dr. Mariann Nocera has supported her in this effort. They host a bimonthly simulation session for the Emergency Medicine attendings, monthly session for the trauma team, monthly sessions for the residents and fellows, and ad hoc sessions for the hospital using new high fidelity mannequins. Dr. John Brancato has continued in his role as associate medical director and will assume new responsibilities as the pediatric emergency medicine

Emergency Medicine

champion for Western Connecticut Health Network and as medical lead for Connecticut Children's urgent care implementation effort. Dr. Henry Chicaiza is spearheading the development of an emergency medicine point-of-care ultrasound program. This will involve the education and credentialing of the attending staff in bedside ultrasound, and he has taken the lead on developing the curriculum for the fellows.

The Trauma Program underwent a successful re-verification process as a Level I Pediatric trauma center by the American College of Surgeons in the fall of this year. This achievement 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.

PUBLICATIONS

Rogers SC, Mulvey CH, Divietro S, Sturm J. Escalating mental health care in pediatric emergency departments. *Clin Pediatr (Phila)*. 2017 May;56(5):488-91. doi: 10.1177/0009922816684609. [Epub ahead of print]

Borup K, DiVietro S, Hoffses K, Clough M, **Lapidus GD**, **Rogers S**. Attitudes, beliefs, and practices of pediatricians regarding youth suicide. *Conn Med*. 2017;81(9):547-54.

Baumann L, Clinton H, Berntsson R, Williams SS, Rovella JC, Shapiro D, Thaker S, Borup K, **Lapidus G**, Campbell BT. Suicide, guns, and buyback programs: an epidemiologic analysis of firearm-related deaths in Connecticut. *J Trauma Acute Care Surg*. 2017 Dec;83(6):1195-9. doi: 10.1097/TA.0000000000001575.

Beebe RF, DiVietro SC, Dunn M, Bentivegna K, Clough ME, **Lapidus GD**, Joseph DK. Establishing the prevalence of intimate partner violence among hair salon clients. *J Community Health*. 2017 Sep 27. doi: 10.1007/s10900-017-0429-1.

Gwara M, Woods C, Sheeren E, Woods H, **Smith SR***. International Children's Advisory Network: a multifaceted approach to patient engagement in pediatric clinical research. *Clin Ther*. 2017;39(10):1933-8.

Nocera M, Merritt C. Pediatric critical event debriefing in emergency medicine training: an opportunity for educational improvement. *AEM Educ Train*. 2017 Jul 1;1(3):208-14.

Chicaiza HP*, **Malia L**, Mulvey CH, **Smith SR**. Revisiting the appendiceal diameter via ultrasound for the diagnosis of acute appendicitis. *Pediatr Emerg Care*. 2017 Oct 2. doi: 10.1097/PEC.0000000000001278. [Epub ahead of print] PubMed PMID: 28976457.

Malia L, Strumph K, **Smith SR**, **Brancato J**, Johnson ST, **Chicaiza H**. Fast and sensitive: automated point-of-care urine dips. *Pediatr Emerg Care*. 2017 Nov 20. doi: 10.1097/PEC.0000000000001357. [Epub ahead of print] PubMed PMID: 29189595.

BOOK CHAPTERS

Laurich VM. Surgical emergencies: neurosurgical and thoracic. In: Wang VJ, Flood RG, Godambe SA, editors. *Pediatric emergency medicine question review book* 2017. PEMQBook, LLC; 2017. p. 177-85.

Hoppa E. Hair tourniquet and other narrow constricting bands: clinical manifestations, diagnosis, and treatment. In: Wiley JF, editor. *UpToDate*. UpToDate; Waltham, MA. (last updated, 2017 Jun 7).

MAJOR ACCOMPLISHMENTS

Garry Lapidus, PA-C, for the ED and Director of the Connecticut Children's & Hartford Hospital / CT Injury Prevention Center, has been nominated to become a member of the Board of Scientific Counselors, National Center for Injury Prevention & Control, Centers for Disease Control.

Emergency Medicine

STAFF

Attendings

John Peng, MD, FAAP, FACEP

Division Head and Medical Director

John Brancato, MD

Associate Director

Henry Chicaiza, MD

Lana Friedman, MD

Andrew Heggland, MD

Eric Hoppa, MD

V. Matt Laurich, MD

Mariann Nocera, MD

James Parker, MD

Carla Pruden, MD

Steven Rogers, MD

Adam Silverman, MD

Sharon Smith, MD

Michael Soltis, MD

Jesse Sturm, MD

Kristin Welch, MD

Pediatrician

Christine Cornachio, MD

Per Diem Attendings:

Zoe Casey, MD

Sandra Johnson, MD

Seth Lotterman, MD

Avital Porat, MD

James Wiley, MD

Per Diem Pediatricians

Brenda Balch, MD

Meredith Barrows, MD

Karl Hellstrand, DO

Charles Thompson, MD

Nancy Trout, MD

APRNs / PAs

Lauren Appel, APRN

Mandi Boisvert, APRN

Chelsea Byrd, PA-C

Nicole Chaves, PA-C

Lauren Christofori, PA-C

Katelyn Claudomir, APRN

Carol Erickson, Lead APRN

Ann Gorjanc, PA-C

Garry Lapidus, PA-C

Sarah Orlando, PA-C

Christopher Scheinberg, APRN

Lisa Tryon, PA-C

Per Diem APRNs/PAs

Mallory Breitmaier, APRN

Keri Curtis, PA-C

Kate Pesce, APRN

Margaret Seitz, PA-C

Fellows

Tasha Desai, DO / PGY5

Jacob Greenberg, MD / PGY4

Noah Jablow, MD / PGY5

Laurie Malia, DO / PGY6

Prina Patel, MD / PGY4

Hannah Sneller, MD / PGY6



Endocrinology and Diabetes

This year has been highlighted by the creation and expansion of numerous state-of-the-art subspecialty centers within the Division of Endocrinology and Diabetes along with a growing focus on clinical, translational, and basic science research. The mission of the division is to improve the health and quality of life of patients through our clinical expertise, compassionate care, and research investigations toward the development of new treatments.

The division underwent leadership changes during this past year with the recruitment of Dr. Emily Germain-Lee as chief of Endocrinology and Diabetes at Connecticut Children's Medical Center and tenured professor of Pediatrics at the University of Connecticut School of Medicine. Prior to her move at the end of 2016, Dr. Germain-Lee was a tenured professor of Pediatrics at the Johns Hopkins University School of Medicine and research scientist/professor at Kennedy Krieger Institute in Baltimore. In addition, Dr. Rebecca Riba-Wolman within the division took over as clinical director in June with the departure of Dr. Paola Palma Sisto. The division is greatly indebted to Dr. Palma Sisto's leadership as both clinical director and interim division chief, and great thanks also go to Drs. Susan Ratzan and Karen Rubin, prior division chiefs, for helping to make the transition in leadership so smooth. Dr. Riba-Wolman also took over the directorship of the Pediatric Endocrine Fellowship program, for which she had previously been associate director under Dr. Palma Sisto, and the fellowship program is continuing to flourish under Dr. Riba-Wolman's leadership. There has been a seamless transition with all of these leadership changes, as summarized below. As in prior years, Dr. Cem Demirci has been at the helm of the Diabetes Program in his role as director, and the division is extremely proud of his honor in being awarded the Chase Family Chair of Juvenile Diabetes in 2016.

In 2017, the division continued its creation and expansion of clinics and centers focused on subspecialties within Pediatric Endocrinology. One major subspecialty program added this year is the Center for Rare Bone Disorders directed by Dr. Germain-Lee. Under this "umbrella" are individual subcenters focused on specific rare bone diseases. One of these, which Dr. Germain-Lee originally established when she was at

Johns Hopkins and Kennedy Krieger Institute, focuses on Albright hereditary osteodystrophy (AHO). She moved the Albright Center to Connecticut Children's when she joined the faculty as division chief. Patients with AHO from all over the United States and the world seek Dr. Germain-Lee's clinical expertise and participate in her research studies funded by NIH and foundation grants, and she follows the largest population of Albright patients worldwide. In March, Dr. Germain-Lee was part of an international expert consensus group that met in France to develop standard of care guidelines for this disorder. The guidelines are to be published as a global consensus statement. Another major milestone in the division was the establishment and launch of the new OI Center devoted to osteogenesis imperfecta (OI), also known as brittle bone disease. This center is co-directed by Drs. Germain-Lee and Nancy Dunbar and is listed as an official center by the national OI Foundation as a major New England site; its launch was featured in the OI Foundation's *Breakthrough* newsletter in the spring of 2017. As with the Albright Center, the OI Center is focused on both clinical care and research and has been aggressively continuing efforts to provide both education and support to patients and their families. Currently, Drs. Germain-Lee and Dunbar are embarking on a clinical drug trial for a possible new treatment for children with OI. In April, they were invited to attend the OI Foundation Scientific Conference in Chicago, and Dr. Dunbar also attended the Care4BrittleBones Foundation meeting in Oslo, Norway, to broaden clinical research efforts. As part of the overall increased focus on bone disease within the division, Dr. Dunbar led the effort to bring new imaging capabilities to Connecticut Children's through a state-of-the-art dual-energy X-ray absorptiometry (DXA) machine that became operational in 2017. This, combined with the infusion services that the division is able to offer to patients, provides comprehensive bone health care.

In addition to these centers, a number of other subspecialty clinics are being led by members of our diverse faculty. The Turner Syndrome Interdisciplinary Clinic was initiated in full force this year, headed by Dr. Karen Rubin, an international expert in the field. Dr. Sunitha Sura launched her Lipid

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Disorder Clinic this year, which is one of the few in the entire country focusing on lipid disorders in the pediatric population. She also embarked on a company-initiated clinical drug trial involving a lipid-lowering agent in children. Dr. Riba-Wolman directs the Endocrine Late Effects Clinical Program in the Oncology Division for long-term survivors of childhood cancer. Drs. Riba-Wolman and Rubin are both major forces in the recently formed Thyroid Center, a multidisciplinary program for treating thyroid nodules and thyroid cancer, involving Endocrinology, Surgery, Pathology, Radiology, and Nuclear Medicine. The Gender Identity Clinic run by Dr. Priya Phulwani provides unique care to children and adolescents with gender dysphoria and also provides tremendous support to families. Dr. Phulwani participates with members of the Genetics, Urology, and Psychology divisions in the multidisciplinary clinic for Disorders of Sexual Development in which her expertise is greatly valued. Additionally, she serves as the endocrinologist in the multidisciplinary Bariatric and Weight Management Clinic overseen by members of the Surgery team. Endocrinologist Dr. Christine Trapp has expertise in caring for children with co-morbidities secondary to obesity as well as those with early onset obesity. The Metabolic Bone Clinic at Connecticut Children's and Shriners Hospital in Springfield, MA, continues to be directed by Dr. Dunbar and focuses on all forms of bone disorders as well as disorders of mineral metabolism. In 2017, thanks to Dr. Rubin's long-term efforts, an integrated learning system and referral management process was developed that addresses the issues of limited access to subspecialty care. As part of this initiative, e-Consults were newly launched in our division by Drs. Rubin, Germain-Lee, and Phulwani. Through this program, our physicians provide formal endocrine advice to local pediatricians; this effort will soon expand to New Mexico. Finally, Dr. David Weinstein, a world-renowned expert in glycogen storage disorders (GSD) both clinically and scientifically, joined Connecticut Children's in January 2017. As head of the Glycogen Storage Disease Program, and as a pediatric endocrinologist by training, his expertise is a very valued addition to our division. (Please refer to the separate section on Dr. Weinstein's Glycogen Storage Disease Program.)

Another major focus of our division is Type I diabetes, and Dr. Cem Demirci continues to direct our Diabetes Program at the highest standards. As previously mentioned, in 2016, Dr. Demirci was recognized for his outstanding work in diabetes by having the great honor of being named the Chase Family Chair of Juvenile Diabetes. This endowed chair has allowed him to initiate new, cutting-edge research projects focused on diabetes. In addition, Dr. Demirci directs the Coordinated Care Clinic (CCC), which cares for our most challenging and complex diabetes patients in a multidisciplinary setting. He also continues to serve as the director of TrialNet and director of Outpatient Point of Care Testing. This past year, Dr. Demirci organized and delivered the keynote address for the Annual Diabetes Day for School Nurses and Primary Care Providers, a CME event held at Connecticut Children's outpatient site in Farmington. Of note is that our Diabetes Education Program is accredited by the American Association of Diabetes Educators, one of only four programs certified in Connecticut and the only one dedicated to the care of children and adolescents with diabetes. This is a true testament to the exceptional quality of the division's staff of diabetes educators, including registered dietitians, nurses, nurse practitioners, and a social worker who provide excellent care to over 1,200 children with Type 1 and Type 2 diabetes and their families. The team has participated extensively in national meetings and also local programs on weekends and evenings in order to provide unique support to patients, such as the yearly College Night for adolescents transitioning to college, which always brings a huge audience. Global health initiatives in Type I diabetes have been spearheaded by Dr. Dunbar, specifically through development of a pediatric Type 1 diabetes program in northern Haiti. In 2017, she spent two weeks working with local pediatric staff at Hospital Sacré Coeur in Milot, Haiti, and giving grand rounds presentations on diabetes. She has brought Comalita Elliott, a diabetes nurse educator in our division, as well as Kamisha Byas, a UConn Haitian-American medical student, with her on multiple trips. Ongoing fundraising led by Dr. Dunbar supports 100 percent of the needs of the program.

An increasing focus of our division is research on a variety

Endocrinology and Diabetes

of conditions related to pediatric endocrinology. In particular, Dr. Germain-Lee conducts an extensive translational bedside-to-bench research program focused mainly on rare bone disorders and bone biology. Her clinical studies, including clinical trials, are focused on patients she follows through the Albright and OI Centers. Dr. Germain-Lee also runs a laboratory at UConn Health in the Center for Regenerative Medicine and Skeletal Development where she studies a mouse genetic model that she developed of Albright hereditary osteodystrophy, as well as mouse models of osteogenesis imperfecta. Through investigation of patients and the mouse models, she is working on developing new therapies for both conditions, which could have impact on more common disorders. Dr. Germain-Lee has had numerous federal and private grants to support her research and is currently PI on an NIH grant focused on investigating the unique neurocognitive and psychosocial abnormalities in AHO both clinically and in the laboratory. She received funding as co-investigator on a new NIH R01 grant examining the role of circulating signaling molecules on bone density and metabolism throughout the lifespan, which she is carrying out in collaboration with the Jackson Laboratory. Finally, as part of her focus on studying rare diseases, Dr. Germain-Lee is an adjunct professor at Johns Hopkins and adjunct research scientist at Kennedy Krieger Institute. She has research grants to conduct collaborative projects with physician-scientists working on rare bone disorders and Sturge-Weber Syndrome at these institutions. Dr. Germain-Lee is also principal investigator on two company-driven clinical trials in children, one initiated by Dr. Sura on a lipid-lowering medication, and one with Dr. Dunbar on a new treatment for osteogenesis imperfecta. Dr. Dunbar is leading a clinical natural history study on hypophosphatasia, another rare bone disorder, and she gives lectures globally on this topic. Dr. Demirci is embarking on research in collaboration with the Jackson Laboratory investigating T-cell subset regulation in Type 1 diabetes. Dr. Trapp is investigating early onset obesity with a focus on the role of maternal-fetal attachment and the emotional bond between a pregnant woman and her unborn child. Finally, Dr. Rubin is continuing her clinical investigations on Turner syndrome in order to improve effective management.

She also continues to be involved in health care initiatives through grant funding such as her involvement in Project Echo as well as with the Connecticut Children's Co-Management/CLASP model and CHCI/Weitzman Institute's e-Consult platform to form an integrated learning system and referral management process that address the issues of limited access to subspecialty care. She is a recipient of a United Health Foundation Grant investigating the integration of intergenerational services in primary care. These tie into her role as the head of Clinical Care Innovation at Connecticut Children's.

In September, seven of our faculty as well as our fellows attended and/or presented at the 10th International Meeting of Pediatric Endocrinology in Washington, D.C. This conference was a joint meeting of the world's Pediatric Endocrinology Societies where over 4,000 pediatric endocrinologists from throughout the world convened. Dr. Rubin received a major award at this meeting, namely, the 2017 Paul Kaplowitz, MD, Endowed Lectureship for her contributions in quality and cost-effective care in pediatric endocrinology. She also delivered a lecture discussing the transition recommendations for management of Turner syndrome into adulthood. Dr. Germain-Lee was invited to give two "Meet the Expert" platform presentations on pseudohypoparathyroidism and related conditions (subtypes of Albright hereditary osteodystrophy) to over 1,000 attendees. Members of our division, including Drs. Riba-Wolman, Sura, and Dunbar, presented several posters on a wide range of topics, which were also educational projects involving fellows and medical students. We believe that our extensive participation in the meeting was tremendously successful and will have long-term effects in increasing the profile of our division and Connecticut Children's as a whole both nationally and internationally. We already have seen noticeable short-term effects from our participation in this meeting in terms of increased patient referrals, increased opportunities for networking by our faculty, and increased interest in our recruitment for new faculty. Our division is proud to have two new faculty members joining us in 2018: Dr. Bethany Peri from Children's Hospital Colorado will begin in January, and Dr. Angela Verardo from the Johns Hopkins University School of Medicine will join us in August.

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NIH Grants

R21HD078864, "The Role of G Protein-coupled Signaling in Neurocognitive and Psychosocial Abnormalities," 3/1/16 – 2/28/18. PI: Emily L. Germain-Lee, MD.

R01AG052962, "TGF- β Family Members and Their Binding Proteins in Aging Skeletal Muscle," 9/15/17 - 5/31/21. Co-investigator: Emily L. Germain-Lee, MD.

NATIONAL/INTERNATIONAL RECOGNITION

Emily Germain-Lee, MD

1) Vice President and member of Board of Directors, Human Growth Foundation; 2) Editorial Board, *Journal of Clinical Endocrinology and Metabolism*; 3) Scientific Advisory Panel, Rare Bone Disease Alliance; 4) Best Children's Hospitals Diabetes & Endocrinology Working Group for 2018-2019 *U.S. News & World Report* rankings; 5) Member of Society for Pediatric Research; 6) Member of International Expert Consensus Group on Pseudohypoparathyroidism and Related Disorders (Albright hereditary osteodystrophy); 7) Ultragenyx Pharmaceuticals Advisory Board (for rare bone disease)

Karen Rubin, MD

1) 2017 Paul Kaplowitz, MD, Award & Endowed Lectureship from the American Academy of Pediatrics and Pediatric Endocrine Society; 2) Chair, Pediatric Endocrine Society (PES) Leadership Advantage Program; 3) Member of PES Practice Management Committee; 4) Member of PES Quality Improvement Program; 5) Member of PES Special Interest Group for Turner syndrome; 6) Member of Physician Advisory Board, Turner Syndrome Foundation; 7) Member, Type 1 Diabetes Outcomes Steering Committee (joint initiative by Type 1 Diabetes Exchange and JDRF)

Nancy Dunbar, MD

National/international speaker for hypophosphatasia.

David Weinstein, MD

(Please refer to section on Glycogen Storage Disease Program.)

PUBLICATIONS

Germain-Lee EL, Brennen F-S, Stern D, Kantipuly A, Melvin P, Terkowitz MS, et al. Cross-sectional and longitudinal growth patterns in osteogenesis imperfecta: implications for clinical care. *Pediatr Res.* 2016;79(3):489-95.

Pilla SJ, Quan AQ, **Germain-Lee EL**, Hellmann DB, Mathioudakis NN. Immune-modulating therapy for rheumatologic disease: implications for patients with diabetes. *Curr Diab Rep.* 2016;16:91.

Goh BC, Singhal V, Herrera AJ, Tomlinson RE, Kim S, et al. (**Germain-Lee EL**, 7/10). Activin receptor type 2A (ACVR2A) functions directly in osteoblasts as a negative regulator of bone mass. *J Biol Chem.* 2017;292(33):13809-22.

Salemi P, Skalamera Olson J, Dickson L, **Germain-Lee EL**. Ossifications in Albright hereditary osteodystrophy: role of genotype, inheritance, sex, age, hormonal status, and BMI. *J Clin Endocrinol Metab.* 2017 Oct 19. doi: 10.1210/jc.2017-00860. [Epub ahead of print]

Gkourogianni A, Andrew M, Tyzinski L, Crocker M, Douglas J, **Dunbar N**, et al. Clinical characterization of patients with autosomal dominant short stature due to aggrecan mutations. *J Clin Endocrinol Metab.* 2017;102(2):460-9.

Gruters-Kieslich A, Reyes M, Sharma A, **Demirci C**, DeClue TJ, Lankes E, et al. Early-onset obesity: unrecognized first evidence for GNAS mutations and methylation changes. *J Clin Endocrinol Metab.* 2017;102:2670-77.

Canfarotaa M, Moote D, Finck C, **Riba-Wolman R**, Thaker S, Lerer TJ, et al. Thyroid nodule score in differentiating benign and malignant pediatric thyroid nodules: a pilot study. *Otolaryngol Head Neck Surg.* 2017;157(4):589-95.

Cloutier MM, Wiley JF, **Trapp C**, Haile J, Gorin AA. The childcare center: an untapped opportunity to engage and educate families in healthy behaviors. *J Racial Ethn Health Disparities.* 2017 Jun 20. doi: 10.1007/s40615-017-0386-5. [Epub ahead of print]

Endocrinology and Diabetes

Krik S, Armstrong S, King E, **Trapp C**, Grow M, Tucker J, et al. Establishment of the pediatric obesity weight evaluation registry: a national research collaborative for identifying the optimal assessment and treatment of pediatric obesity. *Child Obes.* 2017;13(1):9-17.

Gravholt C, Andersen N, Conway G, Dekkers O, Geffner M, et al. (**Rubin K**, 10/18). Clinical practice guidelines for the care of girls and women with Turner syndrome: proceedings from the 2016 Cincinnati International Turner Syndrome Meeting. *Eur J Endocrinol.* 2017;177(3):G1-G70.

Agiostratidou G, Anhalt H, Ball D, Blonde L, Gourgari E, et al. (**Rubin K**, 14/15). Standardizing clinically meaningful outcome measures beyond HbA1c for Type 1 diabetes: a consensus report of the American Association of Clinical Endocrinologists, the American Association of Diabetes Educators, the American Diabetes Association, the Endocrine Society, JDRF International, the Leona M. and Harry B. Helmsley Charitable Trust, the Pediatric Endocrine Society, and the T1D Exchange. *Diabetes Care.* 2017;40(12):1622-30.

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Fellows

Massiel Sarmiento

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Human Genetics

The Division of Human Genetics resides jointly in the Department of Genetics and Genome Sciences as well as the Department of Pediatrics. The mission of the division is to provide high quality, timely and state-of-the-art genetic consultations, counseling, and treatment for patients from the prenatal period throughout childhood and into adulthood.

Care throughout the lifespan is provided across two campuses by a team of clinical geneticists, genetic counselors and a metabolic dietician. Dr. Joseph Tucker currently serves as interim division head.

Our team currently consists of 1.0 FTE clinical medical geneticist, 2.0 FTE prenatal genetic counselors, 1.8 FTE hereditary cancer genetic counselors, 1.0 FTE teratology counselor, and 0.4 FTE metabolic dietician. The clinical, administrative, and academic offices are currently housed at the UConn Health campus at 263 Farmington Ave., Farmington, CT, where children and adults are seen in a general genetics clinic, and where prenatal and hereditary cancer patients receive genetic counseling.

MotherToBabyCT provides additional prenatal counseling services at 195 Farmington Ave., Farmington, CT. Additional pediatric services are provided at our Connecticut Children's outpatient clinic at 11 South Road, Farmington, CT.

A full-service cytogenetics laboratory run by Dr. Peter Benn at John Dempsey Hospital in Farmington provides genetic testing services.

Patients with metabolic disease identified through the Department of Public Health Newborn screening program, as well as children diagnosed at a later age, are seen at the UConn Health campus in conjunction with our metabolic dietician.

Increased use of non-invasive prenatal genetic testing continues to increase the number of patients being seen by the prenatal service, and frequently updated test offerings for patients with hereditary cancers has increased the patient numbers being seen and evaluated by the hereditary cancer counseling program. MotherToBabyCT, our teratogen counseling program, is expanding its coverage throughout the state.

Collaborations with Connecticut Children's Medical Center, Department of Public Health Newborn Screening

Program, UConn's Maternal-Fetal-Medicine program, and UConn's Neag Cancer Center in Farmington are robust and active. A Department of Public Health annual contract helps to support the newborn screening/metabolic and MotherToBabyCT programs.

The division's educational mission begins in the first year of medical school and goes through postgraduate fellowship. We have an active medical genetics and genomics residency training program. There are also student, resident, fellow, and genetic counseling learners who spend a month's rotation in genetics.

NEW/ONGOING COLLABORATIONS

Joseph Tucker, MD, currently serves on the board of directors for New England Regional Genetics Group (NERGG) and serves as a member of the Connecticut State Rare Disease Task Force. He continues in his role as an active member of the GUPPE program, and along with the Urology, Psychiatry, Psychology, and Endocrinology divisions at Connecticut Children's, it provides multidisciplinary care for children with disorders of sexual development.

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 Post Partum Support International, CT Chapter.

STAFF

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Interim Division Head

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Sharon Voyer Lavigne, MS, LGC

Ginger Nichols, MS, CGC

Brittany Gancarz, MS, CGC

Jennifer Stroop, MS, CGC

Sherry Gray, MS, MPH, CDN

Robert Greenstein, MD, Faculty Emeritus

General Pediatrics

The Division of General Pediatrics is committed to fostering the 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. All of 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 medical 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 CHC @ Connecticut Children's, CT Children's Primary Care East Hartford/West Hartford, and the Burgdorf/Bank of America Health Center. Members of the division provide ambulatory care to infants, children and adolescents, and inpatient care in the newborn nurseries at Hartford Hospital and John Dempsey Hospital/University of Connecticut Health Center and at Connecticut Children's Medical Center 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. Adolescent Medicine subspecialty primary care and consultative services also are embedded on-site at CHC @ Connecticut Children's. 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. General Pediatrics division faculty have gained regional and national prominence for clinical research, education, and program development in the fields of lead poisoning and prevention, child behavior and development, culturally effective health care, emergent literacy promotion, and the development of Medical Home-based systems of care for children and youth with special health-care needs.

This year the division welcomed three talented new faculty members. Following the retirement of Dr. Margaret McLaren (a national expert in the empathic model of dyadic treatment of substance-exposed infants and their mothers), Dr. Sonia Chaudhry assumed medical directorship of the Newborn Nursery at Hartford Hospital. Dr. Glenn Flores was recruited as chief research officer and director of Health Services Research, and Dr. Amira Mohamed-Ahmed joined the division as a general academic pediatrician.

The partnership between Connecticut Children's and Community Health Center, Inc., has continued to evolve, with faculty members Drs. Alyssa Bennett, Jennifer Haile and Catherine Wiley serving as lead faculty for Project ECHO: Complex Integrated Pediatrics. This collaboration between the Weitzman Institute and Connecticut Children's provides video-based conferencing on complex pediatric topics, emphasizing integration, collaboration and sharing learning between medical, behavioral and specialist providers. Over 70 pediatric providers from 12 states participated in the kick-off session in October.

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. Other rotating learners from UConn and other institutions include family practice residents, dental residents, psychiatry residents, child psychiatry fellows, 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 (Dr. Alberto Cohen-Abbo) and the Society for Pediatric Dermatology Education Committee (Dr. Keri Wallace). 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, co-management protocols with Connecticut Children's pediatric subspecialists, and a study to validate the CT Trauma Screen in young children.

General Pediatrics

Drs. Patricia Joyce and Patricia Garcia continue their work with the REACH (Resident Education in Advocacy and Community Health) pathway and community/advocacy education for all residents, working in collaboration with Connecticut Children's Office for Community Child Health, and a wide range of community agencies. Dr. Garcia was also named director of the Healthy Homes program. Dr. Wiley continues her advocacy work in the area of emergent literacy and serves as 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. Dr. Grael O'Brien continues to serve as site director for the CORNET (Continuity Clinic Research Network) of the Academic Pediatric Association and also has been very active on the Curriculum Reform Committee of the School of Medicine. Dr. Melissa Held, MD, and Dr. Joyce continue to transform the highly regarded Ambulatory Pediatrics Clerkship in preparation for transition of clinic students to the new M-delta medical school curriculum in the coming academic year.

Drs. Garcia and Haile received a continuing grant from the Connecticut Department of Public Health for the Hartford Regional Lead Poisoning Treatment Center. Dr. Nancy Trout and Stacy Chandna, MS, CIP, received a grant from the Kohl's Foundation for the "Start Childhood Off Right" program for early childhood obesity prevention. In partnership with Cincinnati Children's and the Reach Out and Read National Center, Dr. Wiley received grants from the Grossman Foundation and the Bank Haile Foundation for "Rx for Success: A Randomized Controlled Trial of Technology-Based Dialogic Reading Training Incorporated into Reach Out and Read." In partnership with the Village for Families and Children, Dr. Wiley and Dr. Karen Rubin (Office of Innovation) continue their work on a three-year grant from United Health Foundation, "Two Generation Pediatrics: Integrating Intergenerational Family Services into Primary Care," which supports interdisciplinary primary care-behavioral health and care coordination at the East and West Hartford sites.



General Pediatrics

PUBLICATIONS

Garcia P, Haile J. Notes from the field: lead poisoning in an infant associated with a metal bracelet – Connecticut, 2017. *MMWR Morb Mortal Wkly Rep.* 2017; 66:916.

Garcia P. Carotenemia in an infant, consultant for pediatrics. *Consultant 360.* 2017 Aug. [https://www.](https://www.consultant360.com/articles/carotenemia-infant)

[consultant360.com/articles/carotenemia-infant](https://www.consultant360.com/articles/carotenemia-infant)

Cloutier MM, Wiley JF, Trapp C, **Haile J**, Gorin A. The Childcare Center: an untapped opportunity to engage and educate families in healthy behaviors. *J Racial Ethn Health Disparities.* 2017 Jun 20. <https://doi.org/10.1007/s40615-017-0386-5>.

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Pediatric Surgery

The mission of the Pediatric Surgery Division is to provide the highest quality family centered surgical care.

CLINICAL CARE

The Division of Pediatric Surgery offers a full range of clinical services for 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, and trauma. Under the leadership of Dr. Brendan Campbell, who is the Don Hight Endowed Chair, Connecticut Children's earned reverification by the American College of Surgeons as a Level I Pediatric Trauma Center. Satellite offices are currently available in Farmington, Glastonbury, and Danbury that allow increased convenience for our families. Outpatient surgery is also performed at the Connecticut Children's Ambulatory Surgery Center in Farmington as well as at Danbury Hospital. Urgent care including same-day access to our Hartford office for emergent and urgent surgical problems is available. This can avoid an emergency room visit. This past year saw the opening of our new office suite (1H) on the first floor of Connecticut Children's. This new, well-designed office is significantly larger than the previous office space, and it includes several procedure rooms that are adjacent to the Sedation Suite.

MULTIDISCIPLINARY PROGRAMS

The division was honored this year to be recognized as one of the best in the country by *U.S. News & World Report* in the GI surgical component of the Gastroenterology and GI Surgery ranking. This illustrates the participation of the division in multiple multidisciplinary services aimed at facilitating and improving patient care and experience. Dr. Christine Rader continues to be the surgical director of the Extracorporeal Membrane Oxygenation Program that cares for some of the sickest patients in the hospital who require cardiopulmonary life support. The Multidisciplinary Thyroid Group enables children

with thyroid diseases to be rapidly and simultaneously evaluated by a surgeon as well as an endocrinologist. The Multidisciplinary Prenatal Evaluation Program continues to be co-directed by Dr. Richard Weiss. This program is a joint effort with the divisions of Obstetrics and Maternal Fetal Medicine at Hartford Hospital, as well as multiple medical and surgical divisions at Connecticut Children's. It recently passed its 10th anniversary. Dr. Campbell continues to lead 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. The Bariatric Surgical Program under the leadership of Connecticut Children's Surgeon-in-Chief, Pediatric Surgery Division Head, and Peter Decker Endowed Chair Dr. Christine Finck and Dr. Meghna Misra has been joined by the Weight Management Program under the leadership of Drs. Melissa Santos and Jessica Zimmerman. This allows patients and their families to be evaluated in one location by multiple disciplines. Drs. Michael Bourque and Rader provide surgical expertise to the Short Gut Program. Dr. Rader also provides pediatric surgical expertise to the Aerodigestive Program.

EDUCATION

One of the core missions of the division is to educate future physicians. Dr. James Healy began his two-year fellowship in pediatric surgery in August of 2017. He came to us after completing a general surgery residency at Yale New Haven Hospital. Our previous fellow, Dr. Yue-Yung Hu, graduated and moved to Chicago as a member of the pediatric surgery faculty at Northwestern University and the Lurie Children's Hospital. Surgical residents from the University of Connecticut, Stamford Hospital, Waterbury Hospital, and Saint Mary's Hospital rotate through our service. Dr. Rader is now the site director for the University of Connecticut General Surgery Residency Program. Pediatric residents also continue to spend time on our service. Quinnipiac

Pediatric Surgery

University medical students in their third year continue to utilize our service for their inpatient pediatric rotation. Electives are also provided to third and fourth year medical students from the University of Connecticut.

RESEARCH

The division began participation this past year in a national multi-center study to determine the timing of inguinal hernia repair in premature infants. The principal investigator is Dr. Misra. The division is active in other IRB-approved studies as well as health services research, injury prevention research under the leadership of Dr. Campbell, and basic science research from the lab of Dr. Finck. Ishna Sharma, MD, who joined us in July 2017 as the first Peter Decker Surgical Research Fellow in the lab, has won several awards for basic science research.

THE FUTURE

The upcoming year will bring the retirement of Dr. Michael Bourque in May 2018. Our senior partner has been a provider at Connecticut Children's and a member of the Hartford medical community for his entire career (which began in 1989, well prior to the opening of the hospital). He is a superb clinician and a beloved colleague, and we're proud to say he was this year's winner of the Physician of the Year Award. The prize, bestowed annually by Connecticut Children's, was given in recognition of Dr. Bourque's dedication and his compassion for his patients. He will be greatly missed by his division colleagues, his patients and their families, and the Greater Hartford medical community.

PUBLICATIONS

Tran A, Lescouflair T, Patel S, **Weiss R**. Case report: primary osteomyelitis of the sternum in a seven-month-old male. *J Ped Surg Case Rep*. 2017 April;19:38-40.

Misra MV, Tsai A, Thaker S, Moote DJ. Laparoscopic repair and ovarian preservation of an incarcerated inguinal hernia containing a torsed ovary. *J Laparoendosc Adv Surg Tech B. Videoscopy*, August 2017.

Misra MV, Rader C, Fezio J, Anderson M, Thaker S. Pectus carinatum: factors that contribute to success and failure of non-operative management. *Conn Med*. 2017;81(4):203-8.

Jensen TJ, Foster C, Sayej W, **Finck CM**. Conditional reprogramming of pediatric human esophageal epithelial cells for use in tissue engineering and disease investigation. *J Vis Exp*. 2017 Mar 22;(121).

Briere CE, Jensen T, McGrath JM, Young EE, **Finck C**. Stem-like cell characteristics from breast milk of mothers with preterm infants as compared to mothers with term infants. *Breastfeed Med*. 2017 Apr;12:174-9.

Jensen TJ, Shui JE, **Finck CM**. The effect of meconium exposure on the expression and differentiation of amniotic fluid mesenchymal stem cells. *J Neonatal Perinatal Med*. 2017 Aug 23;10(3):313-23.

Mitchell A, Drinnan CT, Jensen T, **Finck C**. Production of high purity alveolar-like cells from iPSCs through depletion of uncommitted cells after AFE induction. *Differentiation*. 2017 Aug 3;96:62-9.

Alkhoury RH, Bahia G, Smith AC, Thomas R, **Finck C**, Sayej W. Outcome of medical management of intraabdominal abscesses in children with Crohn's disease. *J Pediatr Surg*. 2017 Sep;52(9):1433-7.

Canfarotta M, Moote D, **Finck C**, Riba-Wolman R, Thaker S, Lerer TJ, Payne RJ, Cote V, McGill. Thyroid Nodule Score in differentiating benign and malignant pediatric thyroid nodules: a pilot study. *Otolaryngol Head Neck Surg*. 2017 Oct;157(4):589-95.

Tran A, **Campbell BT**. The art and science of pediatric damage control. *Semin Pediatr Surg*. 2017 Feb;26(1):21-6.

Pediatric Surgery

Letton RW Jr, **Campbell BT**, Falcone RA Jr, Gaines BA, Gourlay DM, Groner JI, Mooney DP, Nance ML, Notrica DM, Petty JK, Sartorelli KH. [letter to the editor] Durkin, et al. Post-traumatic liver and splenic pseudoaneurysms in children: diagnosis, management, and follow-up screening using contrast enhanced ultrasound (CEUS). *J Pediatr Surg*. 2016;51:289-92. *J Pediatr Surg*. 2017;52(2):367-8.

Baumann L, Clinton H, Berntsson R, Williams S, Rovella JC, Shapiro D, Thaker S, Borrup K, Lapidus G, **Campbell BT**. Suicide, guns, and buyback programs: an epidemiologic analysis of firearm-related deaths in Connecticut. *J Trauma Acute Care Surg*. 2017 May 22.

Kuhls DA, **Campbell BT**, Burke PA, Allee L, Hink A, Letton RW, et al. Survey of American College of Surgeons Committee on Trauma members on firearm injury: consensus and opportunities. *J Trauma Acute Care Surg*. 2017 May;82(5):877-86.

Naik-Mathuria BJ, Rosenfeld EH, Gosain A, Burd R, Falcone RA Jr, Thakkar R, et al (**Campbell B**, 14/37). Proposed clinical pathway for nonoperative management of high-grade pediatric pancreatic injuries based on a multicenter analysis: a pediatric trauma society collaborative. *J Trauma Acute Care Surg*. 2017 October;83(4):589-96.

Sekaran AK, **Campbell BT**. Ovarian torsion. In: Rauch DA, Gershel GC. *Caring for the hospitalized child: A handbook of inpatient pediatrics*. 2nd ed. Chicago: AAP Section on Hospital Medicine; 2017.

Mazziotti MV, **Misra MV**, Abdullah F, Sigalet D, Harris, JC. Chest wall deformities. *APSA – Pediatric Surgery NaT*; January 2017.

BOOK CHAPTER

Gollin G, Tashiro J, **Campbell B**, Maxwell D, Sola JE. Gallbladder disease. In: *Pediatric Surgery NaT*; 2017.

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James Healy, MD

Glycogen Storage Disease

The mission of the Glycogen Storage Disease (GSD) Program is to pursue research while providing the best evidence-based care for children and adults with the disease.

PROGRAM MOVE

In January 2017, the Glycogen Storage Disease Program relocated from the University of Florida (Gainesville) to Hartford, CT, where it began clinical care and scientific research in affiliation with both Connecticut Children's Medical Center and UConn. The GSD Program is the largest of its kind in the world, providing clinical care to patients worldwide with this rare metabolic liver disease. Led by pediatric endocrinologist and scientist Dr. David Weinstein, the majority of the Florida team also made the move to Connecticut.

CLINICAL CARE

Due to the rareness of the glycogen storage diseases and the expertise of the team, patients travel from around the world for clinical care. Patients followed by the program travel to Connecticut from 49 states and 48 countries. The program presently follows over 600 patients with GSD, and over 200 patients already have traveled to Connecticut for therapy.

CURRENT RESEARCH

The GSD team is active in both clinical and laboratory research. Murine research is currently being conducted by GSD team members in the laboratory facilities at the University of Connecticut Cell and Genome Sciences building. This research includes the following studies:

- Gene and cell therapies for GSD Ia and Ib
- Immune cell studies including neutropenia and neutrophil functions (GSD Ib)
- Generation and characterization of new mouse models for GSD Type VI and GSD IX
- Synergistic heterozygosity

- Relationships between miRNA and liver pathology (adenomas and cancer)

In addition to lab research, a sponsored clinical trial comparing extended release cornstarch (Glycosade) with the current standard of care (Argo cornstarch) is underway. This is an international, multi-site trial, with the bulk of participants being recruited by Connecticut Children's. Other sites are located in England, the Netherlands, and France.

The GSD Program is the only U.S. representative in the International Study for Glycogen Storage Disease (ISGSD). The vast majority of patients participate in the GSD Natural History Study conducted by the ISGSD to assess how treatment impacts outcomes in these disorders. The program also has a biorepository collecting blood samples from patients with GSD, and these are used to develop new therapies ex-vivo.

The following research will be initiated in 2018:

- Hepatic gene therapy (for GSD Ia)
- Pharmaceutical trials for new lipid-lowering medications (for all GSD types)
- Whole genome sequencing for patients with no known genetic etiology for the GSD
- A trial of medications to prevent scarring in the liver

INTERNATIONAL COLLABORATIONS IN 2017

- Dr. Weinstein and the GSD team actively collaborate with other scientists and clinical personnel around the world. In 2017, the team hosted doctors and researchers from South Korea, the Netherlands, Spain, and Italy.
- The GSD Program has active collaborations with doctors and researchers from around the world including Canada, United Kingdom, Faroe Islands, France, Spain, the Netherlands, Germany, Italy, Poland, Israel, China, South Korea, Argentina, Brazil, and Mexico.

Glycogen Storage Disease

- In 2017, members of the GSD team presented at professional conferences or invited lectures in Chicago, Philadelphia, San Diego, the Netherlands, the Faroe Islands, Mexico, Canada, Spain, United Kingdom, Austria, Ecuador and South Korea.

DOMESTIC COLLABORATIONS

The GSD team is also very active in domestic collaborations. The GSD program helps to staff Camp Cornstarch Kids (Texas), a camp experience dedicated to children with this metabolic disorder.

PUBLICATIONS

Dambaska M, Labrador EB, Kuo CL, Weinstein DA. Prevention of complications in glycogen storage disease type Ia with optimization of metabolic control. *Pediatr Diabetes*. 2017 Aug; 18(5):327-31.

Derks TG, Nemeth A, Arnell H, Steuerwald U, **Ross K**, Stachelhaus U, et al., (**Weinstein DA**, 17/17). Hepatic glycogen storage diseases: towards one global collaborative network. *J Inborn Error Metabol Screen*. 2017; 5:1-4.

Kim GY, **Lee YM**, Kwon JH, Cho JH, Pan CJ, Starost MF, et al. Glycogen storage disease type Ia mice with less than 2% of normal hepatic glucose-6-phosphatase-activity restored are at risk of developing hepatic tumors. *Mol Genet Metab*. 2017 Mar; 120(3):229-34.

Kim GY, **Lee YM**, Kwon JH, Jun HS, Chou J. Glycogen storage disease type Ib neutrophils exhibit impaired cell adhesion and migration. *Biochem Biophys Res Commun*. 2017 Jan 22; 482(4):569-74.

Kwon JH, **Lee YM**, Cho JH, Kim GY, Anduaga J, Starost MF, et al. Liver-directed gene therapy for murine glycogen storage disease type Ib. *Hum Mol Genet*. 2017 Nov 15; 26(22):4395-405.

Lawrence NT, Chengsupanimit T, Brown LM, Derks TG, Smit GP, **Weinstein DA**. Inflammatory bowel disease in glycogen storage disease type Ia. *J Pediatr Gastroenterol Nutr*. 2017 Feb; 64(2):e52-e54.

Okechuku GO, Shoemaker LR, **Dambaska M**, Brown LM, Mathew J, **Weinstein DA**. Tight metabolic control plus ACE inhibitor therapy improves GSD I nephropathy. *J Inherit Metab Dis*. 2017 Sept; 40(5):703-8.

Peeks F, Steunenbergh TA, de Boer F, Rubio-Gozalbo ME, Williams M, Burghard R, Rajas F, Oosterveer MH, **Weinstein DA**, Derks TGJ. Clinical and biochemical heterogeneity between patients with glycogen storage disease type Ia: the added value of CUSUM for metabolic control. *J Inherit Metab Dis*. 2017 Sept; 40(5):695-702.

Weinstein DA. 50 years ago in the *Journal of Pediatrics*: the incidence of neonatal hypoglycemia-A completed survey. *J Pediatr*. 2017 Jan; 180:74.



Glycogen Storage Disease

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Traci Resler, MS

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Pediatric and Adolescent Gynecology

The members of the Division of Gynecology at Connecticut Children's Medical Center continue to provide state-of-the-art pediatric and adolescent gynecology consultative services in our four offices, the Connecticut Children's operating rooms, and the Connecticut Children's emergency room, and in-patient settings.

The clinical services provided 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 the Gynecology and Obstetrics Division of Women's Health Connecticut provides 24/7 coverage of the Connecticut Children's Medical Center's Emergency Room, operating room, and inpatient floors.

Our surgical services have continued to include daVinci robotically assisted minimally invasive gynecologic procedures at Connecticut Children's for selected patients. Dr. Frederick Rau continues to perform robotically assisted laparoscopic procedures for reproductive tract anomalies.

Office evaluations of pediatric and adolescent patients are done at the Gynecology and Obstetrics Division of Physicians of Women's Health by Dr. Frederick Rau, division director, and Drs. Emily Rosenbush, Kerrie Henry, Catherine Graziani, Kelley Sturrock, Erin Pickett, Ellen Robinson, Marlaine Miller and Elizabeth Purcell at locations in Hartford, Farmington, Glastonbury and Rocky Hill. Our extensive range of pediatric and adolescent-friendly gynecologists has improved the ability of community physicians to refer families for age-appropriate gynecologic care.

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.

Our physicians collaborate at Connecticut Children's Medical Center 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 in-patient, emergency room and operating room patient care.

Our physicians emphasize a supportive and minimally intrusive strategy while seeing children, adolescents and families.

For 2018, the division will maintain and improve our patient's access to superior specialty care in pediatric and adolescent gynecology to promote reproductive health and wellness for our community's children and teenagers.

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Hematology/Oncology

The Hematology/Oncology Division strives to improve the lives of children with cancer and blood disorders by delivering high quality family centered academic health care. We continuously improve what we do through discovery and partnerships. We have three broad areas of focus: Family Centered Care, Quality & Safety, and Research & Teaching.

In the past year, the Division of Hematology/Oncology has continued to excel in our ability to provide the highest quality of care with our focus on the patient and family experience; we are supported by a talented group of advanced practitioners and nurses as a key component of our service model. Over the past year, we have broadened our programs and further developed several areas of expertise. We have continued to develop and expand our programs in Survivorship, Supportive Care, and Palliative Care. We also maintained our focus on expanding disease expertise in neuro-oncology, sarcoma and other solid tumors, hematologic malignancies, and in adolescent and young adult oncology. In addition, we also have provided cutting edge research clinical trials within our Advanced Cancer Program for novel therapeutics.

We have successfully maintained the alignment of our advanced practitioner staff to provide continuous, streamlined, and patient-centered care in both inpatient and outpatient facilities. We have been continuously improving on a Care Team Model of comprehensive care, supporting each patient's care with a team of nurses, advanced practitioners, a social worker, and a physician, to provide longitudinal care. We have also refined and advanced our service line model of care, linking our inpatient, outpatient, and infusion services into one streamlined model and broadening our outreach to communities we have not previously served.

We are humbled by our high commendations from patients and families, a testament to our continued striving for a family centered approach to care delivery. We are supported by our two active family advisory boards for sickle cell disease and cancer care. Utilizing their input, we have implemented processes to improve

the patient and family experience so that children and families dealing with serious disease can do so with as much comfort and support as possible.

Under the leadership of Dr. Natalie Bezler, our Quality and Safety program has been active in seeking ways to improve quality of care delivery as well as patient safety including the implementation of strategies to reduce chemotherapy errors. In addition, we also have launched our regular mortality and morbidity rounds to foster systematic and objective evaluation of cases of adverse outcome in order to enhance our ability to learn from our experience in optimizing patient care.

Our research effort is on a trajectory of expansion. Our participation in the Children's Oncology Group is critical to provide access to clinical trials for our patients, and we have one of the highest clinical trial enrollment rates in New England. In addition, we are members of two national consortia: the National Pediatric Cancer Foundation's Sunshine Project and the Beat Childhood Cancer consortium, bringing novel Phase 1 and Phase 2 treatments to children with relapsed and refractory cancers. Led by our Division Head Dr. Ching Lau, an internationally renowned expert in cancer genomics, we are on course to expand our partnership with Jackson Laboratory for Genomic Medicine in Farmington, CT, to develop a personalized approach to cancer therapeutics using patient-derived xenograft models as well as genetically engineered mouse models of pediatric cancers. The ongoing efforts of Dr. Lau's laboratory at Jackson Lab focus on the discovery and validation of novel biomarkers and therapeutic targets for pediatric cancers and hematologic diseases with the ultimate goal of developing a comprehensive precision medicine program for childhood cancers and blood disorders.

Under the leadership of Dr. Michael Isakoff, the Reid R. Sacco Adolescent and Young Adult Cancer Program, supported by the Reid R. Sacco Adolescent and Young Adult Cancer Alliance and the Nascembini family, has collaborated and supported our consultation services for young adults at Hartford Hospital, St. Francis Medical

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Center, and UConn Health Center. Additionally, Dr. Isakoff has received support from Lea's Foundation for Leukemia Research to support the opening of clinical trials focused on the area of leukemia and lymphoma. Dr. Andrea Orsey is leading the way in advancing the supportive care for patients undergoing cancer therapy. She has continued to work on a yoga intervention project to improve pediatric cancer patients' quality of life. This past year, Dr. Orsey was awarded a St. Baldrick's Foundation Supportive Care Research Grant to validate integrated care delivery guidelines for anthracycline-induced cardiotoxicity. Dr. Donna Boruchov's expertise and state grant funding for our sickle cell patients has guided regional standards for exceptional care. Dr. Boruchov also has received grant funding for participation in nationwide genotyping and repository of our hemophilia patients. Dr. Boruchov was awarded a Patient-Centered Outcome Research Initiative (PCORI) grant in collaboration with the Children's Hospital of Philadelphia to help advance the care of patients with sickle cell disease. Dr. Natalie Bezler has been awarded a St. Baldrick's Infrastructure Grant to help develop our Hematologic Malignancies Program.

In 2017, we were thrilled to have two additional physicians join our group. Dr. Jonathan Bernstein is an expert in bleeding disorders and will be leading the continued development of our Hemostasis Program. Dr. Natasha Frederick is an expert in oncofertility and will be helping to expand the services and research of our Adolescent and Young Adult Cancer Program.

In addition to contributing to residency training for which we consistently receive outstanding feedback for our program, we have been approved by the Accreditation Council for Graduate Medical Education (ACGME) for a clinical fellowship program in Pediatric Hematology/Oncology. In 2018, our first fellow in pediatric hematology will begin training. This represents another milestone in our mission to provide the best educational opportunities to the next generation of leaders in pediatric hematology/oncology.

PUBLICATIONS

Grossi V, **Bezler N**, Sayej W. Ulcer of the duodenum caused by a pancreatic neuroendocrine tumor in an adolescent. *Clin Gastroenterol Hepatol*. 2017 Jan;15(1):A45-6. doi: 10.1016/j.cgh.2016.08.042. Epub 2016 Sep 6. PubMed PMID: 27613258.

Zhou ES, **Frederick NN**, Bober SL. Hormonal changes and sexual dysfunction. *Med Clin North Am*. 2017 Nov;101(6):1135-50. doi: 10.1016/j.mcna.2017.06.008. Epub 2017 Aug 2. Review. PubMed PMID: 28992859.

Frederick NN, Bober SL, Berwick L, Tower M, Kenney LB. Preparing childhood cancer survivors for transition to adult care: the young adult perspective. *Pediatr Blood Cancer*. 2017 Oct;64(10). doi: 10.1002/pbc.26544. Epub 2017 Apr 6. PubMed PMID: 28383822.

Borinstein SC, Steppan D, Hayashi M, Loeb DM, **Isakoff MS**, Binitie O, et al. Consensus and controversies regarding the treatment of rhabdomyosarcoma. *Pediatr Blood Cancer*. 2017 Sep 14. doi: 10.1002/pbc.26809. [Epub ahead of print] Review. PubMed PMID: 28905489.

Reed DR, Hayashi M, Wagner L, Binitie O, Steppan DA, Brohl AS, Shinohara ET, Bridge JA, Loeb DM, Borinstein SC, **Isakoff MS**. Treatment pathway of bone sarcoma in children, adolescents, and young adults. *Cancer*. 2017 Jun 15;123(12):2206-18. doi: 10.1002/cncr.30589. Epub 2017 Mar 21. Review. PubMed PMID: 28323337; PubMed Central PMCID: PMC5485018.

Gillan E, Lau CC. Advances in pediatric neuro-oncology. *Adv Mod Oncol Res*. 2017;3(5):201-4.

Raza A, Tsang YTM, Yu Z, Adesina A, Aldape K, **Lau CC**, Wong KK. Overexpression of Sema3E and Sema5A in pilocytic astrocytoma. *Adv Mod Oncol Res*. 2017;3(5):232-40.

Kogiso M, Qi L, Lindsay H, Huang Y, Zhao X, Liu Z, et al. (**Lau CC**, 25/28). Xenotransplantation of pediatric low grade gliomas confirms the enrichment of BRAF V600E mutation and preservation of CDKN2A deletion in a

novel orthotopic xenograft mouse model of progressive pleomorphic xanthoastrocytoma. *Oncotarget*. 2017 Sep 8;8(50):87455-71. doi: 10.18632/oncotarget.20713. eCollection 2017 Oct 20. PubMed PMID: 29152094; PubMed Central PMCID: PMC5675646.

Johnson KJ, Schwartzbaum J, Kruchko C, Scheurer ME, **Lau CC**, Woehrer A, Hainfellner JA, Wiemels J. Brain tumor epidemiology in the era of precision medicine: the 2017 Brain Tumor Epidemiology Consortium meeting report. *Clin Neuropathol*. 2017 Nov/Dec;36(6):255-63. doi: 10.5414/NP301066. PubMed PMID: 29035190.

Brown AL, Foster KL, Lupo PJ, Peckham-Gregory EC, Murray JC, Okcu MF, **Lau CC**, Rednam SP, Chintagumpala M, Scheurer ME. DNA methylation of a novel PAK4 locus influences ototoxicity susceptibility following cisplatin and radiation therapy for pediatric embryonal tumors. *Neuro Oncol*. 2017 Oct 1;19(10):1372-9. doi: 10.1093/neuonc/nox076. PubMed PMID: 28444219; PubMed Central PMCID: PMC5596178.

Marcotte EL, Pankratz N, Amatruda JF, Frazier AL, Krailo M, Davies S, Starr JR, **Lau CC**, et al. Variants in BAK1, SPRY4, and GAB2 are associated with pediatric germ cell tumors: A report from the children's oncology group. *Genes Chromosomes Cancer*. 2017 Jul;56(7):548-58. doi: 10.1002/gcc.22457. Epub 2017 Apr 4. PubMed PMID: 28295819; PubMed Central PMCID: PMC5612339.

Melin BS, Barnholtz-Sloan JS, Wrensch MR, Johansen C, Ilyasova D, Kinnersley B, et al. (**Lau C**, 51/63). Genome-wide association study of glioma subtypes identifies specific differences in genetic susceptibility to glioblastoma and non-glioblastoma tumors. *Nat Genet*. 2017 May;49(5):789-94. doi: 10.1038/ng.3823. Epub 2017 Mar 27. PubMed PMID: 28346443; PubMed Central PMCID: PMC5558246.

Goschzik T, Gessi M, Dreschmann V, Gebhardt U, Wang L, Yamaguchi S, Wheeler DA, Lauriola L, **Lau CC**, Müller HL, Pietsch T. Genomic alterations of adamantinomatous and papillary craniopharyngioma. *J Neuropathol Exp Neurol*. 2017 Feb 1;76(2):126-34. doi: 10.1093/jnen/nlw116. PubMed PMID: 28069929.

Flores RJ, Kelly AJ, Li Y, Nakka M, Barkauskas DA, Krailo M, Wang LL, Perlaky L, **Lau CC**, Hicks MJ, Man TK. A novel prognostic model for osteosarcoma using circulating CXCL10 and FLT3LG. *Cancer*. 2017 Jan 1;123(1):144-54. doi: 10.1002/cncr.30272. Epub 2016 Aug 16. PubMed PMID: 27529817; PubMed Central PMCID: PMC5161556.

Orsey AD, Park CL, Pulaski R, Shankar NL, Popp JM, Wakefield D. Results of a pilot yoga intervention to improve pediatric cancer patients' quality of life and physical activity and parents' well-being. *Rehab Onc*. 2017 Jan;35(1)15-23.

Dupuis LL, Sung L, Molassiotis A, **Orsey AD**, Tissing W, van de Wetering M. 2016 updated MASCC/ESMO consensus recommendations: prevention of acute chemotherapy-induced nausea and vomiting in children. *Support Care Cancer*. 2017 Jan;25(1):323-31. Epub 2016 Aug 26. PubMed PMID: 27565788.

Patel P, Robinson PD, Thackray J, Flank J, Holdsworth MT, Gibson P, **Orsey A**, Portwine C, Freedman J, Madden JR, Phillips R, Sung L, Dupuis LL. Guideline for the prevention of acute chemotherapy-induced nausea and vomiting in pediatric cancer patients: a focused update. *Pediatr Blood Cancer*. 2017 Oct;64(10). doi: 10.1002/pbc.26542. Epub 2017 Apr 28. Review. PubMed PMID: 28453189.

Flank J, Schechter T, Gibson P, Johnston DL, **Orsey AD**, Portwine C, Sung L, Dupuis LL. Olanzapine for prevention of chemotherapy-induced nausea and vomiting in children and adolescents: a multi-center, feasibility study. *Support Care Cancer*. 2017 Aug 30. doi: 10.1007/s00520-017-3864-8. [Epub ahead of print] PubMed PMID: 28856448.

Hematology/Oncology

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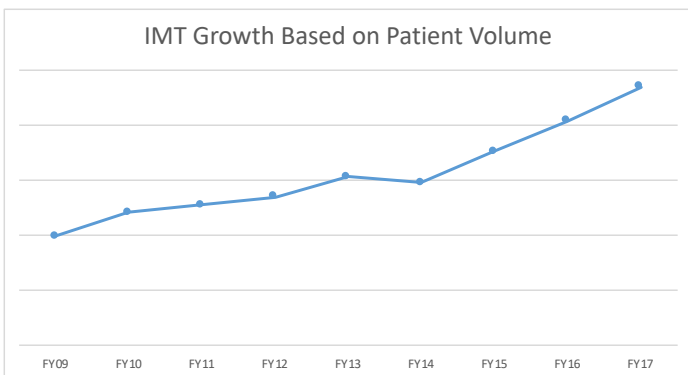


Hospital Medicine



The Division of Hospital Medicine is committed to providing top quality, family centered care to hospitalized children and their families. We emphasize evidence-based practice, educational excellence, and ongoing academic contribution to our young and rapidly expanding field. In 2016, Hospital Medicine was recognized for the first time as an official specialty by the American Board of Medical Specialties. In 2017, the division has continued to expand in unprecedented ways.

Pediatric Hospital Medicine is the fastest growing specialty within Pediatrics and our division has paralleled that growth (Figure 1). We provide general inpatient pediatric care at Connecticut Children's Medical Center in Hartford, as well as at our 12-bed satellite unit at St. Mary's Hospital in Waterbury, CT. Our Hartford-based patient volume has grown over 50 percent in the past five years (2013 to 2017). Most recently, as part of an exciting new partnership with Western Connecticut Health Network, we have extended our reach to Fairfield County. Starting in January 2018, we will provide pediatric hospitalist and physician assistant coverage for the Danbury and Norwalk Hospital inpatient pediatric units and well newborn nurseries. We continue to partner with primary care groups to assume the care of their inpatients – now 100 percent of general pediatric inpatients are cared for by our service. We oversee a highly capable group of APRNs and PAs who provide outstanding care and have helped to lead many of our improvement initiatives.



Hospital Medicine

Clinical accomplishments during the past year were numerous. As a division, we have taken a lead role in process improvement, with a focus on optimizing patient flow while ensuring high quality. The division spearheaded a movement to expand Family Centered Rounds from our own group to all other medical specialties within the inpatient setting. Through that work, we have increased nurse presence on daily rounds and vastly improved the percentage of time that orders are done on rounds, with a “read back” of the order to ensure accuracy. We have continued our Co-management Program in which we provide medical expertise in the care of complex surgical patients. This consult service has improved communication and family satisfaction, and has led to better care for children with complex needs. Through our Clinical Effectiveness arm, we have led in standardizing best practice via seven new Clinical Pathways implemented in 2017. There are now over 30 pathways in active use, and we have demonstrated reduced length of stay and costs with no increase in readmits while improving patient outcomes. Effective Clinical Pathways demonstrate how hospitalists improve value, a concept that will be increasingly important as health care systems continue to evolve.

Education of the next generation of pediatric providers remains a crucial part of our mission. Our faculty members continue to excel in this area. Dr. Kathy Kalkbrenner again earned the 2017 Faculty Award for Excellence in Teaching, setting a faculty record with three consecutive wins in that category. The faculty of the division performed well on overall resident evaluations and scored in the top tier in University of Connecticut medical student evaluations. The division also received top marks for our instruction to the medical students of Quinnipiac University School of Medicine, in a new clinical rotation that takes place at our St. Mary's unit.

Members of the division continue to share their work on a national level. Division Head Dr. Anand Sekaran is one of 12 pediatric hospitalists nationally who are writing the first ever AAP PREP exam for Pediatric Hospital Medicine. This exam will serve as a primary learning tool to help hospitalists around the country prepare for the first PHM certifying exam, to take place for the first time in 2019. Dr. Sekaran was asked to serve as associate editor for the PHM Core Competencies document, which defines the core content for the field itself. Dr. Ilana Waynik presented at the national meeting of the American Academy of Child and Adolescent Psychiatry on Clinical Pathways geared towards mental health. She also has helped to spearhead work in neonatal abstinence syndrome, working to standardize that care across the state. Dr. Alex Hogan, a newcomer to the group, won the Young Investigator Travel grant for the Pediatric Academic Society, and presented a workshop at the national PHM meeting. Our lead APRN, Basia Adams, presented her work in patient flow optimization at this meeting, and was the sole national winner of an APRN grant to attend.

As hospitalists, we continue to evolve in how we provide value, educate trainees, and improve care. Our goal is not only to measure our performance against national standards but to be at the top of those standards. 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

BOOK CHAPTER

Sekaran A, Campbell B. Ovarian torsion. In: Gershel JC, Rauch DA, editors. *Caring for the hospitalized child: a handbook of inpatient pediatrics*. 2nd ed. American Academy of Pediatrics; 2017.

Hospital Medicine

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Infectious Diseases and Immunology

The Division of Infectious Diseases and Immunology provides excellent care for patients with unusual and chronic infections, and those with immune deficiencies. This academic year also included a leadership change within the division, as Dr. Nicholas Bennett formally took on the role of division head.

The clinical service consolidated its work from previous years in expanding our outpatient satellites and the inpatient consult service, and adding more clinic sessions for follow-up on inpatient consultations. New patients with primary immune deficiency continue to be diagnosed, and the division has joined a collaborative effort at Connecticut Children's to design and build a new 3,000+ square-foot Infusion and Dialysis Center in the main children's hospital campus. The new Infusion Center will improve the quality and efficiency of care we can provide and offer a family-friendly environment for the many hours our patients spend with us. Our hope is to have the new center built within the next year, and our efforts were boosted by a \$1 million gala fundraiser by the Connecticut Children's Foundation.

The Antimicrobial Stewardship Program succeeded in ensuring the hospital meets full compliance with the new Joint Commission requirements – including new educational content for prescribers, pharmacists, and families, updated reporting of antibiotic usage patterns within the hospital units, and improved review of antibiotic use. This work was in addition to the ongoing clinical care and research projects within the ASP, including multiple peer-reviewed publications and presentations at the International Pediatric Antimicrobial Stewardship Conference.

Our Ryan White program's funding was renewed through 2019 for its work caring for children and young adults infected with HIV, and those at risk for infection. As well as our Medical Case Managers' work on the Popular Opinion Leader initiative, school outreach, and the Willow support meetings for mothers infected with HIV, our clinic offers a comprehensive Pre-Exposure Prophylaxis (PrEP) for at-risk youth. PrEP includes testing, counseling, and preventative measures to reduce the risk of acquiring HIV and other sexually transmitted diseases.

The division continues to publish cutting-edge research, funded by NIH grants held by Dr. Juan C. Salazar, as well as clinical reports and reviews.

ACTIVE GRANTS

R56 AI097210 NIAID – Mechanisms of impaired mycobacteria sensing by TLR2 and TLR4 polymorphic variants. (Active: 7/17/2014-6/30/2017) Co-PI: Dr. Juan Salazar.

AI-29735 NIH – RpoS regulation of *Borrelia burgdorferi* genes in vivo. (Active 2/1/2013-1/31/2018) Co-Investigator: Dr. Melissa Caimano.

PUBLICATIONS

Tutolo JW, Staples JE, Sosa L, **Bennett N**. Notes from the field: Powassan Virus Disease in an infant - Connecticut, 2016. *MMWR*. 2017 Apr 21;66(15):408-9.

Hawley KL, Cruz AR, Benjamin SJ, La Vake CJ, Cervantes JL, LeDoyt M, Ramirez LG, Mandich D, Fiel-Gan M, **Caimano MJ**, Radolf JD, **Salazar JC**. IFN enhances CD64-potentiated phagocytosis of *Treponema pallidum* opsonized with human syphilitic serum by human macrophages. *Front Immunol*. 2017 Oct 5;8:1227.

Flores G, **Salazar JC**. Immigrant Latino children and the limits of questionnaires in capturing adverse childhood events. *Pediatrics*. 2017 Nov;140(5).

Held MR, Kotler H, Sneller H, Sullivan CB. Lemierre's syndrome presenting as multifocal pyomyositis in a young child. *Pediatr Infect Dis J*. 2017 Sep 5.

Sigurjonsdottir VK, **Feder HM Jr**, Wormser GP. Anaplasmosis in pediatric patients: Case report and review. *Diagn Microbiol Infect Dis*. 2017 Nov;89(3):230-234.

Infectious Diseases and Immunology

Di Pietro C, Zhang PX, O'Rourke TK, **Murray TS**, Wang L, Britto CJ, Koff JL, Krause DS, Egan ME, Bruscia EM. Ezrin links CFTR to TLR4 signaling to orchestrate anti-bacterial immune response in macrophages. *Sci Rep*. 2017 Sep 7;7(1):10882.

Vivar S, **Giroto JE**, **Murray TS**. A dual case of peritonitis and central nervous system infection caused by nutritionally variant streptococcal species. *Case Rep Infect Dis*. 2017;2017:6012964.

Dassner AM, **Giroto JE**. Evaluation of a second-sign process for antimicrobial prior authorization. *J Pediatric Infect Dis Soc*. 2017 Apr 12.

Nichols K, Stoffella S, Meyers R, **Giroto J**; Advocacy Committee for the Pediatric Pharmacy Advocacy Group. Pediatric antimicrobial stewardship programs. *J Pediatr Pharmacol Ther*. 2017 Jan-Feb;22(1):77-80.

Nichols K, **Giroto J**, Steele AM, Stoffella S; Advocacy Committee for the Pediatric Pharmacy Advocacy Group. Duty to advocate: human papilloma virus vaccination. *J Pediatr Pharmacol Ther*. 2017 Jan-Feb;22(1):74-6.

Dassner AM, Sutherland C, **Giroto J**, Nicolau DP. In vitro activity of ceftolozane/tazobactam alone or with an aminoglycoside against multi-drug-resistant *Pseudomonas aeruginosa* from pediatric cystic fibrosis patients. *Infect Dis Ther*. 2017 Mar;6(1):129-36.

Dassner AM, Nicolau DP, **Giroto JE**. Management of pneumonia in the pediatric critical care unit: an area for antimicrobial stewardship. *Curr Pediatr Rev*. 2017;13(1):49-66.

Courter JD, Nichols KR, Kazazian C, **Giroto JE**. Pharmacodynamically guided levofloxacin dosing for pediatric community-acquired pneumonia. *J Pediatric Infect Dis Soc*. 2017 Jun 1;6(2):118-22.

Puthenveetil R, Kumar S, **Caimano MJ**, Dey A, Anand A, Vinogradova O, Radolf JD. The major outer sheath protein forms distinct conformers and multimeric complexes in the outer membrane and periplasm of *Treponema denticola*. *Sci Rep*. 2017 Oct 16;7(1):13260.

Nally JE, Grassmann AA, Planchon S, Sergeant K, Renaut J, Seshu J, McBride AJ, **Caimano MJ**. Pathogenic leptospires modulate protein expression and post-translational modifications in response to mammalian host signals. *Front Cell Infect Microbiol*. 2017 Aug 9;7:362.

Grove AP, Liveris D, Iyer R, Petzke M, Rudman J, **Caimano MJ**, Radolf JD, Schwartz I. Two distinct mechanisms govern RpoS-mediated repression of tick-phase genes during mammalian host adaptation by *Borrelia burgdorferi*, the Lyme disease spirochete. *MBio*. 2017 Aug 22;8(4). pii: e01204-17.

Fitzstevens JL, Smith KC, Hagadorn JI, **Caimano MJ**, Matson AP, Brownell EA. Systematic review of the human milk microbiota. *Nutr Clin Pract*. 2017 Jun;32(3):354-364.

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Neonatal-Perinatal Medicine

The Division of Neonatal-Perinatal Medicine 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 of Neonatal-Perinatal Medicine is to provide quality, state-of-the-art care to neonates in our state, in addition to advancing education, training, and cutting edge research.

The division faculty provides care at multiple sites across the state including Connecticut Children's Medical Center (Hartford), Connecticut Children's Medical Center at the University of Connecticut Health Center (UCHC)/ John Dempsey Hospital (JDH) in Farmington, St. Francis Hospital and Medical Center (SFHMC) in Hartford, and Eastern Connecticut Health Network (ECHN) in Manchester. In 2017, we expanded our neonatal services to provide coverage at the Hospital of Central Connecticut (HOCC) in New Britain, MidState Medical Center in Meriden, and William W. Backus Hospital in Norwich. In 2018, we will begin providing neonatal services to Western Connecticut Health Network (WCHN), which includes both Danbury Hospital and Norwalk Hospital. Our faculty members not only work collaboratively across these sites, but they are partners with Yale Neonatology and the March of Dimes in leading the Connecticut Perinatal Quality Collaborative, helping to improve maternal and newborn care at the state level.

The division's global outreach initiatives continued this year with Victor Herson, MD, traveling with teams from the Connecticut Children's Center for Global Health to teach newborn care and neonatal resuscitation to health-care providers in Haiti. In addition, Naveed Hussain, MD, headed a team from Connecticut Children's Medical Center and the University of Connecticut to the NICE Institute for the Newborn in Hyderabad, India. The team led multiple training sessions with the staff and medical providers across the region, implementing the AAP Helping Babies Breathe Program. Our ongoing collaboration with the NICE Institute has reduced neonatal fatalities by working with a regionalized care system to improve newborn care throughout the region.

The Connecticut Children's team has continued to assist in the Hypoxic Ischemic Encephalopathy cooling treatment program that was instituted in 2016 and has benefited more than 30 babies in the last year. We will be expanding our partnership in 2018 to include teleconferencing and joint education video sessions, and soon plan to implement telemedicine capabilities for patient consultation.

The research mission of Neonatal-Perinatal Medicine continues to grow including basic, clinical and transitional areas of investigation, including human milk, breastfeeding medicine, fetal/neonatal allergy and immunology, necrotizing enterocolitis, and oxygen targeting and associated toxicity. Division members continue to present their work in publications and at national research conferences. James Moore, MD, PhD, co-chaired and presented his own research on the use of Near Infrared-Spectroscopy in Neonatology at the Pediatric Academic Societies meeting in 2017 in San Francisco. David Sink, MD, is continuing his work in quality improvement and patient safety for Connecticut Children's, and was awarded the 2017 Connecticut Children's Physician's Quality Award for his work on five different QI initiatives with Neonatology which have led to fewer false alarms, reduced unplanned extubations, and helped improve the number of neonates getting appropriate levels of oxygenation with the Oxygen With Love Program (OWL). Dr. Sink is also participating in a three-year education program sponsored by the American Pediatric Association to expand his expertise in quality and process improvement. The division's Human Milk, and Gut Microbiome Repository continues to grow and expand through philanthropic donations and grant funding and has led to a number of publications and national presentations. In 2017, all five neonatology division fellows presented their research at the Pediatric Academy Society Meeting in San Francisco. The division had over 28 publications and 31 national presentations.

As an academic division of Neonatology, education through teaching and mentoring neonatology fellows, pediatric residents, nurse practitioners, physician

Neonatal-Perinatal Medicine

assistants and pharmacy students is a primary objective. In 2017, we transitioned leadership of the fellowship from James Hagadorn, MD, to Jennifer Trzaski, MD. We want to thank Dr. Hagadorn for his remarkable improvements and growth within the program during his tenure, and look forward to continued progression and improvements from Dr. Trzaski as she assumes the role of fellowship director. The faculty continue to lecture and organize Neonatology board review courses, publish textbooks in the field, and, in 2017 hosted the second annual Symposium on Neonatal Advances at the Connecticut Children's Medical Center NICU in Farmington, which highlighted feeding and nutrition practices. The conference was co-chaired by Mariann Pappagallo, MD, and featured six internationally recognized speakers, with over 100 attendees.

GRANTS

Stevenson Fund for Pediatric Research. Infant Gut Microbiome and its relationship to Childhood Disease. PI: Dr. Adam Matson

Affinity Research Collaboration award from the Institute of Systems Genomics at UConn Health. Early Life Experience Imprints Gut Microbiome in Preterm Infants. PI: Cong. Co-Investigator: Dr. Adam Matson

R01NR016928 09/14/17–07/31/2021: Multi-Omics Analysis of Pain/Stress Impact on Neurodevelopment in Preterm Infants. The goals of the study are to examine linkages between cumulative pain/stress experiences in the NICU and infant gut microbiome and neurodevelopment; interactions among gut microbiome, host genetic variation and early life pain/stressors that contribute to neurodevelopmental outcomes, controlling for other infant factors; and the impact of different levels of pain/stress experiences on the gut microbiome and neurodevelopment and other growth parameters using twin-pairs. PI: Cong. Co-Investigator: Dr. Adam Matson

PCORI – Home recorded Oximetry Weaning Trial (HeROW) Jan 2015 to Dec 2017. Site PI: Dr. Ted Rosenkrantz

UConn REP Grant. Early Markers and Prediction of IDD-Related Outcomes in a Neonatal HI Model. 2016-17
Co-Investigator: Dr. Ted Rosenkrantz

RO1 submission: Early Markers and Prediction of IDD-Related Outcomes in a HI Model. Co-Investigator: Dr. Ted Rosenkrantz

Hood Foundation major grant award submission: A pre-clinical model of therapeutic intervention for preterm neurologic rescue. May 2017. Co-Investigator: Dr. Ted Rosenkrantz [Note: This application was selected by UConn as the sole submission to the Foundation for 2017 from the University of Connecticut.]

PUBLICATIONS

Abramo TJ, McKinney S, **Moore J**, Jacobs R, Albert G, Meredith M, et al. Hemispheric cerebral oximetry monitoring during pediatric seizure activity in a pediatric emergency department. *Pediatr Emerg Care*. 2017 Nov 15. doi: 10.1097/PEC.0000000000001354. [Epub ahead of print] PubMed PMID: 29140931.

Bradley C, Guarrera-Bowlby P, Damodaran H, Ballintyn M, **Hagadorn JI**. Nonlinear methods of analysis to examine respiratory waveform variability during oral feeding in preterm infants. *Int J Med Eng Inform*. 2017 Jan; 9(3):284. doi: 10.1504/IJMEI.2017.085054.

Johnson KR, **Hagadorn JI, Sink DW**. Alarm safety and alarm fatigue. *Clin Perinatol*. 2017 Sep; 44(3):713-28. doi: 10.1016/j.clp.2017.05.005. Epub 2017 Jul 14.

Hagadorn JI, Sink DW, Buus-Frank M, Edwards E, Morrow K, Horbar J, Ferrelli K, Soll R. Oximeter alarm safety and oxygen saturation targeting in the Vermont Oxford Network iNICQ 2015: Alarm Safety quality improvement collaborative. *J Perinatol*. 2017 Mar; 30:270-6. PMID: 27977012. [Epub ahead of print]

Neonatal-Perinatal Medicine

Fitzstevens JL, Smith KC, **Hagadorn JI**, Caimano MJ, **Matson AP**, **Brownell EA**. A systematic review of the microbiota in human milk. *Nutr Clin Pract*. 2017 Jun; 32(3):354-64. doi: 10.1177/0884533616670150. PMID: 27679525. [Epub 2016 Sep 27]

Hagadorn JI, **Brownell EA**, **Trzaski JM**, Johnson KR, Lainwala S, Campbell BT, Herbst KW. Trends and variation in management and outcomes of very low-birth-weight infants with patent ductus arteriosus. *Pediatr Res*. 2016 Dec;80(6):785-92. doi:10.1038/pr.2016.166. Epub 2016 Aug 10. PMID: 27509008.

Hussain N. Recent advances in imprinting disorders. *NeoReviews*. 2017 Sep; 18(9).

Leopold S, Al-Qaraghoul M, **Hussain N**, Finck C. Magnetic resonance imaging diagnosis of volvulus through mesenteric defect in neonate. *AJP reports*. 2016; 6:e239-42.

Stirling KM, **Hussain N**, **Sanders MM**, Campbell W. Association between maternal genital mycoplasma colonization and histologic chorioamnionitis in preterm births. *J Neonatal Perinatal Med*. 2016; 9:201-9.

Ordulu Z, Kammin T, Brand H, Pillalamarri V, Redin CE, Blumenthal I, et al. (**Hussain N**, 12/25). Structural chromosomal rearrangements require nucleotide-level resolution: lessons from next-generation sequencing in prenatal diagnosis. *Am J Hum Genet*. 2016;99:1015-33.

Hussain Z, Kuzian E, **Hussain N**. A 15-year review of trends in representation of female subjects in Islamic bioethics research. *J Relig Health*. 2017 Feb; 56(1):284-93. doi: 10.1007/s10943-016-0283-y.

Townsel CD, Emmer SF, Campbell WA, **Hussain N**. Gender differences in respiratory morbidity and mortality of preterm neonates. *Front Pediatr*. 2017;5:6.

Cong X, Wu J, Vittner D, **Hussain N**, Galvin S, Fitzsimons M, **McGrath JM**, Henderson WA. The impact of cumulative pain/stress on neurobehavioral development of preterm infants in the NICU. *Early Hum Dev*. 2017;108:9-16.

Townsel C, Keller R, Kuo CL, Campbell WA, **Hussain N**. Racial/ethnic disparities in morbidity and mortality for preterm neonates admitted to a tertiary neonatal intensive care unit. *J Racial Ethn Health Disparities*. 2017.

Vittner D, **McGrath J**, Robinson J, Lawhon G, Cusson R, Eisenfeld L, Walsh S, Young E, Cong X. Increase in oxytocin from skin-to-skin contact enhances development of parent-infant relationship. *Biol Res Nurs*; 2017 Jan 1;1-9. doi: 10.1177/1099800417735633.

Lainwala S, Kosyakova N, Spizzoucco AM, **Herson V**, **Brownell EA**. Clinical and nutritional outcomes of two liquid human milk fortifiers used in preterm infants. *J Neonatal Perinatal Med*. 2017;10:393-401.

Lainwala S, **Hussain N**. Treatment of patent ductus arteriosus with cyclo-oxygenase inhibitors beyond 2 weeks of age in very low birth weight infants. *Am J Perinatol*. 2016;33:584-9.

Briere CE, **McGrath JM**, Jensen T, **Matson A**, Finck C. Breast milk stem cells: current science and implications for preterm infants. *Adv Neonatal Care*. 2016;16(6):410-19. PMID: 27749687.

Paveglio S, Bennett E, Hawley KL, **Matson AP**. Fc RI cross-linking reduces cord blood dendritic cell responsiveness to LPS. *J Allergy Clin Immunol*. 2017; 139(6):1992-1994.e3.

Smith AL, **Rosenkrantz TS**, Fitch RH. Effects of sex and mild intransult hypothermia on neuropathology and neural reorganization following neonatal hypoxic ischemic brain injury in rats. *Neural Plast*. 2016;2016:2585230. doi: 10.1155/2016/2585230. Epub 2016 Mar 3.

Sanders MR, Hall S. Trauma-informed care in the newborn intensive care unit: promoting safety, security, and connectedness. [state-of-the-art review] *J Perinatol*. Epub 2017 Aug.

Neonatal-Perinatal Medicine

BOOKS

Bellini S, Beaulieu MJ. Neonatal advanced practice nursing: a case-based learning approach. New York: Springer; 2017.

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BOOK CHAPTER

Rosenkrantz TS, Sarkar S, Oh W. Polycythemia and fetomaternal hemorrhage. In: Stevenson DK, Benitz WE, Sunshine P, Hintz SR, Druzin ML, editors. Fetal and neonatal brain injury: mechanisms, management, and the risks of practice. 5th ed. Great Britain: Cambridge University Press; 2017.

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Susan Pitts, DO



Nephrology

In 2017, the Division of Nephrology expanded its services to provide cutting edge therapies including plasmapheresis, and increased its staffing levels. Nephrology continued as a service line with Urology, providing comprehensive care for the children of Connecticut with complex genitourinary medical needs. Dialysis and transplant services continued, with four transplant recipients.

The year 2017 surpassed all previous ones with the continued growth in size of our Pediatric Nephrology division. It continues to be the largest in the state with now five board-certified/eligible Pediatric Nephrologists with the addition of Dr. Ian Macumber, plus a dietitian, a physician assistant, two nurses, and a dedicated full-time social worker. As a service line, we continued our successful integration of ancillary services for both the inpatient and outpatient areas, improving the patient and family experience.

In 2017, the division increased clinical services by taking on plasmapheresis services for both inpatients and outpatients. This resulted in care for more acute patients, and it produced 167 percent growth in apheresis volume. The division experienced continued steady outpatient visits numbering roughly 5,000 for the year. These visits were comprised of pre-transplant, post-transplant, inpatient and outpatient consults as well as acute and chronic dialysis. Our Renal Transplant service continued with four recipients for the year – and our patients are now receiving their fistula care completely in-house. The division continues to work closely with the ICU on a regular basis to provide Continuous Venovenous Hemodiafiltration for our sickest patients.

The section was highly productive in research efforts this year with 24 active IRB-protocolled studies led by members of the division. The majority of the studies are scientifically focused but several were quality research initiatives. Division members were honored to present their research in the form of papers and abstract presentations at a number of national meetings. Our team exhibited national academic excellence in 2017. Division Head Dr. Cynthia Silva was awarded a platform presentation at the American Society of Nephrology annual meeting in New Orleans for her work on dialysis and transplant in children with posterior urethral

valve. Dr. Sherene Mason was a grant award recipient from the national Childhood Arthritis and Rheumatology Research Alliance (CARRA) for her collaborative research in pediatric lupus nephritis. Dr. Silva had an invited poster presentation at the Connecticut Children's Illuminations Quality and Safety Annual Conference in October. In total, Drs. Mason and Silva had five abstract posters accepted in 2017.

As we look forward to 2018, we expect to increase volume as we expand services toward Danbury and Baystate Medical Center in Springfield, MA, as well as increasing patient visits in Fairfield County. We will continue our extensive research portfolio and move from IRB-approved research to funded studies. All efforts in the division are being focused on the goal of serving patients and their families, and providing them with the most up-to-date treatments.

PUBLICATIONS

Boneparth A, Radhakrishna SM, Greenbaum LA, Yen E, Okamura DM, Cooper JC, **Mason S**, et al. Approach to membranous lupus nephritis: a survey of pediatric nephrologists and pediatric rheumatologists. *J Rheumatol.* 2017 Sep 15. PMID: 28916546.

Montgomery TA, Xu L, **Mason S**, Chinnadurai A, Lee CG, Elias JA, Cantley LG. Breast regression protein-39/chitinase 3-like 1 promotes renal fibrosis after kidney injury via activation of myofibroblasts. *J Am Soc Nephrol.* 2017 Jul 5. PMID: 28679671.

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Cynthia D'Alessandri-Silva, MD, FAAP
Division Head

Sherene Mason, MD, FAAP, MBA

Bruce McDonald, MD, FAAP

Samriti Dogra, MD

Ian Macumber, MD

Molly Band, PA-C

Pediatric Neurology and Rehabilitation

The Division of Pediatric Neurology and Rehabilitation continued to expand its services in 2017 in order to provide comprehensive state-of-the-art neurology and now physiatry services for pediatric patients. The division incorporated Dr. Edwin Cruz-Zeno, a pediatric physiatrist, who sees patients needing rehabilitation services and EMG testing. Our inpatient video EEG monitoring (EMU) diagnostic service has expanded to four hospital rooms. We hired Jeff Agli, APRN, who is assigned to the EMU full-time. This program strengthens the Epilepsy Center by providing advanced electrophysiology diagnostics for patients with epilepsy and epilepsy surgery candidates. The neuromuscular program received a grant from the Muscular Dystrophy Association to establish the MDA Care Center for comprehensive evaluation and treatment of this patient population. In 2017, we have started the treatment of spinal muscular atrophy and Duchenne muscular dystrophy patients using the most advanced genetic treatments.

The Neurology and Rehabilitation Division evaluates and treats pediatric patients with all types of neurological conditions including neurocutaneous, neurodevelopmental and other neurogenetic disorders and diseases, headaches, epilepsy, cerebral palsy, nerve and muscle diseases, movement disorders, and neuroinflammatory conditions.

Epilepsy patients receive comprehensive care in the Epilepsy Center directed by Dr. Jennifer Madan Cohen. The treatment options may include ketogenic diet and epilepsy surgery in collaboration with the Neurosurgery Division. Dr. Mark Schomer is interested in neonatal epilepsies and collaborates with the Neonatology Division. The Autism Genetic Research Program, led by Dr. Louisa Kalsner, enrolls established autism patients for genetic studies including whole exome sequencing. This work is in collaboration with the Research Division and UConn basic scientists. Dr. William Graf sees patient for diagnosis of neurodevelopment conditions and is an internationally recognized expert in pediatric bioethics. The Rehabilitation Program is led by Dr. Cruz-Zeno and provides treatment such as Botox injection and baclofen pump for spasticity. Dr. Francis DiMario 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 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 head Dr. Gyula Acsadi, is one of the few pediatric Center of Excellence sites for pediatric Charcot-Marie-Tooth disease in the country. The program is part of the Inherited Neuropathy Consortium supported by the National Institutes of Health (NIH) Rare Disorder Research Center and the Muscular Dystrophy Association (MDA). This center collaborates with Sylvia Öunpuu of the Center of Motion Analysis and Dr. Kristan Pierz of Orthopaedics. Dr. Richard Young leads the Headache Clinic in collaboration with Pediatric Pain Service Integrative Medicine programs to better understand treatment of children with various forms of headaches.

The division members have presented their work at numerous national and international conferences.

We have been involved in several clinical trials for tuberous sclerosis, autism, epilepsy, spinal muscular atrophy, and Duchenne muscular dystrophy.

AWARDS & HONORS

Dr. Young was selected to participate in the American Academy of Neurology Diversity Leadership Program.

Dr. Graf was appointed to the American Academy of Neurology Drug Pricing Task Force.

Dr. DiMario was the recipient of 2017 *Connecticut Magazine* "Top Doctor" and the 2017 Didactics Teaching Award for Excellence in Resident Teaching, which is bestowed by the Department of Pediatrics at the University of Connecticut. He also was elected in 2017 to serve on the University of Connecticut School of Medicine Medical Education Oversight Committee.

Pediatric Neurology and Rehabilitation

ACTIVE GRANTS

MDA Care Center Grant from the Muscular Dystrophy Association (3 years)

Educational Grant from the Children's Tumor Foundation, \$6,000, 2017

Improving Accurate Diagnosis & Treatment of Epilepsy: A Training for Pediatric Practice Teams; a HRSA grant awarded to the Epilepsy Foundations of CT Northeastern New York and New Jersey

Affinity Research Collaborative (ARC); the Institute for Systems Genomics at the University of Connecticut. Co-PI: Dr. Louise Kalsner. Neural synaptic and circuit dysfunction in the autism spectrum disorders. \$250,000 over 5 years. (Currently in year 3.)

Connecticut Bioinnovations. Adaptive Clinical Genomics for Precision Medicine (with Jackson Laboratory) to investigate the use of a new genomic technology called Allseq in the evaluation of children with autism. Investigator: Dr. Louise Kalsner

University of Connecticut Provost's Academic Plan Award. TSC2 Variant Without Clinical Findings of Tuberous Sclerosis as a Risk Factor for Idiopathic Autism Spectrum Disorder. Co-principal Investigator: Dr. Louise Kalsner. \$300,000 over 3 years. 7/1/16-6/30/19.

Multi-center clinical trial (Novartis Pharmaceuticals Inc. funded): A Three-arm, Randomized, Double-blind, Placebo-controlled Study of the Efficacy and Safety of Two Trough-ranges of Everolimus as Adjunctive Therapy in Patients with Tuberous Sclerosis Complex (TSC) Who Have Refractory Partial-onset Seizures. Site Investigator: Dr. Francis DiMario, Jr. \$324,000/yr.

PUBLICATIONS

Graf WD, Miller G, Epstein LG, Rapin I. The autism "epidemic": ethical, legal, and social issues in a developmental spectrum disorder. *Neurology*. 2017;88(14):1371-80.

Graf WD. Stem cell transplantation in Krabbe disease: new

truths discovered and opinions change. *Neurology*. 2017 Sep 26;89(13):1318-9.

Kalsner L, Twachtman-Bassett J, Tokarski K, Stanley C, Dumont-Mathieu T, Cotney J, Chamberlain S. Genetic testing including targeted gene panel in a diverse clinical population of children with autism spectrum disorder: findings and implications. *Mole Genet Genomic Med*. 2017;00:1-15.

Zarate YA, **Kalsner L**, Basinger A, Jones JR, Li C, Szybowska M, et al. Genotype and phenotype in 12 additional individuals with SATB2-associated syndrome. *Clin Genet*. 2017; PMID: 28139846.

Yano ST, Silver K, **Young R**, DeBrosse SD, Ebel RS, Swoboda KJ, **Acsadi G**. Fever-induced paroxysmal weakness and encephalopathy, a new phenotype of ATP1A3 mutation. *Pediatr Neurol*. 2017 Aug;73:101-5.

Krossschell KJ, Kissel JT, Townsend EL, Simeone SD, Zhang RZ, Reyna SP, et al. (**Acsadi G**, 9/22). Project Cure SMA Investigator's Network: clinical trial of L-carnitine and valproic acid in spinal muscular atrophy type I. *Muscle Nerve*. 2017 Aug 18. [Epub ahead of print]

Cornett KMD, Menezes MP, Shy RR, Moroni I, Pagliano E, Pareyson D, et al. (**Acsadi G**). CMTPedS Study Group: natural history of Charcot-Marie-Tooth disease during childhood. *Ann Neurol*. 2017 Sep;82(3):353-9.

Panosyan FB, Laura M, Rossor AM, Pisciotto C, Piscoquito G, Burns J, et al., (**Acsadi G**) Inherited Neuropathies Consortium—Rare Diseases Clinical Research Network (INC-RDCRN). Cross-sectional analysis of a large cohort with X-linked Charcot-Marie-Tooth disease (CMTX1). *Neurology*. 2017 Aug 29;89(9):927-35.

BOOK CHAPTERS

DiMario FJ. Tuberous Sclerosis Complex. In: E-Pocrates. London: BMJ; revision and update 2017 July.

DiMario FJ. Tuberous Sclerosis Complex. In: Cabana MD, et al., editors. The 5-minute pediatric consult. 8th ed. Philadelphia, PA: Wolters-Kluwer Inc.; 2018.

Pediatric Neurology and Rehabilitation

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Mark Schomer, MD

Richard Young, MD

Edwin Zalneraitis, MD

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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

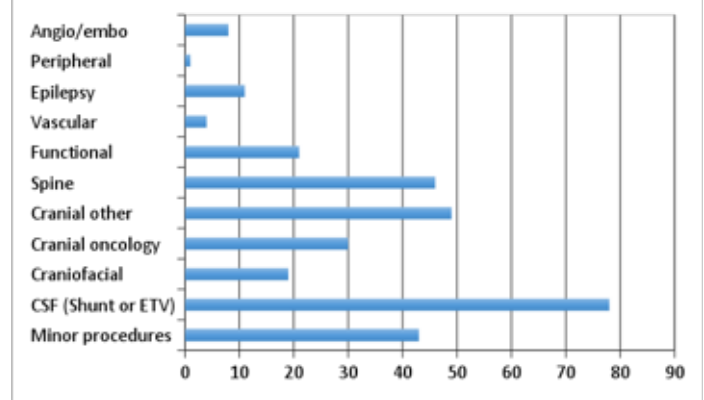
EXPANSION

The Division of Neurosurgery currently provides outpatient services at two sites – our main campus in Hartford, CT, and a satellite office in Springfield, MA. This year, we welcomed Allison LaBelle, APRN, to our clinical team. With her arrival, the service has further improved access to our providers for both expedited and routine outpatient appointments. With mature multidisciplinary clinics in place for craniofacial, neuro-oncology, and maternal-fetal medicine patients, the service is targeting combined conferences and clinics for epilepsy and spina bifida patients in 2018.

QUALITY IMPROVEMENT INITIATIVES

The year 2017 saw further commitments from our team to quality improvement. Petronella Stoltz, APRN, DNP, and division head Dr. Jonathan Martin received appointments to the Division of Excellence in Patient Safety and Clinical Quality. In addition to participation in the American College of Surgeons' Pediatric National Surgical Quality Improvement Program (NSQIP), the division has implemented an innovative division-level tracking tool, allowing for benchmarking against national standards. Coupled with our ongoing development of clinical pathways for patient care, we strive to provide outstanding care to our patients, families, and referring providers.

SURGICAL VOLUME



QUALITY METRICS

| | CT CHILDREN'S | NATIONAL BENCHMARKS |
|------------------------|---------------|---------------------|
| Shunt failure, 90 days | 14% | 11.5% (30-day data) |
| Shunt infection | 5% | 6% |
| 30 day readmission | 6% | 8.1% - 11.2% |

EDUCATION AND RESEARCH

The Division of Neurosurgery remains committed to the mission of education and research. Dr. Martin was awarded the R. Timothy Brown Faculty award for Excellence in Teaching in an Affiliated Pediatric Field by the University of Connecticut School of Medicine Pediatric Residency Program. His work as a member of the Pediatric Craniocervical Society places Connecticut Children's on the cutting edge of complex spine care for the children of Connecticut.

Dr. Markus Bookland's basic science research at his University of Connecticut-based lab is established and beginning to generate data on promising biomarkers that may allow for minimally-invasive screening of pediatric patients for brain tumors and a small protein that impairs glioblastoma tumor metabolism. Dr. Bookland was appointed the Associate Director of Academic Affairs for Connecticut Children's Medical Center in 2017.

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.

Pediatric Neurosurgery

PUBLICATIONS

Martin JE, Bookland M, Moote D, Cebulla C. Standardized method for measurement of Grabb's line (pB-C2) and clival-canal angle (CXA). *J Neurosurg Pediatr*. 2017 Oct; 20(4):352-6. doi: 10.3171/2017.5.PEDS17181. Epub Aug 11.

Martin JE, Tessema B, Beshai B, Balarezo F. Congenital salivary gland anlage tumor: an unusual anterior skull base mass in the neonatal period. *Pediatr Neurosurg*. 2017; 52(3): 185-8. doi: 10.1159/000464296. Epub 2017 May 12.

Stoltz PJ, Manworren RCC. Comparison of children's venipuncture fear and pain: randomized controlled trial of EMLA and J-tip needleless injection system. *J Ped Nurs*. 2017 Nov – Dec; 37: 91-6. doi: 10.1016/j.pedn.2017.08.025. Epub 2017 Aug 18.

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Marty Ollenschleger, MD

Neurointerventional Radiology

Jennifer Madan Cohen, MD

Epilepsy / Neurology

Helaine Bertsch, MD

Radiation Oncology



Obesity Center

The year 2017 brought change for the Obesity Center as we transitioned into the Division of Pediatric Surgery. This move improved the experience for our patients – both in our surgical and non-surgical programs – by allowing all obesity services to be provided under one division. This move also set the groundwork for the start of our application to be recognized as a national Center of Excellence for Adolescent Bariatric Surgery.

With these changes came the continued expansion of our program. Clinically, 2017 saw the Obesity Center receive a record number of referrals (699) and record the highest number of patient visits seen (1,975). Academically, our center submitted three NIH grants, had eight papers published or in press, and presented 13 workshops or posters. We continue to strive to provide innovative care and new models for families looking to build a healthier lifestyle.



PUBLICATIONS

HAMPL S, Boles R, Chin K, Christison A, Getzoff E, Guion K, Hawkins M, Petty C, Sallinen B, **Santos M**, Shaffer L, Tucker J, Rhodes E. Expectations for treatment in pediatric weight management and relationship to attrition. *Child Obes.* 2017;13:120-7.

Santos M, Cadieux A, Ward W. Assessing pediatric food addiction: tools for the clinician. *Clin Pediatr.* 2017. doi: org/10.1177/0009922816687329.

Santos M, Gaffka B, Mackey E. Patient retention and engagement in adolescent bariatric surgery programs: a review of the literature and survey of programs. *Clin Pract Pediatr Psychol.* 2017;5: 52-61.

Santos M. [paired editorial] Impact of Spanish-language information sessions on Spanish-speaking patients seeking bariatric surgery. *Surg Obes Rel Dis.* 2017;13:1031-2.

Santos M, Gaffka B, Getzoff E, Mackey E. Spotlight on the Obesity Special Interest Group. *Clin Pract Pediatr Psychol.* 2017;5:50-1.

Patinkin Z, Feinn R, **Santos M**. Metabolic consequences of obstructive sleep apnea in adolescents with obesity: a systematic literature review and meta-analysis. *Child Obes.* 2017;13:102-10.

Santos M, Murtaugh T, Pantaleao A, Zempsky W, Guite J. Chronic pain and obesity within a pediatric interdisciplinary pain clinic setting: a preliminary examination of current relationships and future directions. *Clin J Pain.* 2017;33:738-45.

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Surgeon-in-Chief

Meghna Misra, MD, MS, FACS

Nicole Boone, PA

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, PA's, APRN's, 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, 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 Head Dr. Jeffrey Thomson, Dr. Mark Lee (newly promoted to Assistant Professor), Dr. Phil Mack, Dr. Kristan Pierz, Dr. Janet Zahradnik, and Dr. Sonia Chaudhry. 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. In 2017, Dr. Sonia Chaudhry returned after completing a one-year hand fellowship in Colorado, and we also welcomed Robin Bradshaw, APRN, who graduated with her master's degree from the University of Saint Joseph in West Hartford, CT.

The Sports Medicine Service (Elite Sports Medicine) continues to grow, and we now have three sports medicine surgeons, Dr. Carl Nissen, Dr. Lee Pace, and Dr. Jonathan Gelber, as well as two non-operative physicians, Medical Director Dr. David Wang and Dr. Imran Hafeez. A fourth physician's assistant, Katelyn Colosi, was hired to complement the team consisting of Kevin Fitzwilliam, PA, A.J. Riccuitti, PA, and Nicole Collette, PA. The team provides sports medicine coverage for several high schools as well as Trinity College and Quinnipiac University sports teams.

Orthopaedic Surgery

The Center for Motion Analysis, directed by Sylvia Õunpuu, MSc, has achieved full accreditation by the Commission for Motion Laboratory Accreditation. It continues to provide a wide range of diagnostic services evaluating children with disorders that affect walking, as well as performing research on disorders such as Charcot-Marie-Tooth disease, and sports injuries.

Our research program, led by Matthew Solomito, PhD, provides a robust program that this year resulted in 17 publications, 12 presentations, and 14 posters.

PUBLICATIONS

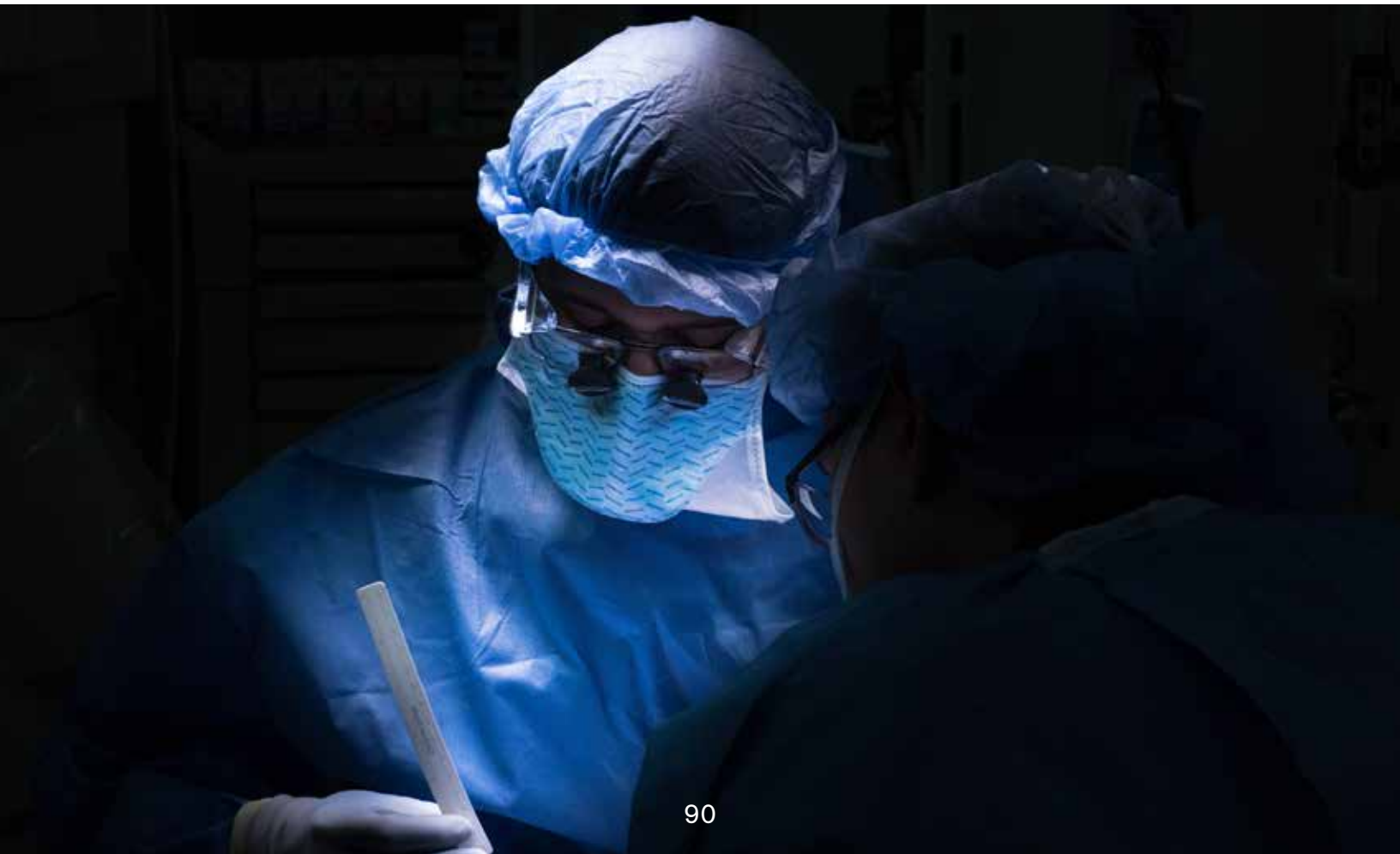
Õunpuu S, Solomito MJ, Bell KJ, Pierz K. Long-term outcomes of external femoral derotation osteotomies in children with cerebral palsy. *Gait Posture*. 2017 Jul; 56:82-8. doi: 10.1016/j.gaitpost.2017.04.029.

Lee MC, Jarvis C, Solomito MJ, Thomson J. Comparison of S2-Alar and traditional iliac screw pelvic fixation for pediatric neuromuscular deformity. *Spine J*. 2017 Sep 21. pii: S1529-9430(17)30970-1. doi: 10.1016/j.spinee.2017.08.253.

Baldwin PC 3rd, Han E, Parrino A, **Solomito MJ, Lee MC.** Valve or no valve: a prospective randomized controlled trial of casting options for pediatric forearm fractures. *Orthopaedics*. 2017 Sep 1; 40(5):e849-e854. doi: 10.3928/01477447-20170719-02.

Lee MC, Lloyd J, Solomito MJ. Poor utility of gonadal shielding for pediatric pelvic radiographs. *Orthopaedics*. 2017 Jul 1;40(4):e623-e627. doi: 10.3928/01477447-20170418-03.

Wang D, Kostyun R, Trojjan T, Solomito MJ. Overlapping concussion syndrome: defined in a pediatric population. *Conn Med*. 2017;81(7).



Orthopaedic Surgery

Trojjan T, **Wang D**, Leddy J. Nutritional supplements for treatment and prevention of sports-related concussion. *Curr Sports Med Rep*. 2017 Jul/Aug;16(4):247-255. doi: 10.1249/JSR.0000000000000387.

Solomito MJ, Krochack R, **Milewski MD**, **Nissen CW**. Examining the association between glenohumeral internal rotation deficit and glenohumeral joint kinematics and kinetics. *Conn Med*. 2017; 81(7).

Solomito MJ, Garibay EJ, **Nissen CW**. A biomechanical analysis of the association between forearm mechanics and the elbow varus moment in collegiate baseball pitchers. *Am J Sports Med*. 2017 Oct 1. doi: 10.1177/0363546517733471.

Williams AA, Mancini NS, **Solomito MJ**, **Nissen CW**, **Milewski MD**. Chondral injuries and irreparable meniscal tears among adolescents with ACL or meniscus tears more common in patients with public insurance. *Am J Sports Med*. 2017 Jul; 45(9):2111-5. doi: 10.1177/0363546517707196.

Wall E, **Milewski MD**, Carey JL, Shea KG, Ganley TJ, Polousky JD, et al. The reliability of assessing radiographic healing of osteochondritis dissecans of the knee. *Am J Sports Med*. 2017 May; 45(6):1370-5. doi: 10.1177/0363546517698933.

Shea KG, Cannamela PC, Fabricant PD, Terhune EB, Polousky JD, **Milewski MD**, et al. Lateral radiographic landmarks for ACL and LCL footprint origins during all-epiphyseal femoral drilling in skeletally immature knees. *J Bone Joint Surg Am*. 2017 Mar 15;99(6):506-11. doi: 10.2106/JBJS.16.00641.

Shea K, **Milewski MD**, Cannamela PC, Ganley TJ, Fabricant PD, Terhune EB, et al. Anterolateral ligaments of the knee show variable anatomy in pediatric specimens. *Clin Orthop Relat Res*. 2017 Jun;475(6):1583-91. doi: 10.1007/s11999-016-5123-6.

MARS Group, Allen CR, Anderson AF, Cooper DE, DeBerardino TM, Dunn WR, Haas AK, et al., (**Nissen 70/90**). Surgical predictors of clinical outcomes after revision

ACL reconstruction. *Am J Sports Med*. 2017;45(11):2586-94. doi: 10.1177/0363546517712952. Epub 2017 Jul 11.

MARS Group, Ding DY, Zhang AL, Allen CR, Anderson AF, Cooper DE, DeBerardino TM, et al. (**Nissen 71/95**). Subsequent surgery after revision ACL reconstruction: rates and risk factors from a multicenter cohort. *Am J Sports Med*. 2017;45(9):2068-76. doi: 10.1177/0363546517707207. Epub 2017 May 30.

Nissen CW. Early sports specialization: concerns with overuse injuries of young athletes. *Conn Med*. 2017;81(7).

Kostyun R, Distefano L, Burland J, Scarneo S, **Nissen CW**. Epidemiology of concussion in Connecticut high school football during the 2015 and 2016 seasons. *Conn Med*. 2017;81(7).

STAFF

| | |
|---|----------------------------------|
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| Jonathan Gelber, MD | Nicole Chaevalier, PA-C |
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| Mark C. Lee, MD | Marta Jablonski, PA-C |
| Philip W. Mack, MD | A.J. Ricciuti, PA-C |
| Matthew D. Milewski, MD | Amy Shannon, APRN |
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| Sylvia Öunpuu, MSc | Fellow |
| Lee Pace, MD | Alvin Wei-I Su, MD |
| Kristan Pierz, MD | |
| Matthew Solomito, PhD <i>Research Director</i> | |
| David Wang, MD | |
| Janet Zahradnik, MD | |

Otolaryngology – Head and Neck Surgery

Since the founding of the Division of Otolaryngology – Head and Neck Surgery in 1999, we have expanded our clinical services. In the last fiscal year, Connecticut Children’s Specialty Group division otolaryngologists performed 2,258 surgeries and logged 13,011 outpatient visits.

Christopher Grindle, MD, and Scott Schoem, MD, have expanded the implantable bone-anchored hearing implant (Baha) program to complement the existing cochlear implant team. Families now have the option of choosing the totally implantable system known as Baha Attract. This surgical treatment has become the preferred choice among parents whose children have ear microtia with atresia.

Under the direction of Nicole Murray, MD, the Connecticut Children’s Aerodigestive Team (CCAT) has expanded services to our Farmington location to improve access and timeliness of care. The team includes Otolaryngology – Head and Neck Surgery, Pulmonary Medicine, Gastroenterology, and Speech Language Pathology. This specialty clinic has become very popular for families to obtain comprehensive aerodigestive care for their children including collaboration with our Speech Language Pathology colleagues in performing functional endoscopic evaluation of swallowing (FEES). In October 2017, Dr. Murray presented at the 5th annual Contemporary Management of Aerodigestive Disease in Children in Denver, CO.

Educationally, Katie Kavanagh, MD, has increased our collaboration with Michael Archambault, MD, from the Division of Anesthesiology in providing resident education using medical simulation technology. Use of 3D imaging technology has rapidly changed our medical simulation capability and enhanced our ability to provide advanced, measurable instruction for trainees. Additionally, she is the UConn otolaryngology residency simulation director.

On the research side, Dr. Kavanagh has assumed the role as division Director of Research from Tulio Valdez, MD, who has transitioned to Stanford University to enhance his biomedical research pursuits. We thank Dr. Valdez for his many years of excellent clinical care and research activities.

Drs. Kavanagh and Murray have been awarded a grant from the American Academy of Otolaryngology, Women in Otolaryngology Section, for development of a Local Women in Otolaryngology (LWIO) Interest Group.

Scott Schoem, MD, was the recipient of the Section on Otolaryngology – Head and Neck Surgery 2017 Advocacy Award, presented at the annual AAP NCE, for his work on prevention of choking hazards and button battery injuries, insurance coverage for hearing aids, and improvement of HPV vaccination rates.

PUBLICATIONS

Schoem SR. Otologic pathology and hearing loss in children with Down syndrome 6-18 years old. *Conn Med.* 2017;81(3):141-3.

Naples J, Martin A, Sobelman D, **Schoem S.** Unusual fungal lesion presenting as a neoplastic pediatric tongue mass. *Pediatrics.* 2017;139(5):e20161345. doi:10.1542/peds.2016-1345.

BOOK CHAPTERS

Côté V, Dimachkieh A, Prager J, Kelley P, **Grindle CR,** Valdez T, Golub J. Pediatric otolaryngology. In: Pasha R, Golub J, editors. *Otolaryngology head and neck surgery – clinical reference guide.* 5th ed. Plural; 2017.

Murray N. Sinonasal manifestations of cystic fibrosis. In: *Otolaryngology and facial plastic surgery. Medscape Reference (formerly eMedicine World Medical Library).* eMedicine.medscape.com, Inc. 2017, 2015, 2013, 2011, 2008, 2005, 2000.

Otolaryngology – Head and Neck Surgery

STAFF

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Division Head

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Christopher Grindle, MD

Co-director, Cochlear Implant Program

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Otolaryngology Residency Program

Nicole Murray, MD

Site Director, Otolaryngology Residency Program

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Christine Harrington, PA-C

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Morgan Denno, APRN

Elizabeth Oblon, APRN



Pain and Palliative Medicine

Our mission is to utilize our multidisciplinary expertise to alleviate pain and stress in children afflicted with acute, chronic or terminal illness.

Highlighting our year has been the addition of new faculty members Clare Riotte, DO, and Taryn Hamre, DNP, APRN. Dr. Riotte completed her pediatric residency at UConn, which included a year as chief resident, then spent a year as a nocturnist for the Hematology/Oncology Division. She spent the academic year 2016-17 at the University of Michigan where she completed a fellowship in Hospice and Palliative Medicine. Taryn has a long history at Connecticut Children's but joined our division in the spring. She completed her doctorate of Nursing Practice at Yale University in June 2017 and was recently appointed as an assistant professor in the Department of Pediatrics.

Other important highlights and milestones for the division in 2017:

- Emily Wakefield was named to the editorial board of the *Topics in Pain Management* journal
- Taryn Hamre won the Connecticut Holistic Health Association Prize
- Taryn Hamre won the T. Stewart Hamilton Scholarship
- Kerry Moss received the Safe Passages Award for Outstanding Clinical Care in Pediatrics from the Connecticut Coalition to Improve End-of-Life Care
- Division head Dr. William Zempsky was named to the State of Connecticut Physicians Board for Medical Marijuana
- Dr. Zempsky was nominated to the certification committee for ChildKind International

NEW GRANTS

NIH/NIAMS R01 AR070474-01A1 – Kashikar-Zuck S. Multi-site randomized clinical trial of FIT Teens for juvenile fibromyalgia. (Active: 06/21/2017 – 05/30/2022) Site PI: **Jessica Guite, PhD**. Co-Investigator: Dr. William Zempsky.

M1 Mentoring Program – Connecticut Institute for Clinical and Translational Science. (Active: 07/1/2017-06/30/2020) PI: Dr. William Zempsky.

PUBLICATIONS

Riotte CO, Kukora SK, Keefer PM, Firn JI. Identifying the types of support needed by interprofessional teams providing pediatric end-of-life care: a thematic analysis. *J Palliat Med*. 2017 Oct 13. doi: 10.1089/jpm.2017.0331. [Epub ahead of print]

Wakefield EO, Jerson BT. Social influences in the evaluation and treatment of psychosocial contributors to adolescent chronic pain. *Topics in Pain Management*. 2017; 32:1-8.

Palermo TM, Dudeney J, Santanelli JP, Carletti A, **Zempsky WT**. Feasibility and acceptability of internet-delivered cognitive behavioral therapy for chronic pain in adolescents with sickle cell disease and their parents. *J Pediatr Hematol Oncol*. 2017 Nov 23. doi: 10.1097/MPH.0000000000001018. [Epub ahead of print]

Rabbitts JA, Aaron RV, **Zempsky WT**, Palermo TM. Validation of the youth acute pain functional ability questionnaire in children and adolescents undergoing inpatient surgery. *J Pain*. 2017 Oct;18(10):1209-15.

Dampier C, Palermo TM, Darbari DS, Hassell K, Smith W, **Zempsky W**. AAPT diagnostic criteria for chronic sickle cell disease pain. *J Pain*. 2017 May;18(5):490-8.

Wakefield EO, Popp JM, Dale LP, Santanelli JP, Pantaleao A, **Zempsky WT**. Perceived racial bias and health-related stigma among youth with sickle cell disease. *J Dev Behav Pediatr*. 2017 Feb/Mar;38(2):129-134.

Zempsky WT, Stevens MC, Santanelli JP, Gaynor AM, Khadka S. Altered functional connectivity in sickle cell disease exists at rest and during acute pain challenge. *Clin J Pain*. 2017 Dec;33(12):1060-70.

Zempsky WT, Wakefield EO, Santanelli JP, New T, Smith-Whitley K, Casella JF, Palermo TM. Widespread pain among youth with sickle cell disease hospitalized with vasoocclusive pain: a different clinical phenotype? *Clin J Pain*. 2017;33:335-9.

Pain and Palliative Medicine

Santos M, Murtaugh T, Pantaleao A, **Zempsky WT, Guite JW**. Chronic pain and obesity within a pediatric interdisciplinary pain clinic setting: a preliminary examination of current relationships and future directions. *Clin J Pain*. 2017 Aug;33(8):738-45.

Tran ST, **Guite JW**, Pantaleao A, Pfeiffer M, Myer GD, Sil S, Thomas SM, Ting TV, Williams SE, Edelheit B, Ōunpuu S, Rodriguez-MacClintic J, Zemel L, **Zempsky W**, Kashikar-Zuck S. Preliminary outcomes of a cross-site cognitive-behavioral and neuromuscular integrative training intervention for juvenile fibromyalgia. *Arthritis Care Res (Hoboken)*. 2017 Mar;69(3):413-20. doi: 10.1002/acr.22946.

O'Shea ER, Lavalley M, Doyle EA, **Moss K**. Assessing palliative and end-of-life care educational needs of pediatric health care professionals: results of a statewide survey. *J Hosp Palliat Nurs*. 2017;19(5).

Guite JW, Sherry DD, Jarvis EW, Lewen MO, Khan S, Kraemer FW. Medication use among pediatric patients with chronic musculoskeletal pain syndromes at initial pain clinic evaluation. *Pain Manag*. 2017. doi: 10.2217/pmt-2017-0034.

Puzino K, **Guite JW**, Moore M, Lewen MO, Williamson A. The relationship between parental responses to pain, pain catastrophizing, and adolescent sleep in adolescents with chronic pain. *Child Health Care*. 2017. doi: 10.1080/02739615.2017.1327358.

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Clare Riotte, DO

Kalyani Raghavan, MD

Emily Wakefield, PsyD

Taryn Hamre, APRN, DNP

Kim Kempner, APRN



Pathology

In 2017, the Department of Pathology and Laboratory Medicine continued its mission of providing the highest quality laboratory services through excellence, innovation, integrity and concern for quality care provided to patients.

The year brought a change in leadership for the division. Dr. William T. Pastuszak, MD, who served as Chief of Pathology for 23 years, retired on June 30, 2017. He will be greatly missed. Srinivas Mandavilli, MD, was named the new chief.

Although the majority of the members within the department provide services in Anatomic Pathology, there is a wide range of sub-specialization within that division. The current MD/PhD staff in Anatomic Pathology has sub-specialization in Neuropathology (3), Cytopathology (6), Pediatric Pathology (1), Molecular Pathology (1) and Dermatopathology (1). Additional members within Anatomic Pathology have specialty skills in organ systems for which there is no board certification. These include breast pathology, GI pathology, GU pathology, Gyn pathology, pulmonary pathology, head and neck pathology, and soft tissue tumors. Additionally there are four members of the department board certified in Hematopathology, providing support in Hematology and Hematopathology. 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.

The department has 190.5 FTEs in the clinical laboratories and 34.5 FTEs in Anatomic Pathology. There are 15 MDs and four PhDs providing services in the department.

VOLUMES

The laboratory had a gain of 62 percent for a total fiscal year 2017 volume of 2,954,898 tests (an increase of 1,125,914 tests over fiscal year 2016). The largest growth was in the transfusion services followed by Hematology and Chemistry areas of the lab. Some of these changes can be attributed to consolidation of laboratory testing from Clinical Laboratory

Partners to Hartford Hospital laboratory, increased surgical cases, and patient care mix.

TRENDS

Implementation of newer molecular diagnostics, newer diagnostic assays, automation, and consolidation all are happening in many laboratories. Especially the larger academic centers and those with cancer centers are implementing Next-generation Sequencing (NGS) assays to support targeted therapy and offer enhancement in diagnostic panels. Our division went live with NGS testing at Hartford Hospital this past year and we plan to build on offerings for solid tumors and hematologic malignancies. We also are trying to create a backbone of pathology informatics to support the existing demands and new demands on the laboratory.

Physician-owned labs continue to open, and we have seen that trend in our region, too.

NEW PROGRAMS

Next-generation Sequencing was implemented this past year in the lab, and we have regular meetings with the cancer center leadership to build on the existing panels that are offered. We also implemented Synoptic Tumor Reporting this past year so that “discrete” data is made available in the patient charts for clinical research purposes. This was done in a phased manner with deployment of tumor templates across various organ systems to also meet the requirements of the new American Joint Committee on Cancer staging system.

EDUCATION

The department remains committed to teaching the next generation of pathologists. We have 13 residencies in AP/CP Pathology and five fellowship positions that continue to be filled by highly qualified candidates. Graduates from the program continue to be successful in obtaining additional competitive fellowships and subsequently attaining attractive jobs.

Pathology

THE FUTURE

Renovations in the histology lab were almost complete by the end of 2017, and it's scheduled to open in early January 2018. The space also will include the immunohistochemistry lab, which will allow us to evaluate consolidation of services across the Hartford HealthCare laboratories. To that end, a standardization committee has formed to include members from all HHC anatomic pathology labs. Standardization in Microbiology is ongoing, and space at Hartford Hospital is being evaluated for renovation and consolidation of microbiology services.

PUBLICATIONS

Stainton SM, AK Thabit, J Kuti, **Aslanzadeh J**, DP Nicolau. Prevalence, patient characteristics and outcomes of a novel piperacillin/tazobactam-resistant, pan- β -lactam-susceptible phenotype in Enterobacteriaceae: implications for selective reporting. *Clin Microbiol Infect*. 2017;23:581-2.

Monogue, ML, LK Tanner, SM Brecher, **Aslanzadeh J**, DP Nicolau. Detection of piperacillin-tazobactam-resistant/pan- β -lactam-susceptible *Escherichia coli* with current automated susceptibility test systems. *Infect Control Hosp Epidemiol*. 2017;38(1):379-80.

Cho WC, **Balarezo F**. Expression of CD34 and beta-catenin in malignant rhabdoid tumor of the liver mimicking proximal-type epithelioid sarcoma. *J Pathol Transl Med*. 2017 Jul 7. doi: 10.4132/jptm.2017.05.15. [Epub ahead of print]

Martin J, Tessema B, Beshai B, **Balarezo F**. Congenital salivary gland anlage tumor: an unusual anterior skull base mass in the neonatal period. *Pediatr Neurosurg*. 2017 May 12.

Vrotsos E, Gorgan M, **DiGiuseppe JA**. Detection of small abnormal B-lymphoblast populations at diagnosis of chronic myelogenous leukemia, BCR-ABL 1+: Incidence, phenotypic features, and clinical implications. *Cytometry B Clin Cytom*. 2017;92B:275-8.

Chen Z, Shao C, Wang W, Zuo Z, Hu SJ, **DiGiuseppe JA**, Zu Y, Medeiros LJ, Hu S. Cytogenetic landscape and impact

in blast phase of chronic myelogenous leukemia in the era of tyrosine kinase inhibitor therapy. *Leukemia*. 2017;31:585-92.

Collins K, Buckley T, Anderson K, Karasik M, **Ligato S**. Perivascular epithelioid cell tumor (PEComa) of pancreas diagnosed preoperatively by endoscopic ultrasound-guided fine-needle aspiration. A case report and review of literature. *Diagn Cytopathol*. 2017;45(1):59-65.

Gadara MR, Gonzales M, **Cartun RW, Ligato S**. IMP3 immunoreactivity is more sensitive than AMACR in detecting dysplastic epithelium and early adenocarcinoma in Barrett Esophagus. *Appl Immunohistochem Mol Morphol*. 2017 Jan 17. [Epub ahead of print]

Moore M, McKenna M, **Mandavilli S**, McCluggage WG. Fibroadenoma-like lesion of the vagina: a description of 2 cases of a previously unreported entity. *Int J Gynecol Pathol*. 2017 Apr 29. doi: 10.1097/PGP.0000000000000399. [Epub ahead of print]

Cho WC, Ramlal B, **Fiel-Gan M**, Song X. Rare manifestation of Churg-Strauss Syndrome with mediastinal lymphadenopathies: report of an autopsy case. *J Pathol Transl Med*. 2017 Dec 18. doi: 10.4132/jptm.2017.12.13. [Epub ahead of print]

DiGiuseppe JA, Cardinali JL, Rezuke WN, Pe'er D. PhenoGraph and viSNE facilitate the identification of abnormal T-cell populations in routine clinical flow cytometric data. *Cytom B*. 2017;00B:000-000.

BOOK CHAPTERS

Nassar A, **Voytek TM**, Davey DD, Mody DD, Fan F. Quality management in cytopathology. In: Quality management in anatomic pathology; strategies for assessment, improvement, and assurance. CAP Press; 2017.

Hafeez S, **Aslanzadeh J**. Biochemical profile-based microbial identification systems. In: Yi-We Tang, editor. Advanced techniques in diagnostic microbiology. New York, NY: Springer Science + Business Media LLC; 2017.

Pathology

Hunt J, Fedoriw Y, **Rezuke WN**. Molecular mechanisms in non-Hodgkin lymphoma. In: Coleman WB, Tsongalis GJ, editors. The molecular basis of human cancer. 2nd ed. New York: Springer Science + Business Media; 2017.

STAFF

William T. Pastuszak, MD

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Srinivas Mandavilli, MD

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Fabiola Balarezo, MD

Director, Pediatric Pathology

Jaber Aslanzadeh, PhD

Richard Cartun, MS, PhD

Joseph A. DiGiuseppe, MD, PhD

Jonathan Earle, MD

Mary Fiel-Gan, MD

Saverio Ligato, MD

Gregory S. Makowski, PhD, DABCC, FACB

Richard Muller, MD

William Rezuke, Jr., MD

Andrew Ricci, MD

Bradford Sherburne, MD

Xianyuan Song, MD/PhD



Plastic Surgery

In 2017, the Department of Plastic Surgery's Dr. Charles Castiglione was selected for the fourth consecutive year as a finalist for the Hartford Healthcare Heroes Award. Dr. Alan Babigian completed his time as the president of the New England Society of Plastic and Reconstructive Surgeons, and is also president of the Connecticut Society of Plastic and Reconstructive Surgeons. Dr. Castiglione co-edited a textbook, Complications in Maxillofacial Cosmetic Surgery, which was published online in December 2017. The print edition is scheduled for release in January 2018.

The Plastic Surgery Department provides clinical services at the Connecticut Children's Medical Center and at Hartford Hospital. 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.

The multidisciplinary Craniofacial Team at Connecticut Children's, co-directed by Dr. Castiglione of Plastic Surgery and Dr. Paul Kanev of Pediatric Neurosurgery, 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. Surgeries for cleft lip and palate are most common. Craniosynostosis reconstruction, performed by Dr. Castiglione of Plastic Surgery, and Drs. Kanev, Jonathan Martin, and Markus Bookland of Pediatric Neurosurgery, are also common. 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.

Five plastic surgeons, Drs. Duff Ashmead, Alan Babigian, David Bass, James Piorkowski, and Steven Smith, are fellowship-trained hand surgeons, and perform all types of upper extremity and hand surgery. This includes trauma surgery, and reconstruction for acquired and congenital deformities. These surgeons also provide the majority of coverage for hand call at Hartford Hospital and Connecticut Children's.

Our plastic surgeons are very involved in volunteer activities, including surgical mission trips. Drs. Babigian and Castiglione are consultants for Iraq Star, providing surgical care to injured veterans of the Iraq and Afghanistan wars. Dr. Bass continues to make frequent mission trips to South America. Drs. Babigian and Castiglione travel to Ecuador and perform many surgeries including burn reconstruction, hand surgery, ear reconstruction, and cleft lip/palate surgeries.

Education is a large component of the Plastic Surgery Department's activities. Residents from General Surgery, Orthopedic Surgery, Urology, ENT, OMFS, and Emergency Medicine rotate on the service. Medical students also elect rotations on Plastic Surgery. Active teaching occurs during daily patient rounds, in the clinic/office setting, in the ER, in the OR, and during planned teaching conferences. Several residents and medical students also have expressed interest in a career in Plastic Surgery, and one resident and two students matched at premier plastic surgery residency programs in the past year. This brings to 51 the total of our residents and students who have moved on to Plastic Surgery since 1988 when Dr. Castiglione began practicing here. Several residents and medical students are involved in research projects with Drs. Babigian and Castiglione. In addition to publishing articles, Drs. Babigian and Castiglione have presented papers locally and regionally. 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*, *Craniofacial Trauma & Reconstruction*, and *The Journal of Oral and Maxillofacial*

Plastic Surgery

Surgery. Some department members are involved in local, regional and national professional societies. Drs. Castiglione and Delucia are members of the executive council of the Connecticut Society of Plastic and Reconstructive Surgeons, and Dr. Babigian is president. Drs. Babigian and Castiglione are members of the executive council of the New England Society of Plastic and Reconstructive Surgery, and Dr. Babigian completed his term as president of the NESPRS in June 2017.

LOCAL/REGIONAL PRESENTATIONS

Staff members gave a number of presentations at local and regional conferences and meetings. Among them:

Vega D, **Castiglione C**, Godfrey N, O'Brien T, Babigian M, Silverman R, **Babigian A**. Excision of a massive facial tumor in Ecuador: a case study in global surgery. Presented at the CTACS Annual and Scientific Meeting; 2017 Oct; Farmington, CT.

PUBLICATIONS

Hughes C, Campbell J, Mukhopadhyay S, McCormick S, Silverman R, Lalikos J, **Babigian A, Castiglione C**. Remote digital preoperative assessments for cleft lip and palate may improve clinical and economic impact in global plastic surgery. *Cleft Palate Craniofac J.* 2017;54(5):535-9.

Ferneini E, **Castiglione C**, Banki M, co-editors. *Complications in maxillofacial cosmetic surgery.* Springer; published online, 2017 Dec; print edition, 2018 Jan.

Farshidi F, Sood A, **Castiglione C**. Complications of rhinoplasty. In: Ferneini EM, Castiglione CL, Banki M, editors. *Complications in maxillofacial cosmetic surgery.* Springer; published online, 2017 Dec; print edition, 2018 Jan.

Vega D, Tarabishy S, Wood J, **Castiglione C**. Complications associated with rhytidectomy (facelift surgery): avoidance and correction. In: Ferneini EM, Castiglione CL, Banki M, editors. *Complications in maxillofacial cosmetic surgery.* Springer; published online, 2017 Dec; print edition, 2018 Jan.

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Brian Allen, MD

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Alan Babigian, MD

David Bass, MD

Alex Cech, MD

Orlando Delucia, MD

James Piorkowski, MD

Steven Smith, MD



Pediatric Psychology

At the end of 2016, the Division of Pediatric Psychology was formally recognized as a division within Connecticut Children's Medical Center after many years of psychological services being provided to Connecticut Children's as part of the mental health and behavioral health services contract with the Institute of Living (IOL). While psychological needs for assessment, intervention, and consultation were available and supported by Connecticut Children's through this arrangement, the transition of five full-time pediatric psychologists, along with the director, has permitted greater integration of psychology within clinical subspecialties and enhanced opportunities for growth in clinical excellence and research.

Consistent with the vision of Connecticut Children's to improve the physical and emotional health of children, the mission of the Division of Pediatric Psychology is to improve clinical care through the model of embedding psychological treatment in subspecialty divisions. Medical treatment for many children with chronic illnesses has been shown to be more effective when psychological treatment is integrated with medical care.

The division has expanded: a part-time psychologist has joined the inpatient Consultation/Liaison service, which is collaboratively coordinated with Child Psychiatry colleagues from the IOL, and we are currently recruiting for a full-time pediatric psychologist to work with Oncology patients. Additional recruitment is ongoing for a part-time psychologist to join the Weight Management Program. These developments reflect the necessity to respond to increasing needs, and recognition of the value Psychology contributes to medical care.

The 2017-2018 training year marks the inauguration of a 12-month Psychology Fellowship within the Pain & Palliative Division. This position is funded by combined financial support of the Pain Division and research funding from the Center for Behavioral Health. It also is an example of our continued collaboration with the Institute of Living for the training of Psychology interns and post-doctoral fellows, future psychologists whose education is enhanced by the challenges and opportunities within a pediatric medical

setting. All psychologists within the division are involved in teaching and training medical and behavioral health learners.

In addition to major publications, Division of Pediatric Psychology staff presented over 20 presentations and/or posters at national clinical and research meetings. Dr. Lynelle Schneeberg, pediatric psychologist in Sleep Medicine, appeared on local television shows to address pediatric sleep problems, and wrote blog posts for various social media platforms. Dr. Brad Jerson, pediatric psychologist in Gastroenterology, has been invited to join the international Rome Committee on Psychogastroenterology. In collaboration with Boston Children's Hospital, Dr. Emily Wakefield, Pain Division, has established the Comfortability program at Connecticut Children's, a day-long program for children with chronic pain and their parents, which will now be available several times a year in Connecticut.

In the coming year, we hope to integrate the additional psychology staff noted above and continue to develop collaborations with other subspecialty divisions. This will allow further expansion of Pediatric Psychology at Connecticut Children's and demonstrate the contributions of behavioral health to the management of children with chronic illness.

PUBLICATIONS

Wakefield EO, Jerson B. Social influences in the evaluation and treatment of biopsychosocial contributors to adolescent chronic pain. *Topics in Pain Management.* 2017;32(9):1-8. doi:10.1097/01.TPM.0000515416.01386.7d.

HAMPL S, Boles R, Chin K, Christison A, Getzoff E, Guion K, Hawkins M, Petty C, Sallinen B, **Santos M**, Shaffer L, Tucker J, Rhodes E. Expectations for treatment in pediatric weight management and relationship to attrition. *Child Obes.* 2017;13:120-7.

Santos M, Cadieux A, Ward W. Assessing pediatric food addiction: tools for the clinician. *Clin Pediatr.* 2017. doi.org/10.1177/0009922816687329.

Pediatric Psychology

Santos M, Gaffka B, Mackey E. Patient retention and engagement in adolescent bariatric surgery programs: a review of the literature and survey of programs. *Clin Pract Pediatr Psychol*. 2017;5:52-61.

Santos M. [paired editorial] Impact of Spanish-language information sessions on Spanish-speaking patients seeking bariatric surgery. *Surg Obes Relat Dis*. 2017 Jun;13(6):1031-2.

Santos M, Gaffka B, Getzoff E, Mackey E. Spotlight on the Obesity Special Interest Group. *Clin Pract Pediatr Psychol*. 2017;5:50-1.

Patinkin Z, Feinn R, **Santos M**. Metabolic consequences of obstructive sleep apnea in adolescents with obesity: a systematic literature review and meta-analysis. *Child Obes*. 2017;13: 102-10.

Santos M, Murtaugh T, Pantaleao A, Zempsky W, Guite J. Chronic pain and obesity within a pediatric interdisciplinary pain clinic setting: a preliminary examination of current relationships and future directions. *Clin J Pain*. 2017;33:738-45.

Wakefield EO, Popp JM, Dale LP, Santanelli JP, Pantaleao A, Zempsky WT. Perceived racial bias and health-related stigma among youth. *J Dev Behav Pediatr*. 2017;38:129-34. doi: 10.1097/DBP.0000000000000381.

Zempsky WT, **Wakefield EO**, Santanelli JP, New T, Smith-Whitley K, Casella JF, Palermo TM. Widespread pain among youth with sickle cell disease hospitalized with vasoocclusive pain: a different clinical phenotype? *Clin J Pain*. 2017;33:335-9. doi: 10.1097/AJP.0000000000000403.

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Pulmonary Medicine

The Division of Pulmonary Medicine strives to be a comprehensive regional resource for pediatric pulmonary disease, with commitments to expert patient care, patient and professional education, and clinical and basic research. This year's highlights include expansion of our Pediatric Sleep Center and multidisciplinary Aerodigestive Program, identification of our Cystic Fibrosis Newborn Screening Program as the best in the country, and national recognition of our Cystic Fibrosis research coordinator.

The Division of Pulmonary Medicine provides care for infants, children and adolescents with a variety of pulmonary diseases including asthma, apnea, bronchopulmonary dysplasia, cystic fibrosis, interstitial lung disease, neuromuscular disease, respiratory sleep disorders, and chronic respiratory failure. The division oversees a state-of-the-art pulmonary function laboratory that is capable of performing spirometry, body plethysmography, impulse oscillometry, methacholine challenge, cardiorespiratory adaptation, and exercise provocation testing in children. Simple spirometry and bronchodilator assessment also are performed at our satellite clinics.

Our Pediatric Sleep Center has grown under the leadership of Dr. Jay Kenkare to over 1,800 studies annually. In 2017 we opened a new sleep center location in Glastonbury and expanded our sleep clinics from six to 14 sessions per week, with the recruitment of Stefanie Westcott, APRN, to help with our increasing clinic demand, and Dr. Greg Morgan, a board certified neurologist and sleep medicine specialist. Our Behavioral Sleep Medicine program led by Dr. Lynelle Schneeberg continues to add tremendous value for our patients. The Aerodigestive Program, a multi-specialty venture with Gastroenterology, Otolaryngology, and Speech Therapy, also has grown dramatically, with double the number of clinics and joint endoscopy procedures. Other specialty clinics include a joint Sickle Cell Pulmonary Clinic with Hematology/Oncology, a Severe Asthma Clinic, and the Central Connecticut Cystic Fibrosis Center. Our pediatric CF program continues to have some of the best pulmonary and nutritional outcomes in the country, and our CF Newborn Screening Program was ranked number one nationally by the Cystic Fibrosis Foundation for diagnosing infants within the first seven days of life.

Members of the division also contributed to the education of medical students and residents, respiratory therapists, and nursing APRN students from Yale. Division head Dr. Craig Schramm was a member of the University Center for Excellence in Developmental Disabilities at the University of Connecticut Health Center. Dr. Tregony Simoneau, director of our Severe Asthma Clinic, received a Patterson Trust Mentored research award for a collaborative research study with Jackson Laboratory on the identification of long non-coding RNA biomarkers in allergic asthma. She also served on the Pediatric Programming Committee of the American Thoracic Society and co-chaired a symposium at the national ATS Conference. Our Cystic Fibrosis Center director, Dr. Craig Lapin, continued to serve on the Cystic Fibrosis Foundation Therapeutics Data Safety Monitoring Board, and center co-director, Dr. Melanie Collins, was the Connecticut representative to the Cystic Fibrosis Foundation Special Interest Group on newborn screening. Our CF research coordinator, Ginny Drapeau, received the national Mary M. Kontos Care Champion Award, which recognizes the contributions of nonphysician members of a care team who demonstrate a passion for excellence and commitment to the care of individuals with cystic fibrosis. In October, we welcomed a new faculty member, Dr. Natalie Shilo, recruited from the University of Miami. She has clinical interests in sickle cell pulmonary disease and interstitial lung disease.

Clinical research projects conducted over the past year included participation in multi-center trials involving ivacaftor and lumacaftor in children with cystic fibrosis. Collaborative research projects focused on microbiological research in cystic fibrosis with Quinnipiac Medical School, and weaning of supplemental oxygen in infants with bronchopulmonary dysplasia with Boston Children's Hospital. Additional basic science research addressed microbiome modulation of airway immunological tolerance with the Department of Immunology and microRNA expression in asthmatic airways with the Jackson Laboratory for Genomic Medicine in Farmington.

Pulmonary Medicine

PUBLICATIONS

Khincha PP, Bertuch AA, Agarwal S, Townsley DM, Young NS, Keel S, Shimamura A, Boulad F, **Simoneau T**, et al. Pulmonary arteriovenous malformations: an uncharacterised phenotype of dyskeratosis congenita and related telomere biology disorders. *Eur Respir J*. 2017;49(1):1601640. doi: 10.1183/13993003.01640-2016.

Mathias C, **Schramm C**, Guernsey L, Polukort S, Rovatti J, Ser-Dolanksy J, Secor Jr E, Schneider S, Thrall R, Aguila H. IL-15-deficient mice develop enhanced allergic responses to airway allergen exposure. *Clin Exp Allergy*. 2017;47(5):639-55.

Schramm CM, Sala KA, Carroll CL. Clinical exam does not predict response to albuterol in ventilated infants with bronchiolitis. *Pediatr Crit Care Med*. 2017;18(1):e18-e23.

Shilo NR, Morris CR. Pathways to pulmonary hypertension in sickle cell disease: the search for prevention and early intervention. *Expert Rev Hematol*. 2017;10(10):875-90.

BOOK CHAPTERS

Carroll CL, Turner DA, **Schramm CM**. Noninvasive ventilation in pediatrics. In: Cheifetz I, MacIntyre N, Marini JJ, editors. *Mechanical ventilation: essentials for current adult and pediatric practice*. Society of Critical Care Medicine; 2017. Chap 12.

Collins MS, Murray T, Rizzo M. Sinus disease in cystic fibrosis. In: Valdez T, Valejo J, editors. *Infectious diseases in pediatric otolaryngology*. Switzerland: Springer International; 2016. p. 121-33.

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Excellence in Patient Safety and Clinical Quality

The Division of Excellence in Patient Safety & Clinical Quality strives to support the mission of Connecticut Children's to provide world-class care, consisting of the highest quality, evidence-based, safest, zero-harm, family centered, efficient care with great customer service, through the integration of patient safety and quality across the institution using a rigorous high reliability framework. 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.

Over the past year, the division members have contributed to pushing the organization toward these goals in a variety of ways, under the guidance and leadership of Dr. Andrea Benin. One of the successes of 2017 has been the growth and expansion of the Simulation Program, led by Dr. Carla Pruden and supported by Dr. Mariann Nocera. The breadth and impact of the program have been enhanced to provide simulation sessions for multidisciplinary teams covering a range of clinical topics, as well as addressing issues related to communication, disclosure and debriefing.

We also have seen significant changes in the point of care testing program under the direction of Dr. Thomas Murray, including implementation of new testing modalities that are improving the timeliness and effectiveness of clinical care while also producing financial benefits. Additionally, Dr. Murray has initiated robust improvements in the clinical lab and electronic medical record interface, which have had a significant impact on patient safety, particularly related to microbiology.

Another area of focus in 2017 was further development of the Physician Quality and Safety Officer (PQSO) program, initially begun as a pilot program in 2015, under the direction of Dr. Heather Tory. The program, aimed at promoting quality improvement and patient safety efforts within microsystems throughout the institution by fostering physician quality champions, has been expanded to encompass a wide variety of outpatient and inpatient services. Three PQSO faculty, Dr. Natalie Bezler, Dr. Brendan Campbell and Dr. Ilana Waynik, completed a nationally renowned program in quality improvement methodology and leadership. Other

PQSO faculty championing local improvement efforts are Dr. Franziska Mohr, Dr. Sherene Mason, Dr. Alex Golden, and Dr. David Sink, who was the recipient of the annual Physician 'Quality Cup' Safety Award this year. Dr. Jennifer Giroto has continued to champion the Antimicrobial Stewardship Program, which has produced dramatic effects on prescribing practices throughout the organization.

Our faculty have been recognized with presentations at national quality and safety conferences in the past year and also have served on national study sections. The division remains committed to promoting education in quality and patient safety principles and methodology, including teaching of residents, fellows and peers by a number of faculty members. In the next year, we look forward to continuing to expand the reach and impact of the division in driving toward zero-harm, safe and high quality care, utilizing scientific methodology, fostering innovation, and promoting inquiry and teaching.

PUBLICATIONS

Boneparth A, Radhakrishna SM, Greenbaum LA, Yen E, Okamura DM, Cooper JC, **Mason S**, et al. Approach to membranous lupus nephritis: a survey of pediatric nephrologists and pediatric rheumatologists. *J Rheumatol.* 2017 Sep 15. PMID: 28916546.

Dave AJ, **Tory HO**, Awosogba JA, Coblyn JS, Bermas B, Solomon DH, Desai SP. [letter to the editor] A quality improvement approach to rheumatoid arthritis management with biologic disease-modifying anti-rheumatic drugs: assessing variability in a treatment pathway. *J Clin Rheumatol.* 2017;23(1):66-9.

Hagadorn JI, **Sink DW**, Buus-Frank ME, et al. Alarm safety and oxygen saturation targets in the Vermont Oxford Network iNICQ 2015 collaborative. *J Perinatol.* 2017 Mar;37(3):270-6. PMID: 27977012.

Johnson KR, Hagadorn JI, **Sink DW**. Alarm safety and alarm fatigue. *Clin Perinatol.* 2017 Sep;44(3):713-28. PMID: 28802348.

Excellence in Patient Safety and Clinical Quality

Kuhls DA, **Campbell BT**, Burke PA, Allee L, Hink A, Letton RW, et al. Survey of American College of Surgeons Committee on Trauma members on firearm injury: consensus and opportunities. *J Trauma Acute Care Surg.* 2017 May;82(5):877-86.

Naik-Mathuria BJ, Rosenfeld EH, Gosain A, Burd R, Falcone RA Jr, Thakkar R, et al. (**Campbell B**, 14/ 37). Proposed clinical pathway for nonoperative management of high-grade pediatric pancreatic injuries based on a multicenter analysis: a pediatric trauma society collaborative. *J Trauma Acute Care Surg.* 2017 October;83(4):589-96.

Nocera M, Merritt C. Pediatric critical event debriefing in emergency medicine training: an opportunity for educational improvement. *AEM Education and Training.* 2017;1(3):208-14.

Tran A, **Campbell BT**. The art and science of pediatric damage control. *Semin Pediatr Surg.* 2017;26(1):21-6.

Vivar S, Giroto JE, **Murray TS**. A dual case of peritonitis and central nervous system infection caused by nutritionally variant streptococcal species. *Case Rep Infect Dis.* Epub 2017 Jan 23. PMID: 28239499.

BOOK CHAPTERS

Sekaran AK, **Campbell BT**. Ovarian torsion. In: Rauch DA, Gershel GC. *Caring for the hospitalized child: a handbook of inpatient pediatrics.* 2nd ed. Chicago: AAP Section on Hospital Medicine; 2017.

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Radiology

The Division 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 Medical Center. The department is an "Image Gently" facility using strategies to minimize radiation to our patients while utilizing best practice standards and appropriateness criteria to best evaluate 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. Nuclear Medicine services are provided through collaboration with Hartford Hospital. Image-guided procedures are provided through collaboration with physicians from Jefferson Radiology and Hartford Hospital in Interventional Radiology and Interventional Neuroradiology. With support from the divisions of Anesthesia and Sedation Services, more image-guided procedures are being performed on site at Connecticut Children's, allowing for less disruption of care in a safer environment. Round-the-clock coverage of reading studies in the department is provided by Jefferson Radiology.

The Department of Radiology has seen major replacements and upgrading of imaging equipment over the past several years. Most basic imaging is performed with state-of-the-art digital radiography rooms, which allow for better plain film imaging with approximately 40 percent less radiation than conventional radiography. The department has newer ultrasound units allowing for superior imaging in a modality that is well suited to our pediatric population. Because of increasing demand for ultrasound services, hours of routine operation have been extended to midnight and weekends. A Siemen's flat panel fluoroscopy unit allows for significant radiation dose reduction with improved image quality. These upgrades support the philosophy of the department as an "Image Gently" and "Step Gently" facility to provide appropriate imaging while reducing as much as possible the effects of ionizing radiation. The Sedation Service and Department of Anesthesia offer outstanding resources to help children through difficult and lengthy imaging studies as well as image-guided procedures. Child Life also provides support for children undergoing difficult procedures.

There are plans for a major upgrade to the Department in 2018. A 3T MR unit will be installed with redesign of the physical space providing for an additional ultrasound room and a larger updated reading room to accommodate increasing numbers of staff and learners. As part of the plan, an EOS unit will be acquired for Orthopedics, allowing for lower dose imaging of scoliosis and lower extremity alignment.

Dr. Shanshan Bao joined the department this year and brings expertise in Body MR imaging. She completed a fellowship in Pediatric Radiology at Stanford University.

Dr. Douglas Moote is collaborating with Dr. Jeffrey Hyams in the Division of Digestive Diseases, Hepatology and Nutrition to support ongoing multicenter grant-funded research evaluating the impact of MR imaging of children with inflammatory bowel disease.

The Division of Radiology provides resident education in Pediatric Radiology to radiology residents from the University of Connecticut Health Center, Hartford Hospital, and the Hospital of St. Vincent's in Bridgeport, CT. Pediatric residents and medical students from the University of Connecticut are invited to attend elective rotations in the department. The radiology attendings provide didactic lectures to the radiology and pediatric residents as well as case review sessions. Teaching and clinical care conferences are held in collaboration with divisions of Pulmonary Medicine, Digestive Diseases, Endocrinology, General Surgery, Hematology/Oncology, Orthopaedic Surgery, and Urology, as well as the NICU and PICU. Work conferences are provided weekly to the Pediatric house staff.

PUBLICATIONS

Uy PPD, Francisco DM, Trivedi A, **O'Loughlin M**, Wu GY. Vascular diseases of the spleen: a review. J Clin Transl Hepatol. 2017;5(2):152-164. PMID: 28660153.

Mazaris P, Mehta T, Hussain M, Inoa V, Singer J, Spiegel G, Kureshi I, **Ollenschleger M**. Endovascular treatment of complex distal posterior cerebral artery aneurysms with the

Radiology

pipeline embolization device. *World Neurosurg.* 2017 Apr 17. [Epub ahead of print]

Canfarotta M, **Moote D**, Finck C, Riba-Wolman R, Thaker S, Lerer TJ, Payne RJ, Cote V. McGill thyroid nodule score in differentiating benign and malignant pediatric thyroid nodules: a pilot study. *Otolaryngol Head Neck Surg.* 2017 Oct;157(4):589-95. doi: 10.1177/0194599817715629. Epub 2017 Jun 27.

Martin JE, Bookland M, **Moote D**, Cebulla C. Standardized method for the measurement of Grabb's line and clival-canal angle. *J Neurosurg Pediatr.* 2017 Oct;20(4):352-6. doi: 10.3171/2017.5.PEDS17181. Epub 2017 Aug 11.

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Research

The mission of the Division of Research 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.

The Division of Research accomplishes its mission through several mechanisms: 1) conducting division research on improving the health and health care of children; 2) providing a cutting-edge research infrastructure to support Connecticut Children's investigators, including research support staff, a statistical core, grant-writing assistance, and expert input on research operations and management; 3) mentoring early investigators, including medical students, residents, fellows, and junior faculty; and 4) disseminating and publicizing the research findings of Connecticut Children's investigators. The division is staffed by more than 50 highly skilled professionals, including expert research associates, divisional research managers, certified study coordinators, and experienced sponsored-program administrators and analysts. Connecticut Children's research portfolio is supported by grants from a variety of federal funders (DHHS, NIH, CDC, and NSF), state agencies (Connecticut Department of Public Health and Connecticut Department of Children and Families), foundations (Alvord Foundation, JPB Foundation, and the Lego Children's Fund), philanthropy, and the pharmaceutical industry. Connecticut Children's has robust research collaborations with UConn Health, UConn Storrs, and the Jackson Laboratory for Genomic Medicine. The University of Connecticut Technology Incubator Program is the home of a lab and team under the direction of Dr. Christine Finck, surgeon-in-chief, which consist of Dr. Rishikesh Pandey and staff who include Todd Jensen, Lisa Kuhn, Kelly Burke, and Ishna Sharma.

Glenn Flores, MD, FAAP, was named chief research officer and director of the Health Services Research Institute at Connecticut Children's Medical Center, and professor of Pediatrics and associate chair of Research, effective in August 2017. Prior to his move, he was the inaugural distinguished chair of Health Policy Research at the Medica Research Institute, affiliate professor of Pediatrics and Health Policy and Management at the University of

Minnesota Schools of Medicine and Public Health, and research affiliate in the Department of Health Sciences Research at the Mayo Clinic. He is an internationally recognized expert on racial/ethnic disparities in children's health, language barriers in health care, and community-based interventions to improve the health and health care of underserved populations. He will continue his roles as the PI and director of the APA Research in Academic Pediatrics Initiative on Diversity (RAPID), a national pediatric diversity workforce program supported by funding from National Institute of Diabetes and Digestive and Kidney Diseases. He is a member of the Council of the American Pediatric Society, the editorial board of *Journal of Health Care for the Poor and Underserved*, and the National Advisory Committee of the Robert Wood Johnson Foundation Harold Amos Medical Faculty Development Program.

Several major division changes occurred in 2017. Stephanie Johnson, MT (ASCP), MPH, was promoted to director of Research Operations, after excelling as manager of Research Support Services. Kim Jennings, BA, CCRP, was promoted to senior manager of the Clinical Trials Unit (CTU), after three years of outstanding service as the CTU manager. Kimberly Davey, MBA, was promoted to senior manager of the Grant Program and Research Financial Administration, due to her exemplary work as manager of the Grant Program. Lisa Benson moved on from her role as senior director of Research Administration and Sponsored Programs in May 2017. During Lisa's 14-year career at Connecticut Children's, she founded the CTU through her knowledge of sound clinical practice, research compliance, and administration of clinical trials budgets.

CTU provides clinical trial support for the entire study cycle, from site selection to study close-out. CTU also supports R01, R21, and principal-investigator-initiated studies, investigational new drug studies, and investigational device exemptions, both in the developmental and coordination phases. CTU staff develop budgets and conduct negotiations for both grant- and industry-supported studies. CTU is an experienced and dedicated team, consisting of 27 staff providing support and management for more than 110 clinical trials in 19 divisions. In 2017, CTU brought in \$871,742.04 in support of these trials.

Research

The Office of Grants and Sponsored Programs (OGSP) assists faculty, staff, and our research community with procuring and managing externally sponsored funding, and ensures compliance with the policies and regulations of Connecticut Children's, its sponsors, and federal and state oversight agencies. OGSP manages external funding from the initial proposal through the final reports to sponsors, and facilitates annual audits of all federal and state awards. In addition, the OGSP 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. In 2017, OGSP's 15-person staff managed \$10,873,222.99 in 154 open accounts for extramural funding, submitted 100 proposals, processed 706 contracts, and had zero findings on its annual audits.

AWARDS AND RECOGNITION

The Division of Research was honored with several major awards and accomplishments in 2017.

Lisa Butler presented at the Model Agreements & Guidelines International (MAGI) 2017 Clinical Research Conference.

Dr. Flores received the 2017 Public Policy and Advocacy Award from Academic Pediatric Association (APA); this lifetime achievement award recognizes the cumulative contributions of an individual whose public policy and advocacy efforts at the state, regional, national, or international level have improved the health and well-being of infants, children, and/or adolescents. Dr. Flores' NIH-funded research on insuring uninsured children (the Kids' HELP trial) resulted in the 2017 introduction of a bill (H.R. 2959) into the US Congress entitled the "Child Health Outreach and Mentorship Program Act." It was converted into a mark-up in the Children's Health Insurance Program (CHIP) reauthorization bill that was passed by unanimous consensus in the US House of Representatives in October 2017 and is under review by the US Senate. Dr. Flores delivered the following 2017 national and international presentations:

- Pediatric Grand Rounds/Medearis Lecture, Children's Hospital of Pittsburgh, Pittsburgh, PA.
- Public Health Grand Rounds, University of Pittsburgh School of Public Health, Pittsburgh, PA.
- Child Health and Immigration Conference, Stanford University School of Medicine, Stanford, CA.
- Diversity Plenary Address, Society of Pediatric Psychology Annual Conference, Portland, OR
- Plenary Speech, FIT2017, XXI World Congress of the International Federation of Translators FIT (Fédération Internationale des Traducteurs), Brisbane, Australia
- Keynote Speaker, Language Access leadership Summit, Children's Hospital of Philadelphia, Philadelphia, PA.
- Commissioner's Brown Bag Lecture Series, New York City Department of Health and Mental Hygiene, New York, NY.

Katherine Herbst was named a member of the European Society for Paediatric Urology (ESPU) Research Committee. The committee is comprised of eight members serving four-year terms. Katherine is one of only three members from North America on the Research Committee, and the first non-MD to be seated on any of the ESPU's committees. In addition, Katherine was named Chief Data Scientist for the Consortium on Urolithiasis in Pediatrics (CUP). The Consortium's mission is "advancing research, prevention, and treatment of urolithiasis in children through a collaboration of pediatric nephrologists and urologists." She will oversee database development of all CUP projects, and act as a Study Coordinator for the CUP Registry. Katherine also delivered the presentation, "Ethical issues in study design, statistics, and reporting of findings – A researcher's responsibility to participants, physicians, and patients," on April 2017 at Urology Grand Rounds at Hasbro Children's Hospital in Providence, RI.

Hendriana Nielsen, RN, clinical research facilitator, was awarded the Pillar of Nursing Excellence Award. This award recognizes nurses at Connecticut Children's for their hard work in any one of the four Magnet domains exemplifying nursing excellence. Hendriana was commended for exemplifying excellent patient care, vast clinical knowledge, and leadership influencing the practice of research.

Research

PUBLICATIONS

Rosen-Carole C, Auinger P, Howard CR, **Brownell EA**, Lanphear B. Low-level prenatal toxin exposures and breastfeeding duration: a prospective cohort study. *Matern Child Health J*. 2017 Jul 22. [Epub ahead of print]

Fitzstevens JL, Smith KC, Hagadorn JI, Caimano MJ, Matson AP, **Brownell EA**. A systematic review of the human milk microbiota. *Nutr Clin Pract*. 2017; 32(3):354-64.

Cong X, Judge M, Xu W, Diallo A, Janton S, **Brownell E**, Mass K, Graf J. Influence of infant feeding type on gut microbiome development in hospitalized preterm Infants. *Nurs Res*. 2017; 66(2):123-33.

Rutten LJF, Alexander A, Embi PJ, **Flores G**, Friedman C, Haller IV, Haug P, Jensen D, Khosla S, Runger G, Shah ND, Winden T, Roger VL. Patient-centered network of learning health systems: developing an emerging resource for clinical translational research. *J Clin Transl Sci*. Epub 2017 Feb 2. doi: <https://doi.org/10.1017/cts.2016.11>.

Turer CB, Barlow SE, Montañó S, **Flores G**. Discrepancies in communication vs. documentation of weight-management benchmarks: analysis of recorded visits with Latino children and associated health-record documentation. *Glob Pediatr Health*. 2017;4:1-8.

Flores G, Portillo A, Lin H, Walker C, Fierro M, Henry M, Massey K. A successful approach to minimizing attrition in racial/ethnic minority, low-income populations. *Contemp Clin Trials Commun*. 2017;5:168-74.

Flores G. Getting the data right for Latinos: appropriate language and subgroup data are critical for public health and social justice. *J Healthc Sci Humanit*. 2017;6:43-59.

Flores G, Lin H, Walker C, Lee M, Currie J, Allgeyer R, Portillo A, Henry M, Fierro M, Massey K. The health and healthcare impact of providing insurance coverage to uninsured children: a prospective observational study. *BMC Public Health*. 2017;17:553. doi: 10.1186/s12889-017-4363-z.

Flores G, Lin H, Walker C, Lee M, Fierro M, Henry M, Portillo A, Massey K. Innovative methodology for successful community partnerships for improving coverage and healthcare in high-risk communities. *Progress Community Health Partnersh*. 2017;11(2):203-13.

Flores G, Salazar JC. Immigrant Latino children and the limits of questionnaires in capturing adverse childhood events. *Pediatrics*. 2017 Oct 9. pii: e20172842. doi: 10.1542/peds.2017-2842. [Epub ahead of print]

Zee RS, Herndon CDA, Cooper CS, Kim C, McKenna PH, Khoury A, **Herbst KW**. Time to resolution: a prospective evaluation from the Society for Fetal Urology hydronephrosis registry. *J Pediatr Urol*. 2017;13(3):316.e1-316.e5. doi: 10.1016/j.jpuro.2016.12.012. Epub 2017 Jan 19.

Smith PH 3rd, **Carpenter M**, **Herbst KW**, Kim C. Milestone assessment of minimally invasive surgery in pediatric urology fellowship programs. *J Pediatr Urol*. 2017;13(1):110.e1-110.e6. doi: 10.1016/j.jpuro.2016.08.012. Epub 2016 Sep 15.

Pandey R, Paidi SK, Valdez TA, Zhang C, Spegazzini N, Dasari RR, Barman I. Noninvasive monitoring of blood glucose with Raman spectroscopy. *Acc Chem Res*. 2017 Feb 21;50(2):264-72. doi: 10.1021/acs.accounts.6b00472. Epub 2017 Jan 10.

Öunpuu S, **Solomito MJ**, Bell KJ, Pierz K. Long-term outcomes of external femoral derotation osteotomies in children with cerebral palsy. *Gait Posture*. 2017;56:82-8.

Lee MC, Jarvis C, **Solomito MJ**, Thomson J. Comparison of S2-Alar and traditional iliac screw pelvic fixation for pediatric neuromuscular deformity. *Spine J*. 2017 Sep 21. pii: S1529-9430(17)30970-1. doi: 10.1016/j.spinee.2017.08.253. [Epub ahead of print]

Baldwin P, Han E, Parrino A, **Solomito MJ**, Lee MC. Valve or no valve: a prospective randomized controlled trial of casting options for pediatric forearm fractures. *Orthopedics*. 2017;40(5):e849-e854.

Research

Lee MC, Lloyd J, **Solomito MJ**. Poor utility of gonadal shielding for pediatric pelvic radiographs. *Orthopedics*. 2017;40(4):e623-e627.

Wang D, Kostyun R, Trojian T, **Solomito MJ**. Overlapping concussion syndrome: defined in a pediatric population. *Conn Med*. 2017;81(7):389-94.

Solomito MJ, Krochack R, Milewski M, Nissen CW. Examining the association between glenohumeral internal rotation deficit and glenohumeral joint kinematics and kinetics. *Conn Med*. 2017;81(7):407-14.

Solomito MJ, Garibay EJ, Nissen CW. A biomechanical analysis of the association between forearm mechanics and the elbow varus moment in collegiate baseball pitchers. *Am J Sports Med*. 2017 Oct 1:363546517733471. doi: 10.1177/0363546517733471. [Epub ahead of print]

Williams A, Mancini N, **Solomito MJ**, Nissen CW, Milewski M. Chondral injuries and irreparable meniscal tears among adolescents with ACL or meniscus tears more common in patients with public insurance. *Am J Sports Med*. 2017 Jul;45(9):2111-5. doi: 10.1177/0363546517707196. Epub 2017 May 22.

Boyle B, Collins MH, **Wang Z**, Mack D, Griffiths A, Sauer C, et al. Histologic correlates of clinical and endoscopic severity in children newly diagnosed with ulcerative colitis. *Am J Surg Pathol*. 2017; 41(11):1491-8.

TECHNICAL REPORT

Wang Z. Classification of cancer patients with penalized robust nonconvex loss functions. 2017. Available at: https://cran.r-project.org/web/packages/mpath/vignettes/static_brcancer.pdf

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Katherine Herbst, MS

Manager, Urology and Nephrology



Research

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Research Associate

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Research Associate

Bridgette Carter
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Danielle Chenard
Research Associate

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Instructor, Research Scientist

Rosa Rodrigues
Research Associate

Kathleen Sala
Research Associate

Kelsey Smith
Research Associate

Shefali Thaker
Research Associate

Zhu Wang, PhD
Associate Professor, Senior Biostatistician

CLINICAL TRIALS UNIT

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Senior Manager, Clinical Trials Unit

Krista Spada
Manager, Gastroenterology

Robin Arens
*Lead Clinical Trials Associate,
Hematology/Oncology Division*

Erin Bennett
Clinical Research Associate

Lauren Dickson
Clinical Research Associate

Ginny Drapeau
Clinical Research Facilitator

William Galdi
Clinical Research Associate

Jocelyn Gasuk
Senior Clinical Research Facilitator

Kristine Hauser
Clinical Research Facilitator

Dayna Kennedy
Clinical Research Associate

Bunly Kuoch
Research Assistant

Mariam Lincoln
Clinical Research Associate

Lisa Little
Regulatory Specialist

Amy Newton
Clinical Research Associate

Hendriana Nielsen
Clinical Research Facilitator

Vikki Palmer
Clinical Research Facilitator

Krystal Perez
Clinical Research Assistant

Regan Pulaski
Clinical Research Associate

Jennifer Querim
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James Ransom
Clinical Research Associate

James Santanelli
Clinical Research Associate

Ashlee Tangarone
Clinical Research Assistant

Jennifer Twachtman-Bassett
Research Coordinator, Autism Specialist

Research



OFFICE OF GRANTS AND SPONSORED PROGRAMS

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Central Associate Grants Management Specialist

Laura Friedeberg

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Aubree Siebert

Clinical Trials Associate Grants Management Specialist

Marlene Tzickas

Central Associate Grants Management Specialist

Cristen Yakush

Associate Grants Management Specialist

Joanne Ramey

Associate Contract Specialist

Rheumatology

The Division of Rheumatology is the largest such program in Connecticut, taking pride in our ability to be accessible to all corners of the state. In 2017, referrals were received from 110 of the 169 towns in Connecticut. At our Shriners Hospital satellite location in Springfield, MA, we saw patients from all six New England states plus New York.

The mission of the division is to provide the best clinical care possible to children with rheumatic disease, teach trainees the basics of the field, and to enroll patients in clinical trials or collaborative research projects when applicable.

We continue to run a high volume practice. During 2017, we saw the following number of patients in five locations, Connecticut Children's Medical Center in Hartford, and our satellite locations in Shelton, Glastonbury, and Stamford, CT, and Springfield, MA:

Total visits, all locations for the year = 3,400 patients, including 1,300 new visits. Joint injections, 150; discrete infusion patients, 90; inpatients, 82.

Rheumatology collaborates with the Sedation service around procedures, Orthopaedics for overlapping disorders, GI for infusions and drug toxicities, Hematology for disorders that span both specialties, Nephrology for lupus and vasculitis, Infectious Diseases for Lyme disease, and the Pain and Palliative service for children with amplified pain disorders such as fibromyalgia. The division fully utilizes the resources of the hospital, since many of the patients have multi-system disease or complex psychosocial problems.

The division provides critical education to trainees, since the outpatient rotation is often the only exposure pediatric residents have with rheumatic disease.

Under the leadership of Dr. Lawrence Zemel, Connecticut Children's Division of Rheumatology continues to offer a Comprehensive Lyme Disease Program. It is the only one of its kind in the country. The program is a unique resource for families and for referring providers who see patients with complex issues

surrounding Lyme disease diagnosis and treatment. Families can schedule an appointment directly or via their primary care provider.

In 2017, Rheumatology staff members served on several national committees. Division head Dr. Lawrence Zemel continues as chair of the arthritis subcommittee for the National Guideline Committee to Revise Lyme Disease Diagnosis and Treatment Standards. Publication is expected in July 2018. Dr. Heather Tory was appointed as chair of the Juvenile Dermatomyositis Quality Measures Subcommittee for the Childhood Arthritis and Rheumatology Research Alliance, and she is a member of the Quality Measures Subcommittee of the Quality of Care Committee for the American College of Rheumatology.

Division members also participate in a wide range of Connecticut Children's committees. Dr. Barbara Edelheit is a member of the Public Policy Council and the Physician Engagement and the Physician Well Being committees, among others. Dr. Tory is co-chair of the Connecticut Children's Specialty Group Quality and Safety Committee, chair of the medical center's Emergency Response Committee, and co-chair of its Career Development Committee.

Staff members had invited poster presentations at national conferences. Among them, Dr. Tory's poster "Time-out in the OR: Can We Make It Run Better?" was featured at the Children's Hospital Association's Annual Quality and Safety in Children's Health Conference in Orlando, FL, in March.

Looking ahead to 2018, our staff is working on the development of an Autoimmune Encephalitis Program. Other goals include the recruitment of a new division chief by July 2019, continued collaboration on the construction of new infusion suite; supporting further original research projects from junior faculty; standardizing our educational mission; expanding services in Greater Fairfield County; mentoring student and resident research projects; fostering nursing research; and analyzing data from the Lyme Program.

Rheumatology

PUBLICATIONS

Dave AJ, **Tory HO**, Awosogba JA, Coblyn JS, Bermas B, Solomon DH, Desai SP. [letter to the editor] A quality improvement approach to rheumatoid arthritis management with biologic disease-modifying anti-rheumatic drugs: assessing variability in a treatment pathway. *J Clin Rheumatol*. 2017;23(1):66-9.

STAFF

Lawrence Zemel, MD

Division Head

Barbara Edelheit, MD

Heather Tory, MD, MPH



Sedation Services

The Center of Procedural Excellence (CoPE) is a six-bed unit within Connecticut Children's Medical Center 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. Since its opening, the Sedation Service has continued to excel in providing comprehensive high quality care with a focus on the patient and family experience. Our new space has provided us with the opportunity to expand our staff and the number of patients we serve. In 2014, prior to having dedicated space for non-operating room sedation, the service cared for about 500 patients annually with a staff of one full-time physician and two nurses. To meet continued demand, we now have expanded to four physicians, nine full-time nurses with credentialing in sedation, one medical assistant, and a full-time child life specialist.

The Sedation Service works with nearly all sub-specialties within Connecticut Children's to provide sedation for painful procedures 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 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.

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 Dr. Kalyani Raghavan 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. To further help families prepare for their visit, our child life specialist is available to call families prior to their visit to help develop individualized approaches with the family's input. External grant funding this year has allowed us to purchase distraction and comfort devices designed specifically for patients with autism.

Members of the Sedation Team are involved in leadership and committees at Connecticut Children's. Dr. Leonard Comeau 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 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. Connecticut Children's recently hosted the national meeting of the Society of Pediatric Sedation in Hartford. This national meeting was attended by over 300 physicians and nurses who specialize in pediatric sedation. Dr. Jesse Sturm, medical director of Sedation Services, and Dr. Raghavan, both sedation providers, as well as Elizabeth Cannon and Kim Paula-Santos, members of our nursing team, led expert panel discussions. Several members of the Sedation Team helped run a two-day Sedation Provider Course to train attendees from around the world in advanced airway skills and the safe use of specialized medications. Our education commitment to the trainees at UConn remains strong. Every UConn Pediatric and Emergency Medicine intern (35 per year) spends a week on a dedicated Sedation rotation. Residents participate in

Sedation Services

all aspects of patient care, are given hands-on training in airway management, and become credentialed to independently provide moderate sedation.

Members of our Sedation Team are actively involved in research. In 2017, we contributed two chapters to a handbook on pediatric sedation. Ongoing research involves collaboration with colleagues in Neurology on the safety of sedating patients with cerebral palsy for the treatment of spasticity, and Emergency Medicine colleagues on the use of sedation in children for painful procedures in the Emergency Department.

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 pain and discomfort for our patients.

PUBLICATIONS

Menoch M, Simon HK, Hirsh D, Shim Y, Baxter AL, Clifton M, Kim D, **Sturm JJ**. Imaging for suspected appendicitis: variation between academic and private practice models. *Pediatr Emerg Care*. 2017; 33(3):147-151.

Rogers SC, Mulvey CH, Divietro S, **Sturm JJ**. Escalating mental health care in pediatric emergency departments. *Clin Pediatr*. 2017; 56(5):488-91.

STAFF

Jesse Sturm, MD, MPH

Medical Director, Sedation Services

Kalyani Raghavan MBBS, MD, DCH

Kathy Kalkbrenner, MD

Leonard Comeau, MD

Transplant Surgery

In 2017 the Division of Renal Transplant at Connecticut Children's enjoyed substantial growth. Working closely with the Division of Nephrology, the pediatric kidney transplant program continued to grow with joint clinics occurring twice monthly for our patients. There also was expansion to increase our multidisciplinary approach by adding integrative medicine access for better patient and family experience.

The Renal Transplant Division has a strong quality commitment. Each program has a quality indicator dashboard as well as a Process Improvement dashboard that tracks PI projects such as revisions of policies, decreasing infections, and developing algorithms to

improve patient care. Specifically, an altered Lupus protocol was created to be on the cutting edge of therapies offered to children in the country. The year 2017 also marked moving fistula and graft surgeries from Hartford Hospital to our operating rooms, enhancing the collaboration and level of care our patients receive.

STAFF

Patricia Sheiner, MD, FACS

Division Director

Caroline Rochon, MD

Brian Shames, MD



Pediatric Urology

In 2017, U.S. News & World Report ranked Connecticut Children's Pediatric Urology Division as one of the best in the country for 2017-18.

The Pediatric Urology Division provides comprehensive urologic care. In 2017, the service remained busy with 5,362 visits and 632 operative cases. The division continues to provide interdisciplinary specialty clinics with Pediatric Nephrology and Endocrinology services. 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 US, 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. Finally, we are also in the process of developing a Spinal Defects Clinic for patients with congenital as well as acquired spinal disorders.

DIVISION CHANGES

The year 2017 was a time of change in the Division of Urology. In March, we welcomed Dr. Carlos Medina as medical director of the division. He previously served as director of Pediatric Urodynamics at Weill Cornell Medical College in New York. Dr. Anne Dudley joined the division in August upon completion of her fellowship at Vanderbilt University. Dr. Adam Hittelman has continued to work with us as part of our ongoing collaboration with Yale New Haven Hospital. Dr. Israel Franco is the director of Urodynamics and is leading our effort to offer systematic urodynamic evaluation and care for our patients.

PUBLICATIONS

Dudley AG, Adams MC, Brock JW 3rd, Clayton DB, Joseph DB, Koh CJ, et al. Interrater reliability in interpretation of neuropathic pediatric urodynamic tracings: an expanded multi-center study. *J Urol*. 2017 Dec 29. pii: S0022-5347(17)78188-8. doi: 10.1016/j.juro.2017.12.051. [Epub ahead of print] PMID: 29291418.

Dudley AG, Taylor AS, Tanaka ST. Reliability and reproducibility of pediatric urodynamic studies. *Curr Blad Dysfunct Rep*. 2017;12(3):233-40.

STAFF

Carlos Medina, MD

Division Head

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Anne Dudley, MD

Israel Franco, MD, FAAP, FACS

Adam Hittelman, MD

Howard Hochman, MD

Meg Seitz, PA-C

Katherine Herbst, MSc

Fellows

Gina Lockwood, MD

Lily Wang, MD

Residency



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 ACGME.

The program continued to successfully recruit high quality residents. Entering residents had an average of 3.1 scholarly activities and 9.2 community service activities prior to matching. 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 has increased once again, and it is comfortably meeting the required pass rate for accreditation. ACGME surveys and program surveys of faculty and residents were notably positive, but they also provided the identification of areas of focus for program development, including the following program improvement efforts:

The program continued to address meaningful assessment of learners with continued progress in providing timely evaluations, and efforts to improve the quality of the evaluations with greater authenticity and deliberateness using the milestone method of tracking resident progress.

Through the continued leadership efforts of Dr. Christine Skurkis, additional efforts were made to improve the prompt submission of evaluations. Incentive rewards were given to core faculty leaders submitting their evaluations within four weeks of the conclusion of the activities. This was reviewed again at the Annual Faculty Meeting, open to all faculty and residents. Improved timeliness of assessment was also promoted by regular reporting of the information, by area of activity, so faculty and leadership could identify successes and areas for improvement. Faculty could see how their performance compared to other core faculty. Actions were taken for areas in which evaluations were still unacceptably delinquent.

Residency

Leveraging technology to enhance the ability of faculty teaching and assessment of resident performance continues to evolve. The engagement of Apple, Inc., has continued with the piloting of curriculum in Apple Books to allow real-time access anywhere. The use of Dragon voice-activated technology has made completion of evaluations easier and more time efficient. There is also a continued commitment to implementation of an application for smart phones to allow faculty to do real-time evaluations efficiently and effectively.

The need to better balance service and education, ensure access to opportunities to learn and master procedures, was identified and approached in a number of ways.

A multiple component plan was developed to begin addressing these problems that affect both residents and faculty. These included:

Through the leadership of Dr. Skurkis, the efforts of the administration of Connecticut Children's and residents and faculty colleagues were continued in addressing rounding and patient flow. This included rounding teams with specific rounding times for the faculty from the different services. Improved rounding processes, with more spontaneity of the family centered care, and redirection of medical team assistants from managing the rounding to the completion of non-physician work in support of rounds and ongoing care. Efforts also continued to improve distribution of patients among teams.

Enhancements for the electronic medical record (EMR), begun first by making it easy to complete discharge summaries, continued. The discharge summary continues to provide information efficiently and effectively for all involved. Attention has turned to improvement in progress note documentation and medication reconciliation. A new focus on expanding the devices for accessing and using the EMR were also planned, so the ability to use the EMR conveniently in real time becomes a reality.

Improving resident ability to identify potential research mentors, and enhancing the perception of environment

of inquiry within the residency program were pursued in a number of ways.

To enhance the resident awareness of research opportunities and their ability to pursue them, Dr. Sharon Smith continued her efforts to forge ahead with resident scholarship. A searchable database was developed and disseminated, maintaining a list of faculty willing to mentor resident research, and their areas of interest. This also has resulted in a listing of rotation and division-specific scholarly activities for resident access on our CTHusky (Blackboard) curricular site. There also has been dissemination of the highlights of resident scholarly achievements, to help stimulate interest and honor their accomplishments.

Resident participation in research continues to increase, with more participation documented in the four-week Research Methods rotation under the leadership of Dr. Smith. There was such an increase of interest that the program had to expand the number of rotations offered during the year to six.

Strategic efforts to improve wellness for residents and faculty were continued and expanded.

In collaboration, Connecticut Children's, the Department of Pediatrics, and the Pediatric Residency Program carried out key initiatives targeted at self-care, connectedness and the work environment, in an effort to promote resilience and overall wellness among faculty and residents.

A two-day assessment exercise with Drs. Carol Bernstein and Timothy Brigham, leaders of the ACGME Physician Wellness Task Force, was held to assess our current status and identify ways to improve resident and faculty well-being. Their recommendations were addressed. Connecticut Children's, through the leadership of Dr. Aaron Zucker, brought internationally known expert in physician burnout assessment, Dr. Christine Maslach, for a two-day engagement with faculty and residents on evaluating physician wellness. Modified retreats focused this year on connectedness, and plans were made to develop a major effort on meaning in work going forward.

Residency

PEDIATRIC RESIDENTS BY LEVEL, 2016-17

PL-1

Amy Blodgett, MD
Noah Buncher, DO
Jessica Fennell, MD
Nicole Fersa, DO
Joshua Goldman, MD
Erin Goode, DO
Shilpa Guntaka, MD
Kristin Brooke Hallett, MD
Owen Kahn, MD
Kaitlin Keenan, DO
Abraham Khorasani, MD
Danielle Klima, DO
Sarah Kollar, DO
Neetu Krishnan, DO
Chelsea Leapus, DO

Catherine Paczek, DO
Usha Prasad, DO
Katarzyna Saar, DO
Jessica Sanchez, MD
Chelsea Wells, DO

PL-2

Caroline Amin, MD
Peggy Chen, MD
Roxanne Cheung, MD
Sigfus Kristinn
Gunnlaugsson, MD
Anjali Gupta, MD
Rebecca
Kohlberg-Davis, MD
Jonah Mandell, DO
Justine Mrosak, MD
Dana Nezon, MD
John Norko, MD

Nisha Patel, MD
Jenny Petrauskas, MD
Agnes Reschke, MD
Sara Soshnick, DO
Jessica Tutolo, MD
Carolina Vega, MD
Emily Anne Sampino, MD
Caleb Wasser, DO
Jonathan Wong, DO

PL-3

Emily Biddick, MD
Abigail Bosk, DO
Crista Cerrone, MD
Elizabeth Chasse, MD, MPH
Katie Clouthier, DO
Tam Doan, MD
Sarah Germani, DO

Jillian Gormley, DO
Tuhina Joseph, DO, MS
Annamarie Koller, DO
Selena Levine, DO
Katrina Loh, MD
David Muccino, MD, MPH
Shannon Oteri, DO
Carolina Quintana, MD
John Ramirez, MD
Kaitlin Strumph, DO
Whitney Trompeter, MD
Christine Yang, MD
Nancy Yip, DO, MS

Chief Residents

Mark Gilroy, DO
Megan Griffiths, MD
Laura McKay, MD



Fellowship

The University of Connecticut School of Medicine-sponsored graduate medical education (fellowship) programs at Connecticut Children's Medical Center continue to graduate very well 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, and travel grants and awards. The success of our fellowship programs would not be possible without the dedication and tireless efforts of our fellowship coordinators: Marianne Custer, Lindsay Haythorn, Amanda Ross, Jack Wakefield, Opeyemi Aina and Kierstyn Callahan.

Anesthesiology

Led by Dr. Michael Archambault, the Pediatric Anesthesiology Fellowship Program entered its second year of accreditation in 2017 and welcomed its first fellow. Dr. Thomas Manning joined the program in July 2017. A native of Connecticut, he spent the last eight years in Nebraska attending Creighton University for medical school and the University of Nebraska for residency. Dr. Manning has been an excellent addition to the department. He presented a quality initiative concerning perioperative acetaminophen administration at a multidisciplinary surgical morbidity and mortality conference. Additionally, he is collaborating with Drs. Christina Biello and Jonathan Martin on minimally invasive surgery for craniosynostosis.

The program underwent its first ACGME accreditation process in September and results are anticipated early in 2018. Because the 2018-19 application class for pediatric anesthesia was smaller than in previous years, the program did not match and is continuing to recruit a fellow for a July 2018 start date.

Emergency Medicine

Led by Dr. Matt Laurich, the Pediatric Emergency Medicine Fellowship is in its 18th year. It is a three-year fellowship with two fellows per year.

Dr. Karl Hellstrand graduated from the fellowship in June 2017 and accepted a Pediatric Emergency Medicine attending position at Saint Mary's Hospital in Waterbury, CT.

While in his last year of fellowship, Dr. Hellstrand presented his research on "Prevalence of Cyberbullying in Patients Presenting to the Pediatric Emergency Department" at the Eastern Society for Pediatric Research in Philadelphia in March 2017 and the Pediatric Academic Societies in San Francisco, CA, in May 2017.

Dr. Kathryn Kasmire graduated in June 2017 and took a faculty position at Penn State Hershey Medical Center in Hershey, PA. While in her last year of fellowship, Dr. Kasmire presented her research in multiple venues. She presented the results of her quality improvement project regarding the implementation of a clinical pathway for infants 29–60 days old with fever as a poster presentation at the Eastern Society for Pediatric Research in Philadelphia in March 2017 and the Pediatric Academic Societies in San Francisco, CA, in May 2017. The results of her research project "Hypothermia as a Risk Factor for Serious Infection in Neonates" were accepted for platform presentation at the Eastern Society for Pediatric Research in Philadelphia in March 2017 and as a poster presentation at the Pediatric Academic Societies in May 2017.

Dr. Laurie Malia joined the Emergency Medicine Division in November 2015 after having completed her residency here at Connecticut Children's Medical Center. In 2017 her retrospective study "Revisiting the Appendiceal Diameter via Ultrasound for the Diagnosis of Acute Appendicitis" was published in *Pediatric Emergency Care*. Also in 2017, her case report "Cold Panniculitis Following Ice Therapy for Supraventricular Tachycardia" was accepted for publication in *Pediatric Emergency Care*. Her study "Fast and Sensitive: Automated Point-of-Care Urine Dips" has been accepted for publication by *Pediatric Emergency Care*. Her prospective study of sonographic predictors for acute appendicitis was presented as a platform presentation at the Eastern Society for Pediatric Research in Philadelphia in March 2017 and as a poster at the Pediatric Academic Societies in San Francisco, CA, in May 2017. Dr. Malia will graduate in June 2018 and has accepted a position as a Pediatric Emergency Medicine Ultrasound Fellow at Columbia University/Morgan Stanley Children's Hospital of New York.

Fellowship

Dr. Hannah Sneller became part of the division in July 2015, arriving from Stony Brook Children's Hospital in Stony Brook, NY, where she completed her pediatric residency and chief residency. Dr. Sneller is finishing up several projects including an analysis of the use of a Modified Pulmonary Index Score to predict hospital admission and ICU admission as well as a multi-center prospective study of utilizing simulation strategies to teach clinical reasoning to residents. In addition, Dr. Sneller published a case report, "Lemierre's Syndrome Presenting as Multifocal Pyomyositis in a Young Child," in the *Journal of Pediatric Infectious Disease*. Dr. Sneller will graduate in June 2018 and has accepted a position in her hometown as a faculty member at Children's Hospital and Medical Center/University of Nebraska College of Medicine in Omaha, NE.

Dr. Noah Jablow joined the division in July 2016 from Stony Brook Children's Hospital. He has several projects ongoing including a prospective study of the test characteristics of automated point-of-care urinalysis.

Dr. Tasha Desai joined the division in July 2016, arriving from the Children's Hospital at Lehigh Valley Health Network in Allentown, PA. She has several projects underway including a study of opiate prescribing patterns in the Pediatric ED and patient opiate prescription-filling patterns for pediatric patients in the state of Connecticut.

The program welcomed two excellent new fellows in July 2017. Dr. Jacob Greenberg joined us from Maimonides Infants' and Children's Hospital of Brooklyn, NY. Dr. Prina Patel joined us from Winthrop University Hospital in Mineola, NY.

In December 2017, the program successfully matched two future fellows who will start in July 2018. Dr. Ruchika Jones completed the pediatric residency program at Stony Brook Children's Hospital. She also completed a year as the chief resident at Jersey Shore University Medical Center of New Jersey. Dr. Rahul Shah will be joining us in July 2018 following completion of his pediatric residency at Yale New Haven Hospital in New Haven, CT.

FELLOW PUBLICATIONS

Chicaiza HP, **Malia L**, Mulvey CH, Smith SR. Revisiting the appendiceal diameter via ultrasound for the diagnosis of acute appendicitis. *Pediatr Emerg Care*. 2017 [Epub ahead of print]

Held MR, Kotler H, **Sneller H**, Sullivan CB. Lemierre's syndrome presenting as multifocal pyomyositis in a young child. *Pediatr Infect Dis J*. 2017 [Epub ahead of print]

Malia L, Strumph K, Smith SR, Brancato J, Johnson S, Chicaiza H. Fast and sensitive: automated point-of-care urine dips. *Pediatr Emerg Care*. 2017 Nov. [Epub ahead of print]

Brooks TM, Smith MM, Silvis RM, Lerer T, Mulvey CH, Maitland R, et al. Symptom-guided emergency department discharge instructions for children with concussion. *Pediatr Emerg Care*. 2017;33(8):553-63.

Endocrinology

Led by Dr. Rebecca Riba-Wolman, the Pediatric Endocrinology Fellowship is in its 20th year. Dr. Riba-Wolman assumed the role of program director in July 2017 after having served as associate program director under Dr. Paola Palma Sisto who was instrumental in building the fellowship into a successful program. Dr. Palma Sisto returned to the Children's Hospital of Wisconsin. Dr. Rebecca Riba-Wolman has been active with the Pediatric Endocrine Society education council in developing web-based tools to support fellows around the country and improve shared curriculum development. Fellows have had a 100% pass rate at first attempt on the pediatric endocrinology board. They also are engaged in meaningful research experiences mentored by well-published, NIH-funded investigators in basic and translational research. Our fellows continue to receive travel grants to attend national meetings to present their work. We continue to place fellows in academic positions upon graduation.

Dr. Shrinkhala Srivastava graduated in June 2017 and took a faculty position at Loma Linda University in California. In her last year of fellowship, she completed her research characterizing the polycystic ovarian syndrome (PCOS) population at the endocrine clinic, and has submitted to peer

Fellowship

review publications pending acceptance. She presented her work at the Pediatric Academic Society/Pediatric Endocrine Society, Endocrine Society and Eastern Pediatric Research Society. She was awarded the Clinical Fellows Abstract Award/Travel Grant in Women's Health, and her work was cited in *Endocrine Today* in a feature titled "Early Metabolic Derangement, Obesity Observed in Adolescents With PCOS." She has completed a prospective study involving depression assessment in new patients referred for PCOS.

Dr. Tricia Pinto joined us in July 2015 from Florida State University in Pensacola, FL. She withdrew from the program in February 2017 to pursue a career as a primary care pediatrician.

Dr. Massiel Mojica Sarmiento joined us from Lincoln Medical and Mental Health Center in Bronx, NY, in July 2016. Her area of interest is in genetic forms of childhood obesity. She is working with Dr. Emily Germain-Lee on defining the phenotype-genotype correlations and associated comorbidities of early onset obesity in a population of patients with pseudohypoparathyroidism Type 1a.

Dr. Whei Ying Lim, MD, arrived from Hurley Medical Center in Michigan, in July 2017. Her area of interest is in Type 1 diabetes mellitus.

In December 2017, the program successfully matched Komalben Parmar from Hurley Children's Hospital at Hurley Medical Center/Michigan State University. Dr. Parmar will join the program in July 2018.

FELLOW PUBLICATIONS

Sarmiento MS, Riba-Wolman R. An unusual case of ambiguous genitalia: urethral duplication with salt wasting in a newborn. 10th International Meeting of Pediatric Endocrinology. 2017 Sep; Washington, D.C.

Acharya N, **Penukonda S**, Shcheglova T, Hagymasi AT, Basu S, Srivastava PK. Endocannabinoid system acts as a regulator of immune homeostasis in the gut. PNAS. 2017; 114(19):5005-10.

Gastroenterology, Hepatology & Nutrition

Led by Dr. Wael Sayej, the fellowship program in Pediatric Gastroenterology, Hepatology and Nutrition is in its sixth year. Dr. Sayej has been involved with the NASPGHAN training committee and worked on the EPA (Entrustable Professional Activity) curriculum for pediatric gastroenterology. Dr. Melissa Fernandes was appointed associate program director in July 2017.

The program graduated its fourth fellow, Dr. Victoria Grossi, in June 2017. Following successful completion of her fellowship, she joined the clinical faculty in our GI division at Connecticut Children's. Dr. Grossi was very successful and productive during her fellowship training. Her research focused on pain genetics in patients with inflammatory bowel disease. In May 2017, she presented two abstracts at Digestive Diseases Week (DDW), which is the largest international gastroenterology conference held annually. Dr. Grossi had previously presented oral presentations at DDW. She also contributed two chapters in *NASPGHAN Fellows Concise Review of Pediatric Gastroenterology, Hepatology and Nutrition*, the new Pediatric GI review book sponsored by the North American Society for Pediatric Gastroenterology, Hepatology and Nutrition (NASPGHAN). Finally, Dr. Grossi completed her master's degree in Clinical and Translational Research at UConn in June 2017.

Our third year fellow, Dr. Angela Pressley Wallace, is progressing very nicely. She is interested in both clinical and translational research in eosinophilic esophagitis. She is working in the lab with patient samples to determine the role of the IL-10/IL-5 ratio in monitoring disease activity in eosinophilic esophagitis. She delivered an oral presentation at the Eastern Society for Pediatric Research in March 2017, and a poster presentation at the Pediatric Academic Society meeting in May 2017 and the annual NASPGHAN meeting in November 2017. Dr. Pressley-Wallace contributed a chapter in *NASPGHAN Fellows Concise Review of Pediatric Gastroenterology, Hepatology and Nutrition*.

Our second year fellow, Dr. Temara Hajjat, started her research experience in February 2017. She is interested in inflammatory bowel disease and advanced endoscopy.

Fellowship

She is currently working with Dr. Jeffrey Hyams on a project to determine the correlation of fecal calprotectin and Remicade levels in patients receiving Remicade infusions for inflammatory bowel disease. She presented a poster on “The Utility of Video Capsule Endoscopy in Children” at the annual NASPGHAN meeting in November 2017.

Dr. Andrew Fondell joined the program in July 2016. He completed his residency at UnityPoint Health, Blank Children's Hospital, Des Moines, IA, where he also served as a chief resident. He completed his medical school education at Rocky Vista University College of Osteopathic Medicine in Parker, CO. Dr. Fondell started his first research rotation in November 2017 and will transition to working on his research in July 2018.

In December 2017, the program successfully matched Dr. Joelynn Dailey who will join the program in July 2018 after completing her residency at Lehigh Valley Hospital in Pennsylvania. Her medical school education was undertaken at Philadelphia College of Osteopathic Medicine.

PUBLICATIONS

Grossi V. Ch 4Ei: Inflammatory bowel disease (pp 285-296); Ch 4Eiii: Colitis not due to inflammatory bowel disease (pp 303-306); Ch 4J: Radiation enteritis (pp 327-328). In: NASPGHAN Fellows Concise Review of Pediatric Gastroenterology, Hepatology and Nutrition. 2017.

Wallace A. Ch 4C: Constipation and encopresis (pp 271-278). In: NASPGHAN Fellows Concise Review of Pediatric Gastroenterology, Hepatology and Nutrition. 2017.

Genetics

Led by Dr. Joseph Tucker and Robin Schwartz, MS, CGC, the Medical Genetics and Genomics Residency Training Program has been training clinical medical geneticists since the program was first accredited in 1997. Future development of the program involves plans to expand to allow for a four-year combined Pediatrics and Genetics

training program, and collaboration with Jackson Laboratories now located on the campus of the University of Connecticut School of Medicine. In July 2017, Dr. Jaclyn Beirne joined the program from St. Joseph's Regional Medical Center in Paterson, NJ. Her research area of interest is in glycogen storage disease.

Infectious Diseases

The Pediatric Infectious Diseases Fellowship Program is led by Dr. Nicholas Bennett. In this era of antibiotic-resistance and new hospital standards, the program has 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.

Hematology/Oncology

The Pediatric Hematology/Oncology Fellowship Program is led by Dr. Andrea Orsey and was newly accredited in January 2017. In May 2017, the program successfully matched Dr. John Norko who will join the program in July 2018. Dr. Norko is completing his residency here at the University of Connecticut/CT Children's Medical Center. He also completed his medical school education at the University of Connecticut.

Neonatal-Perinatal Medicine

Led by Dr. Jennifer Trzaski, the fellowship program in Neonatal-Perinatal Medicine continued its outstanding record of academic accomplishment and scholarly productivity. In the 44 years since accreditation, 65 fellows have graduated from the program.

Kendall Johnson, MD, completed the fellowship in June 2017 and stayed on at Connecticut Children's as a junior faculty member in the Division of Neonatal-Perinatal Medicine. Prior to graduating in June 2017, she presented her research to the Eastern Society for Pediatric Research in Philadelphia in March 2017 and the Pediatric Academic Societies in San Francisco in May 2017.

Third-year fellow Maushumi Assad, MD, MPH, presented her research to the Eastern Society for Pediatric Research in Philadelphia in March 2017, the Southern Regional

Fellowship



meeting in New Orleans in February 2017, the Pediatric Academic Societies in San Francisco in May 2017, and at the American Academy of Pediatrics 91st Perinatal and Developmental Symposium in Bonita Springs, FL, in November 2017. Dr. Assad received ESPR and PAS travel grant awards for her research.

Third year fellow Susan Pitts, DO, presented her research to the Eastern Society for Pediatric Research in Philadelphia in March 2017 and at the American College of Osteopathic Pediatricians Osteopathic Medical Conference and Exposition in Philadelphia in October 2017.

Second year fellow Jennifer Caldwell, MD, MS, presented her research to the Eastern Society for Pediatric Research in Philadelphia in March 2017 and to the Pediatric Academic Societies in San Francisco in May 2017. Dr. Caldwell received an award at ESPR for her research.

Betté Ford, MD, joined us in July 2017 from Morehouse School of Medicine in Atlanta, GA, and Rachel Koski, DO, MS, joined the program from Albany Medical Center. Dr. Ford's area of scholarly interest is in quality improvement. She is particularly interested in improving resident education and experience in the delivery room. She will be working with mentors Drs. David Sink and Kendall Johnson in the Division of Neonatology. Dr. Koski's research interest is in neuroscience focusing on globoid cell leukodystrophy (Krabbe's disease). She is pursuing this basic science research project in the lab of Dr. Stephen Crocker at UConn Health.

In December 2017, the program successfully matched Dr. Aditya Chhikara and Dr. Mishika Malik who will both join the program in July 2018. Dr. Chhikara will be completing his residency at New York Presbyterian Brooklyn Methodist Hospital, and Dr. Malik will be completing her residency at Southern Illinois University. Dr. Chhikara completed his medical school education at St. George's University School of Medicine. Dr. Malik completed hers at Government Medical College in India.

FELLOW PUBLICATION

Johnson KR, Hagadorn JI, Sink DW. Alarm safety and alarm fatigue. *Clin Perinatol.* 2017 Sept; 44(3):713-28. PMID 28802348.

Orthopaedic Surgery

Led by Dr. Mark Lee, the Pediatric Orthopaedic Surgery Fellowship was ACGME accredited in 2013. In 2017, the program received dual accreditation with the ACGME and the Pediatric Orthopaedic Society of North America (POSNA).

Alvin Wei-I Su, MD, PhD, joined the program in August 2017. Prior to his arrival, he completed two ACGME-accredited clinical fellowships in adult and pediatric sports medicine at Washington University in St. Louis, MO, and University of Pennsylvania, and had published extensively. He is working on optimizing operating room efficiency for management of supracondylar humerus fractures, and received a scholarship to the 2017 annual International Pediatric Orthopaedic Symposium in Orlando, FL.

In April 2017, the program successfully matched Fred Zavier, MD/PhD, who is originally from Haiti and will finish his Pediatric Orthopaedic Fellowship in Nova Scotia before joining the program in July 2018.

Pulmonology

The Pediatric Pulmonary Fellowship is in its 27th year. Dr. Craig Schramm, who had been the fellowship program director from 1994 to 1999, resumed directorship of the program in July 2016. Previously led by Dr. Anita Bhandari,

Fellowship

the Pediatric Pulmonary Fellowship graduated Dr. Anne McLaughlin in June 2015. Dr. McLaughlin stayed on at Connecticut Children's as a junior faculty member in the Division of Pulmonology.

In December 2017, the program successfully matched Dr. Jamie Harris who will join the program in July 2018. He is completing his residency at Advocate Lutheran General Hospital in Illinois. He completed his medical school education at Ross University School of Medicine, Dominica.

Pediatric General Surgery

Led by Connecticut Children's Surgeon-in-Chief and program director Dr. Christine Finck and associate program director Dr. Richard Weiss, the fellowship program in Pediatric General Surgery is in its sixth year. To date, three fellows have graduated from the program and have gone on to successful practices in Eugene, OR, Hershey, PA, and Chicago, IL.

The program successfully graduated Dr. Yue-Yung Hu in July 2017. Dr. Yue-Yung Hu took a faculty position at Lurie Children's Hospital in Chicago where she will be practicing pediatric surgery and engaging in clinical research.

The program's newest fellow, Dr. James Healy, joined Connecticut Children's in August 2017 after completing his general surgery residency at the Yale School of Medicine. Dr. Healy has a basic science background in the molecular genetics of endocrine tumors, and a strong interest in clinical quality improvement (QI) initiatives within Pediatric Surgery including: risk assessment, collaborative implementation, trials of best practices, and design of workforce education to achieve clinical improvement (including resident education). This interest extends to include the application of QI techniques to global surgery initiatives to improve quantification of impact and mathematical validation of social and economic benefit of health care spending in low and middle income nations. He is interested in the intersection of this quality improvement work with public policy, and the influence political initiatives have upon pediatric health.

PUBLICATIONS

Healy JM, Maxfield MW, Solomon DG, Longo WE, Yoo PS. Beyond 250: a comprehensive strategy to maximize the operative experience for junior residents. *J Surg Edu*. 2017 Oct 30. PMID: 29097172.

Healy JM, Davis KA, Pei KY. Comparison of internal medicine and general surgery residents' assessments of risk of postsurgical complications in surgically complex patients. *JAMA Surg*. 2017 Oct 11. PMID: 29049425.

Cairo S, Kakembo N, Kisa P, Muzira A, Cheung M, **Healy JM**, Ozgediz D, Sekabira J. Disparity in access and outcomes for emergency neonatal surgery: intestinal atresia in Kampala, Uganda. *Pediatr Surg Int*. 2017 Aug. PMID: 28677072.

Urology

The Pediatric Urology Fellowship Program welcomed Dr. Carlos Medina as the new program director in November 2016. In March 2017, he successfully facilitated the program's ACGME site visit. Due to low index case volumes, re-accreditation for the program will be pursued in the upcoming year.

In June 2017, Dr. Gina Lockwood completed her two-year fellowship training. While at Connecticut Children's, she received her master's degree in clinical and translational research at the University of Connecticut. During her non-clinical year, she focused on quality and safety projects. She accepted a position on the faculty at the University of Iowa.

Lily Wang, MD, joined the division in July 2016 after completing the residency program at Brady Department of Urology, Weill Cornell Medical College, New York, NY. In July 2017, she transferred to the Pediatric Urology Fellowship Program at Baylor College of Medicine in Houston, TX, where she will complete her fellowship training.

Fellowship

Program Leadership

Marianne Custer, BS, C-TAGME
Fellowship Program Manager

Program Coordinators

Lindsay Haythorn
*Emergency Medicine, Infectious Diseases, Pulmonology,
General Surgery*

Amanda Ross
*Anesthesiology, Endocrinology, Neonatal-Perinatal
Medicine, Orthopaedic Surgery*

Kierstyn Callahan
Hematology/Oncology, Gastroenterology, Medical Genetics

Jack Wakefield
*Gastroenterology, Medical Genetics
(retired September 2017)*

Anesthesiology

Program Director, Michael Archambault, MD
Thomas Manning, MD

Emergency Medicine

Program Director, V. Matt Laurich, MD

Kathryn Kasmire, MD

Karl Hellstrand, MD

Laurie Malia, DO

Hannah Sneller, MD

Noah Jablow, MD

Tasha Desai, DO

Noah Jablow, MD

Prina Patel, MD

Endocrinology

*Program Director, Rebecca Riba-Wolman, MD (May
2017)*

Program Director, Paola Palma Sisto, MD (2014-2017)

Shrinkhala Srivastava, MD

Tricia Pinto, MD

Massiel Sarmiento, MD

Whei Ying Lim, MD

Gastroenterology

Program Director, Wael Sayej, MD

Victoria Grossi, DO

Angela Pressley-Wallace, MD

Temara Hajjat, MD

Andrew Fondell, MD

Pediatric General Surgery

Program Director, Christine Finck, MD

Yue-Yung Hu, MD

James Healy, MD

Neonatology

Program Director, Jennifer Trzaski, MD (July 2017)

Program Director, James Hagadorn, MD (2011-2017)

Kendall Johnson, MD

Maushumi Assad, MD

Susan Pitts, DO

Jennifer Caldwell, MD, PhD

Betté Ford, MD

Rachel Koski, MD

Orthopaedic Surgery

Program Director, Mark Lee, MD

Alvin Wei-I Su, MD

Urology

Program Director, Carlos Medina, MD

Gina Lockwood, MD

Lily Wang, MD

Grants & Contracts

| Activity # | Principal Investigator | Award Title | Funding Source Primary/ Secondary | Start Date of Reported Award | End Date of Reported Award | Amount of Total Award | Year# of # of Award Years | Subcontract to UCHC/ CCMC? | Amount of Subcontract |
|------------|------------------------|--|---|---------------------------------------|----------------------------------|--------------------------|---------------------------------|----------------------------------|--------------------------|
| 180380 | Acsadi, Gyula | Muscular Dystrophy Care Center | Muscular Dystrophy Association | 1/1/17 | 12/31/17 | \$20,000.00 | 1 of 2 | n/a | n/a |
| 180833 | Acsadi, Gyula | An Open-label, Multicenter, 48-Week Study with a Concurrent Untreated Control Arm to Evaluate the Efficacy and Safety of Eteplirsen in Duchenne Muscular Dystrophy | Sarepta Therapeutics, Inc | 1/1/17 | 12/31/17 | \$59,463.20 | 4 of 5 | n/a | n/a |
| 180840 | Acsadi, Gyula | A Phase 2, Randomized, Double-blind, Sham-procedure Controlled Study to Assess the Safety and Tolerability and Explore the Efficacy of ISIS 396443 (BIIB058) Administered Intrathecally in Subjects with Spinal Muscular Atrophy Who Are Not Eligible to Participate in the Clinical Studies ISIS 396443-CS3B or ISIS 396443-CS4 | Biogen Idec MA, Inc | 1/1/17 | 12/31/17 | \$49,955.00 | 3 of 4 | n/a | n/a |
| 179372 | Bennett, Nicholas | A Registry of Patients with Primary Immune Deficiency Disorders | United States Immunodeficiency Network | 1/1/17 | 12/31/17 | \$- | 4 of 5 | n/a | n/a |
| 180821 | Bennett, Nicholas | A Multicenter, Randomized, Double-blinded Comparative Study to Evaluate the Efficacy, Safety, and Pharmacokinetics of Daptomycin Versus Active Comparator in Pediatric Subjects with Acute Hematogenous Osteomyelitis Due to Gram-Positive Organisms | Cubist Pharmaceuticals, Inc | 1/1/17 | 12/31/17 | \$29,904.19 | 5 of 6 | n/a | n/a |
| 180831 | Bennett, Nicholas | A Phase 1, Open Label, Single Dose Study to Investigate the Pharmacokinetics, Safety and Tolerability of Dalbavancin in Hospitalized Children Aged 3 Months to 11 Years Receiving Standard Intravenous Anti-Infective Treatment for Bacterial Infections | Durata Therapeutics International, B | 1/1/17 | 12/31/17 | \$- | 3 of 4 | n/a | n/a |
| 180849 | Bennett, Nicholas | Pharmacokinetics of a Single-dose of Dalbavancin in Preterm Neonates to Infants Ages 3 Months with Suspected or Confirmed Bacterial Infection | Allergan Sales, LLC | 1/1/17 | 12/31/17 | \$11,000.00 | 2 of 3 | n/a | n/a |
| 180851 | Bennett, Nicholas | A Prospective, Open-label Study to Assess the Pharmacokinetics, Safety & Efficacy of Anidulafungin When Used to Treat Children with Invasive Candidiasis, Including Candidemia | Pfizer, Inc. | 1/1/17 | 12/31/17 | \$11,000.00 | 1 of 2 | n/a | n/a |
| 180855 | Bennett, Nicholas | Expanded Access IND Program (EAP) to Provide Stamaril Vaccine to Persons in the United States for Vaccination Against Yellow Fever | Sanofi Pasteur | 6/15/17 | 12/31/17 | \$1,500.00 | 1 of 2 | n/a | n/a |
| 179671 | Boruchov, Donna | Sickle Cell Disease Program | CT/DPH | 7/1/17 | 12/31/17 | \$101,348.00 | 1 of 1 | n/a | n/a |
| 180265 | Boruchov, Donna | My Life Our Future | Biogen Idec (ATHN) | 1/1/17 | 12/31/17 | \$1,850.00 | 4 of 4 | n/a | n/a |
| 180348 | Boruchov, Donna | Data Quality Counts | ATHN | 1/1/17 | 12/31/17 | \$29,000.00 | 2 of 2 | n/a | n/a |
| 180391 | Boruchov, Donna | Data Quality Counts | ATHN | 7/1/17 | 12/31/17 | \$2,500.00 | 1 of 2 | n/a | n/a |
| 180800 | Boruchov, Donna | A Phase I/III Open-label, Multicenter, Crossover Safety, Efficacy and Pharmacokinetic Study of Recombinant Coagulation Factor VIII (rFVIII) Compared to Recombinant Human Antihemophilic Factor VIII (rFVII); INN: octocog alfa) in Subjects with Hemophilia A, and a Repeat PK, Safety and Efficacy Study (Part 3) | CSL Behring, LLC | 1/1/17 | 12/31/17 | \$- | 4 of 5 | n/a | n/a |
| 180812 | Boruchov, Donna | H7T MC TADO Phase 3, Double-blind, Randomized, Efficacy and Safety Comparison of Prasugrel and Placebo in Pediatric Patients with Sickle Cell Disease | Eli Lilly | 1/1/17 | 12/31/17 | \$- | 4 of 5 | n/a | n/a |
| 180819 | 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 | 1/1/17 | 12/31/17 | \$- | 5 of 6 | n/a | n/a |
| 180827 | Boruchov, Donna | A Phase III Open-label, Multicenter, Extension Study to Assess the Safety & Efficacy of Recombinant Coagulation Factor VII CSL627 in Subjects with Severe Hemophilia A | CSL Behring, LLC | 1/1/17 | 12/31/17 | \$- | 5 of 6 | n/a | n/a |
| 180832 | Boruchov, Donna | A Phase III Open-label Pharmacokinetic, Efficacy and Safety Study of rVIII-Single Chain in a Pediatric Population with Severe Hemophilia A | CSL Behring, LLC | 1/1/17 | 12/31/17 | \$- | 3 of 4 | n/a | n/a |
| 180860 | Boruchov, Donna | A Phase 3, Double-blind, Randomized, Placebo-controlled, Multicenter Study of GBT440 Administered Orally to Patients With Sickle Cell Disease | Global Blood Therapeutics | 9/25/17 | 12/31/17 | \$- | 1 of 2 | n/a | n/a |
| 180342 | Campbell, Brendan | Intimate Partner Violence (IPV) Screening, Brief Intervention, and Referral for Services | Connecticut Institute for Clinical & Translational Science (CICATS) | 1/1/17 | 6/30/17 | \$- | 2 of 2 | n/a | n/a |
| 179466 | Carroll, Christopher | Translational Center for Child Maltreatment Studies | DHHS/NIH (Penn State) | 4/20/17 | 12/31/17 | \$6,968.82 | 1 of 3 | n/a | n/a |

Grants & Contracts

| Activity # | Principal Investigator | Award Title | Funding Source Primary/ Secondary | Start Date of Reported Award | End Date of Reported Award | Amount of Total Award | Year# of # of Award Years | Subcontract to UCHC/ CCMC? | Amount of Subcontract |
|---------------|------------------------------|--|--|---------------------------------------|----------------------------------|--------------------------|---------------------------------|----------------------------------|--------------------------|
| 180383 | Carroll, Christopher | Decreasing Antibiotic Exposure in Infants with Suspected Ventilator-associated Infection | Gerber Fdn, VCU | 3/1/17 | 12/31/17 | \$4,000.00 | 1 of 2 | n/a | n/a |
| 180408 | Carroll, Christopher | Translational Center for Child Maltreatment Studies | Penn State | 4/20/17 | 12/31/17 | \$3,375.00 | 1 of 2 | n/a | n/a |
| 180836 | Carroll, Christopher | A Randomized, Open-label, Active Controlled, Safety and Extrapolated Efficacy Study in Pediatric Subjects Requiring Anticoagulation for the Treatment of a Venous Thromboembolic Event | Bristol Meyers Squibb /Pfizer, Inc | 1/1/17 | 12/31/17 | \$- | 2 of 3 | n/a | n/a |
| 180284 | Chaudhry, Sonia | Simple Bone Cysts in Kids | CIHR/Toronto Hospital for Sick Children | 1/1/17 | 12/31/17 | \$- | 3 of 4 | n/a | n/a |
| 179399 | Cloutier, Michelle | The Asthma Neighborhood | DHHS/NIH/NHBLI | 1/1/17 | 8/31/17 | \$- | 3 of 3 | UCHC | \$- |
| 180312 | Davey, Brooke | T-Cell Receptor Excision Circles: A Novel Approach to Identify Immunodeficiency in Newborns with Congenital Heart Disease | New England Congenital Cardiology Research Fdn | 1/1/17 | 7/31/17 | \$12,500.00 | 2 of 2 | n/a | n/a |
| 180841 | Davidovics, Zev | A Randomized, Double-blind, Controlled, Clinical Trial to Evaluate the Risk of Developing Essential Fatty Acid Deficiency in Pediatric Patients, Including Neonates, Receiving Either Clinolipid (lipid injectable emulsion, USP) 20% or Standard-of-Care Soybean Oil-based Lipid Emulsion | Baxter Healthcare Corp | 1/1/17 | 12/31/17 | \$- | 3 of 4 | n/a | n/a |
| 180847 | Davidovics, Zev | A Multi-Center, Randomized, Double-blind, Three-arm, Parallel-group Trial to Assess the Efficacy and Safety of NTRA-9620 in Infants with Short Bowel Syndrome (SBS) Following Surgical Resection (GIFT-02) | Nutrinia, Ltd. | 1/1/17 | 12/31/17 | \$3,000.00 | 2 of 3 | n/a | n/a |
| 179256 | Demirci, Cem | Type 1 Diabetes TrialNet | DHHS/NIH/NIDDK (Univ South Florida) | 1/1/17 | 12/31/17 | \$4,155.00 | 7 of 8 | n/a | n/a |
| 180814 | DiMario, Francis | A Three-arm, Randomized, Double-blind, Placebo-controlled Study of the Efficacy and Safety of Two Trough-ranges of Everolimus as Adjunctive Therapy in Patients with Tuberous Sclerosis Complex (TSC) Who Have Refractory Partial-onset Seizures | Novartis Pharmaceuticals Corp | 1/1/17 | 12/31/17 | \$6,148.00 | 4 of 5 | n/a | n/a |
| 180856 | DiMario, Francis | An Open-label, Multicenter Long-term Safety Roll-over Study in Patients with Tuberous Sclerosis Complex (TSC) and Refractory Seizures Who Are Judged by the Investigator to Benefit from Continued Treatment with Everolimus After Completion of Study | Novartis Pharmaceuticals Corp | 7/25/17 | 12/31/17 | \$13,738.00 | 1 of 2 | n/a | n/a |
| 179381 | DuMont-Mathieu, Thyde | Early Detection of Autism | DHHS/NIH (Drexel Univ) | 1/1/17 | 12/31/17 | \$7,778.97 | 3 of 4 | n/a | n/a |
| 179463 | DuMont-Mathieu, Thyde | Connecting the Dots: An RCT Relating Standardized ASD Screening, Intervention Access, and Long-term Outcomes | DHHS/NIH (Drexel Univ) | 10/1/17 | 12/31/17 | \$10,685.00 | 1 of 5 | n/a | n/a |
| 180333 | DuMont-Mathieu, Thyde | Strategies to Promote Culturally Effective Screening Referral and Service Provision in Primary Care Practices and Birth-to-Three | Connecticut Health Fdn | 1/1/17 | 6/30/17 | \$- | 2 of 2 | n/a | n/a |
| 180384 n/a | DuMont-Mathieu, Thyde n/a | Bridging the Gap: Early Intervention for Underserved Children within the Medical Home | | | CT Health Fdn | 7/1/17 | 12/31/17 | \$- | 1 of 2 |
| 180850 | Dunbar, Nancy | An Observational, Longitudinal, Prospective, Long-term Registry of Patients with Hypophosphatasia | Alexion Pharmaceuticals, Inc. | 1/1/17 | 12/31/17 | \$11,262.80 | 2 of 3 | n/a | n/a |
| 179452 | Dworkin, Paul | Children and Youth with Special Health Care Needs | DHHS/HRSA/CT/DPH | 7/1/17 | 12/31/17 | \$20,000.00 | 1 of 1 | n/a | n/a |
| 180271 | Dworkin, Paul | Use of a National Affiliate Network to Diffuse System Innovation to Promote Vulnerable Children's Optimal Healthy Development | WK Kellogg Fdn | 1/1/17 | 6/30/17 | \$- | 4 of 4 | n/a | n/a |
| 180319 | Dworkin, Paul | Enhancing Pediatric Capacity to Mitigate the Impact of Toxic Stress | JPB Fdn | 1/1/17 | 12/31/17 | \$610,000.00 | 3 of 3 | n/a | n/a |
| 180360 | Dworkin, Paul | The Office for Community Child Health (OCCCH): A Model for Children's Hospitals to Elevate Their Status as Critical Community Resources | Hearst Fdn | 1/1/17 | 10/31/17 | \$- | 1 of 1 | n/a | n/a |
| 180370 | Dworkin, Paul | Applying Technological Innovations to Support Family Engagement in Developmental Promotion, Early Detection, and Referral and Linkage to Community Resources | Aetna Fdn | 4/1/17 | 12/31/17 | \$150,000.00 | 1 of 1 | n/a | n/a |
| 180381 | Dworkin, Paul | Implementing a Component of the Hartford Blueprint for Women's & Children's Health: Building Early Childhood Providers' Capacity to Strengthen Families Through Developmental Promotion, Early Detection, and Linkage to Services | Hartford Fdn for Public Giving | 4/1/17 | 12/31/17 | \$96,695.00 | 1 of 3 | n/a | n/a |

Grants & Contracts

| Activity # | Principal Investigator | Award Title | Funding Source Primary/ Secondary | Start Date of Reported Award | End Date of Reported Award | Amount of Total Award | Year# of # of Award Years | Subcontract to UCHC/ CCMC? | Amount of Subcontract |
|------------|-----------------------------|--|---|------------------------------|----------------------------|-----------------------|---------------------------|----------------------------|-----------------------|
| 180740 | Emerick, Karan | Evaluation of the Pharmacokinetics, Safety, Tolerability and Efficacy of Entecavir in Pediatric Subjects with Chronic Hepatitis B Virus Who Are HB3AG-Positive | Bristol Myers Squibb | 1/1/17 | 12/31/17 | \$- | 9 of 10 | n/a | n/a |
| 180780 | Emerick, Karan | A Comparative Study of the Antiviral Efficacy and Safety of Entecavir (ETV) Versus Placebo in Pediatric Subjects with Chronic Hepatitis B Virus Infection | Bristol Myers Squibb | 1/1/17 | 12/31/17 | \$30,074.85 | 8 of 9 | n/a | n/a |
| 179457 | Finck, Christine | Immune Evasion in Embryonic Stem Cell-based Tissue Repair and Transplantation | DHHS/NIH (UCHC) | 4/1/17 | 12/31/17 | \$59,439.00 | 3 of 5 | n/a | n/a |
| 180277 | Finck, Christine | Use of Neonatal Human-induced Pluripotent Stem Cells and Human Embryonic Stem Cells in Hyperoxia-induced Lung Injury | CT Innovations/ Jackson Laboratories (UCHC) | 1/1/17 | 12/31/17 | \$150,000.00 | 3 of 5 | CCMC | \$18,223.00 |
| 180357 | Finck, Christine | Engineering and Implantation of a Patient-Specific Esophageal Construct for the Treatment of Esophageal Defects and Disease | Biostage, Inc. | 1/1/17 | 9/30/17 | \$- | 2 of 2 | UCHC | \$- |
| CCMC FDN | Finck, Christine | Pediatric Esophageal Regeneration with a Focus on Atresia | Biostage, Inc. | 5/31/2017 | 12/31/17 | \$422,000.00 | 1 of 2 | n/a | n/a |
| 179462 | Flores, Glenn | APA Research in Academic Pediatrics Initiative on Diversity (RAPID) | DHHS/NIH (APA) | 8/14/17 | 12/31/17 | \$35,803.00 | 1 of 2 | n/a | n/a |
| 179437 | Germain-Lee, Emily | The Role of G Protein-coupled Signaling in Neurocognitive and Psychosocial Abnormalities | NIH/NICHD (UCHC) | 1/1/17 | 12/31/17 | \$- | 2 of 2 | CCMC | \$- |
| UCHC | Germain-Lee, Emily | TGF-beta Family Members and Their Binding Proteins in Aging Skeletal Muscle | DHHS/NIH/NIA (UCHC) | 9/15/17 | 12/31/17 | \$187,000.00 | 1 of 5 | n/a | n/a |
| 179455 | Guite, Jessica | Multi-site Randomized Clinical Trial of FIT Teens for Juvenile Fibromyalgia | DHHS/NIH/NIAMS (CCHMC) | 6/1/17 | 12/31/17 | \$172,397.00 | 1 of 2 | n/a | n/a |
| 179669 | Haile, Jennifer | Lead Program | CT/DPH | 7/1/17 | 12/31/17 | \$19,051.00 | 1 of 1 | n/a | n/a |
| | Hawley, K | Elucidating Innate and Adaptive Immune Interplay in Human Syphilis | Patterson Trust | 4/1/17 | 3/31/18 | \$45,000 | 2 of 2 | X | X |
| 180804 | Heller, Felice | Adult Congenital Heart Disease Enhancement Clinical Research Initiative | Actelion Pharma USA | 1/1/17 | 12/31/17 | \$- | 5 of 6 | n/a | n/a |
| 179376 | Hussain, Naveed | Antibiotic Safety in Infants | DHHS/NIH (Duke Univ) | 1/1/17 | 12/31/17 | \$4,600.00 | 4 of 5 | n/a | n/a |
| 180846 | Hussain, Naveed | A Multicenter, Double-blind, Randomized, Single-dose, active-controlled Study to Investigate the Efficacy and Safety of Synthetic Surfactant (CHF 5633) in Comparison to Porcine Surfactant (Poractant Alfa, Curosurf) in the Treatment of Preterm Neonates with Respiratory Distress Syndrome | Chiesi Farmaceutici S.p.A. | 1/1/17 | 12/31/17 | \$- | 2 of 3 | n/a | n/a |
| 179296 | Hyams, Jeffrey | Predicting Response to Standard Pediatric Colitis Therapy: The PROTECT study | DHHS/NIH/NIDDK | 1/1/17 | 12/31/17 | \$- | 6 of 6 | n/a | n/a |
| 180332 | Hyams, Jeffrey | Anti-TNF Therapy for Refractory Colitis in Hospitalized Children ("ARCH") | CCFA (CCHMC) | 1/1/17 | 12/31/17 | \$6,600.00 | 3 of 4 | n/a | n/a |
| 180361 | 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 | 1/1/17 | 12/31/17 | \$2,850.00 | 2 of 3 | n/a | n/a |
| 180368 | Hyams, Jeffrey | Causes and Consequences of Neutrophil Dysfunction in Early Onset Crohn's Disease | DHHS/NIH/NIDDK (Emory Univ) | 1/1/17 | 12/31/17 | \$- | 2 of 3 | n/a | n/a |
| 180397 | Hyams, Jeffrey IBD (Refine) | A Multicenter Observational Study Targeting the Inflammatory Signature to Personalize Biologics in Pediatric CCFA (CCHMC) | | 4/18/17 | 12/31/17 | \$- | 1 of 2 | n/a | n/a |
| 180725 | Hyams, Jeffrey | A Multicenter, Prospective, Long-term, Observational Registry of Pediatric Patients with Inflammatory Bowel Disease | Janssen Services, LLC | 1/1/17 | 12/31/17 | \$202,147.00 | 9 of 10 | n/a | n/a |
| 180753 | Hyams, Jeffrey | Investigative Natalizumab Through Further Observational Research and Monitoring Phase IV Registry | Elan Pharmaceuticals | 1/1/17 | 12/31/17 | \$- | 8 of 9 | n/a | n/a |
| 180756 | Hyams, Jeffrey | Risk Stratification and Identification of Immunogenetic and Microbial Markers of Rapid Disease Progression in Children with Crohn's Disease | CCFA (Emory U) | 1/1/17 | 12/31/17 | \$8,800.00 | 8 of 9 | n/a | n/a |
| 180777 | Hyams, Jeffrey | A Multidisciplinary Human Study on the Genetic, Environmental, and Microbial Interactions that Cause IBD | CCFC (Mt. Sinai Hosp) | 1/1/17 | 12/31/17 | \$16,403.00 | 7 of 10 | n/a | n/a |
| 180808 | Hyams, Jeffrey | The ImageKids Study | Shaare Zekeq Medical Ctr | 1/1/17 | 12/31/17 | \$- | 5 of 6 | n/a | n/a |
| 180815 | Hyams, Jeffrey | A Phase 1b Open-label Study to Assess the Safety and Pharmacokinetics of Subcutaneously Administered Golimumab, a Human anti-TNF Antibody, in Pediatric Subjects with Moderately to Severely Active Ulcerative Colitis | Janssen Research & Development LLC | 1/1/17 | 12/31/17 | \$24,152.37 | 5 of 6 | n/a | n/a |
| 180830 | Hyams, Jeffrey | Safety, and Tolerability of Serum-derived Bovine Immunoglobulin in Children with Diarrhea-predominant Irritable Bowel Syndrome | Entera Health | 1/1/17 | 12/31/17 | \$- | 4 of 5 | n/a | n/a |

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|------------|------------------------|--|---|------------------------------|----------------------------|-----------------------|---------------------------|---------------------------|-----------------------|
| 180839 | 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, Inc | 1/1/17 | 12/31/17 | \$25,355.68 | 3 of 4 | n/a | n/a |
| 180843 | Hyams, Jeffrey | A Phase 4, Multicenter, Open-label Study of Serum Infliximab Concentrations and Efficacy and Safety of Dose Escalation in Pediatric Patients with Inflammatory Bowel Disease | Janssen Research & Development LLC | 1/1/17 | 12/31/17 | \$14,500.00 | 3 of 4 | n/a | n/a |
| 180857 | Hyams, Jeffrey | A Phase 3, Randomized, Double-blind, Placebo-controlled, Multicenter Study to Investigate the Efficacy and Safety of Mongsersen (GED-0301) for the Treatment of Adults and Adolescent Subjects with Active Crohn's Disease | Celgene, Inc. | 8/17/17 | 12/31/17 | \$8,000.00 | 1 of 2 | n/a | n/a |
| 180858 | Hyams, Jeffrey | A Randomized Double-blind Pharmacokinetic Study of Ustekinumab in Pediatric Subjects with Moderately to Severely Active Crohn's Disease | Janssen Research & Development, LLC | 6/16/17 | 12/31/17 | \$7,500.00 | 1 of 2 | n/a | n/a |
| 180859 | 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. | 9/22/17 | 12/31/17 | \$16,360.00 | 1 of 2 | n/a | n/a |
| 180863 | 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. | 10/3/17 | 12/31/17 | \$- | 1 of 2 | n/a | n/a |
| 179356 | Isakoff, Michael | National Clinical Trials Network Grant National Clinical Trials Network Grant | "DHHS/NIH/NCI/COG (CHOP)" | 1/1/17 | 12/31/17 | \$3,000.00 | 5 of 6 | n/a | n/a |
| 179357 | Isakoff, Michael | Children's Oncology Group Federally Sponsored Studies - Per Case Reimbursement | DHHS/NIH/NCI/COG (CHOP) | 1/1/17 | 12/31/17 | \$70,850.00 | 3 of 4 | n/a | n/a |
| 179374 | Isakoff, Michael | Study Chair National Clinical Trials Network Grant | "DHHS/NIH/NCI/COG (CHOP)" | 1/1/17 | 12/31/17 | \$7,805.00 | 4 of 5 | na | na |
| 180206 | Isakoff, Michael | Neuroblastoma and Medulloblastoma Translational Research Consortium Sponsored Studies | Spectrum Health | 1/1/17 | 12/31/17 | \$- | 7 of 8 | n/a | n/a |
| 180213 | Isakoff, Michael | Children's Oncology Group Industry Sponsored Studies - Per Case Reimbursement | COG (CHOP) | 1/1/17 | 12/31/17 | \$84,000.00 | 5 of 6 | n/a | n/a |
| 180250 | Isakoff, Michael | Moffitt Institute Sponsored Studies - Per Case Reimbursement | H. Lee Moffitt Cancer Center and Research Institute Hospital, Inc | 1/1/17 | 12/31/17 | \$21,224.00 | 5 of 6 | n/a | n/a |
| 180382 | Isakoff, Michael | Project Everychild | COG Foundation (CHOP) | 2/22/2017 | 12/31/17 | \$- | 1 of 2 | n/a | n/a |
| 180325 | Kalsner, Louisa | Adaptive Clinical Genomics for Precision Medicine | CBIF (The Jackson Laboratories) | 1/1/17 | 12/31/17 | \$38,717.00 | 2 of 3 | n/a | n/a |
| 180349 | Kalsner, Louisa | TSC2 Variants Without Clinical Findings of Tuberous Sclerosis Complex as a Risk Factor for Idiopathic Autism Spectrum Disorder | UCONN Storrs | 1/1/17 | 12/31/17 | \$2,980.00 | 2 of 3 | n/a | n/a |
| 180404 | Kavanagh, Katherine | Development of a Local Women Otolaryngology (LWIO) Interest Group | American Academy of Otolaryngology | 6/30/17 | 12/31/17 | \$2,540.00 | 1 of 1 | n/a | n/a |
| 179465 | Lainwala, Shabnam | Multi-omics Analysis of Pain/Stress Impact on Neurodevelopment in Preterm Infants | DHHS/NIH/NIH/NINR (UCONN Storrs) | 9/14/17 | 12/31/17 | \$85,388.00 | 1 of 5 | n/a | n/a |
| 180779 | Lainwala, Shabnam | Phase III, Inhaled Nitric Oxide for the Treatment of Bronchopulmonary Dysplasia (BPD) in Pre-term Infants Requiring Mechanical Ventilation or Positive Pressure Support on Days 5 - 14 After Birth | INO Therapeutics, LLC | 1/1/17 | 12/31/17 | \$- | 7 of 8 | n/a | n/a |
| 180351 | Lapin, Craig | Care Center Award | Cystic Fibrosis Fdn | 1/1/17 | 6/30/17 | \$- | 2 of 2 | n/a | n/a |
| 180376 | Lapin, Craig | Mental Health Coordinator | Cystic Fibrosis Therapeutics | 1/1/17 | 12/31/17 | \$49,687.00 | 1 of 1 | n/a | n/a |
| 180378 | Lapin, Craig | Therapeutic Development Center | Cystic Fibrosis Therapeutics | 1/1/17 | 12/31/17 | \$66,852.00 | 1 of 1 | n/a | n/a |
| 180386 | Lapin, Craig | Care Center Award | CF Fdn | 7/1/17 | 12/31/17 | \$- | 1 of 2 | n/a | n/a |
| 180399 | Lapin, Craig | A Multicenter, Placebo-controlled, Double-blind, Randomized Study Evaluating the Role of Oral Glutathione on Growth Parameters in Children with Cystic Fibrosis | CFFT (Seattle Children's) | 9/1/17 | 12/31/17 | \$8,802.00 | 1 of 2 | n/a | n/a |
| 180770 | Lapin, Craig | Controlled Trial of Two Adherence Promotion Interventions for Cystic Fibrosis, [I Change Adherence and Raise Expectations (ICARE)] | Novartis Pharmaceuticals Corp (Univ Miami) | 1/1/17 | 12/31/17 | \$- | 8 of 9 | n/a | n/a |
| 180801 | Lapin, Craig | A Long-term Prospective Observational Safety Study of the Incidence of and Risk Factors for Fibrosing Colonopathy in US Patients with Cystic Fibrosis Treated with Pancreatic Enzyme Replacement Therapy | Seattle Children's Hosp | 1/1/17 | 12/31/17 | \$3,154.00 | 5 of 6 | n/a | n/a |

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|------------|------------------------|--|--|------------------------------|----------------------------|-----------------------|---------------------------|----------------------------|-----------------------|
| 180803 | Lapin, Craig | A Phase 3, Two-arm, Rollover Study to Evaluate the Safety of Long-Term Ivacaftor Treatment in Subjects 6 Years of Age and Older with Cystic Fibrosis and a Non-G551D CFTR Mutation | Vertex Pharmaceuticals | 1/1/17 | 12/31/17 | \$- | 4 of 5 | n/a | n/a |
| 180811 | Lapin, Craig | A Phase 3, Randomized, Double-blind, Placebo-controlled, Parallel Group Study to Evaluate the Efficacy and Safety of Lumacaftor in Combination with Ivacaftor in Subjects Aged 12 Years and Older with Cystic Fibrosis, Homozygous for the F508del-CFTR Mutation | Vertex Pharmaceuticals | 1/1/17 | 12/31/17 | \$- | 4 of 5 | n/a | n/a |
| 180816 | Lapin, Craig | A Point-Prevalence Study to Evaluate the Prevalence of Antibodies to Selected Porcine Viruses in Patients with Cystic Fibrosis Who Are Receiving Porcine-derived Pancreatic Enzyme Replacement Therapy: A Harmonized Protocol Across Sponsors | AbbVie, Inc; Aptalis Pharma, Inc; Janssen Research & Development LLC | 1/1/17 | 12/31/17 | \$18,150.00 | 5 of 6 | n/a | n/a |
| 180820 | Lapin, Craig | A Phase 3, Rollover Study to Evaluate the Safety and Efficacy of Long-term Treatment With Lumacaftor in Combination With Ivacaftor in Subjects Aged 12 Years and Older With Cystic Fibrosis, Homozygous or Heterozygous for the F508del-CFTR Mutation | Vertex Pharmaceuticals | 1/1/17 | 12/31/17 | \$- | 5 of 6 | n/a | n/a |
| 180848 | Lapin, Craig | A Phase 4, Open-label Treatment, Randomized, Multicenter, 2-arm, Parallel-group, Pilot Study of Adherence to Lumacaftor/Ivacaftor in CF Subjects Homozygous for the F508del-CFTR Mutation | Vertex Pharmaceuticals | 1/1/17 | 12/31/17 | \$275,150.00 | 2 of 3 | n/a | n/a |
| | Lee, Y | Comparison of Vectors and Optimization of Dosages for Renal Vein Injection Method in GSD-1a Mice | Dimension Therapeutics, Inc. | 5/1/17 | 4/30/18 | \$250,000 | 1 of 2 | x | x |
| 180837 | Madan-Cohen, Jennifer | An Open-label, Phase I, Pharmacokinetic Study of Single Doses of Intranasal Midazolam (USL261) in Pediatric Subjects with Epilepsy | Upsher-Smith Laboratories, Inc | 1/1/17 | 12/31/17 | \$- | 3 of 4 | n/a | n/a |
| 180838 | Madan-Cohen, Jennifer | A Randomized, Double-blind, Placebo-controlled Study to Investigate the Efficacy and Safety of Cannabidiol (GWP42003-P; CBD) as Adjunctive Treatment for Seizures Associated with Lennox-Gastaut Syndrome in Children and Adults | GW Research Ltd | 1/1/17 | 12/31/17 | \$5,500.00 | 3 of 4 | n/a | n/a |
| 180842 | Madan-Cohen, Jennifer | A Randomized, Double-blind, Placebo-controlled Study to Investigate the Efficacy and Safety of Cannabidiol (GWP42003-P) in Children and Young Adults with Dravet Syndrome | GW Research Ltd | 1/1/17 | 12/31/17 | \$36,765.12 | 3 of 4 | n/a | n/a |
| 180844 | Madan-Cohen, Jennifer | An Open-label Extension Study to Investigate the Safety of Cannabidiol (GWP42003-P; CBD) in Children and Adults with Inadequately Controlled Dravet or Lennox-Gastaut Syndromes | GW Research Ltd | 1/1/17 | 12/31/17 | \$14,187.36 | 3 of 4 | n/a | n/a |
| 180388 | Mason, Sherene | Maintenance Therapy Withdrawal of Mycophenolate Mofetil in Pediatric Proliferative Lupus Nephritis: A Multicentered Retrospective Cohort Study | CARRA | 4/21/2017 | 12/31/17 | \$- | 1 of 2 | n/a | n/a |
| UCHC | Matson, Adam | Multi-Omics Analysis of Pain/Stress Impact on Neurodevelopment in Preterm Infants | DHHS/NIH/NINR (UCONN Storrs) | 9/14/17 | 12/31/17 | \$87,023.00 | 1 of 5 | n/a | n/a |
| 178591 | Ohannessian, Christine | Psychosocial Predictors of Gender Differences in Adolescent Depression and Anxiety | Alvord Educational Fdn | 10/1/2017 | 12/31/17 | \$15,000.00 | 1 of 2 | n/a | n/a |
| 179368 | Ohannessian, Christine | Treatment of Co-Occurring Alcohol Use Disorders and Depression/Anxiety Disorders | DHHS/NIH (UCHC) | 1/1/17 | 12/31/17 | \$7,364.00 | 4 of 5 | n/a | n/a |
| 179392 | Ohannessian, Christine | Bidirectional Effects Between Parental Work-Family Conflict and Adolescent Psychosocial Adjustment | DHHS/NSF | 1/1/17 | 12/31/17 | \$- | 3 of 3 | n/a | n/a |
| 180279 | Orsey, Andrea | Development and Validation of Pediatric Cancer-specific Symptom Screening and Assessment Tool | CIHR/Toronto Hospital for Sick Children | 1/1/17 | 12/31/17 | \$5,319.93 | 4 of 5 | n/a | n/a |
| 180339 | Orsey, Andrea | Thrombotic Thrombocytopenic Purpura (TPP) Registry | Baxalta (Univ Hosp of Bern) | 1/1/17 | 12/31/17 | \$2,100.00 | 2 of 2 | n/a | n/a |
| 180385 | Orsey, Andrea | A Validity Study of Integrated Care Delivery Guidelines for AIC | St. Baldrick's Fdn | 10/1/17 | 12/31/17 | \$50,000.00 | 1 of 2 | n/a | n/a |
| 180792 | Orsey, Andrea | An Open-label, Multicenter Study of the Safety of Twice Daily Oxycodone Hydrochloride Controlled-release Tablets in Opioid-experienced Children from Ages 6 to 16 Years Old | Purdue Pharma LP | 1/1/17 | 12/31/17 | \$- | 7 of 8 | n/a | n/a |
| 180829 | Ratzan, Susan | Answer Registry | Novo Nordisk | 1/1/17 | 12/31/17 | \$7250.00 | 4 of 5 | n/a | n/a |
| 180717 | Rubin, Karen | Girls Turner Syndrome | Eli Lilly | 1/1/17 | 12/31/17 | \$- | 9 of 12 | n/a | n/a |
| 179364 | Salazar, Juan | Mechanism of Impaired Mycobacteria Sensing by TLR2 & TLR4 Polymorphic Variants | DHHS/NIH/NIADA (UCHC) | 1/1/17 | 12/31/17 | \$- | 4 of 4 | n/a | n/a |
| 185012 | Salazar, Juan | Ryan White A | DHHS/HRSA (City of Hartford) | 3/1/17 | 12/31/17 | \$93,704.00 | 1 of 1 | UCHC | \$21,810.00 |
| | Salazar, Juan | Ryan White B | DPH | 4/1/17 | 3/31/18 | \$97,602 | 1 of 3 | X | X |

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| 185018 | Salazar, Juan | Ryan White D | DHHS/HRSA | 8/1/17 | 12/31/17 | \$478,008.00 | 1 of 3 | UCHC | \$223,052.00 |
| | Salazar, Juan | CT DPH HIV Prevention Interventions 2012 | DPH | 1/1/17 | 12/31/17 | \$128,335 | 5 of 5 | X | X |
| | Salazar, Juan | Hartford Teenage Pregnancy Prevention Initiative (HTPP) | DHHS/City of Hartford | 7/1/17 | 6/30/18 | \$20,000 | 5 of 5 | x | x |
| | Salazar, Juan | HIV/HCV Co-infection Project | DHHS/City of Hartford | 7/1/17 | 9/30/17 | \$14,076 | 1 of 1 | x | x |
| 180326 | Salazar, Olga | Establishing Cardiac Magnetic Resonance Imaging as the Standard Care for Childhood Cancer Patients | Hartford Fdn for Public Giving | 1/1/17 | 12/31/17 | \$- | 2 of 2 | n/a | n/a |
| 180304 | Santos, Melissa | Creating Pain and Weight Treatment | CHIP (UCONN Storrs) | 1/1/17 | 5/14/17 | \$- | 2 of 2 | n/a | n/a |
| 180862 | Sayej, Wael | Oral Budesonide Suspension (OBS) in Adolescent and Adult Subjects (11 to 55 Years of Age, Inclusive) with Eosinophilic Esophagitis: A Phase 3 Randomized, Double-blind, Placebo-controlled Study | Shire Human Genetic Therapies, INC. | 10/25/17 | 12/31/17 | \$- | 1 of 2 | n/a | n/a |
| 180864 | Sayej, Wael | Oral Budesonide Suspension (OBS) in Adolescent and Adult Subjects (11 to 55 Years of Age, Inclusive) with Eosinophilic Esophagitis: A Phase 3 Randomized, Double-blind, Placebo-controlled Study | Shire Human Genetic Therapies, INC. | 10/25/17 | 12/31/17 | \$- | 1 of 2 | n/a | n/a |
| 179375 | Silva, Cynthia | Integrative Proteomics & Metabolomics for Pediatric Glomerula Disease Biomarkers | "DHHS/NIH/NIAID (Nationwide Children's Hospital)" | 1/1/17 | 12/31/17 | \$8,175.00 | 4 of 5 | n/a | n/a |



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| 180337 | Silva, Cynthia | NephCure Kidney Foundation - CureGN | NephCure Kidney Fdn (Nationwide Children's Hospital) | 1/1/17 | 12/31/17 | \$1,000.00 | 2 of 3 | n/a | n/a |
| 180412 | Silva, Cynthia | Practice Pattern Outcomes in Acthar Use in Children with Nephrotic Syndrome | North American Pediatric Renal Transplant Cooperative Study | 11/9/2017 | 12/31/17 | \$- | 1 of 2 | n/a | n/a |
| 180407 | Silverman, Adam | Haitian Pediatric Critical Care Collaborative Training Course | CHEST Fdn | 9/15/17 | 12/31/17 | \$8,000.00 | 1 of 1 | n/a | n/a |
| 180328 | Simoneau, Tregony | Optimization of Home Oxygen Weaning in Premature Infants | Patient-Centered Outcomes Research Institute (Boston Children's) | 1/1/17 | 12/31/17 | \$1,000.00 | 3 of 4 | n/a | n/a |
| 180410 | Simoneau, Tregony | Identifying Biomarkers of Allergic Asthma | Patterson Trust | 10/1/17 | 12/31/17 | \$50,000.00 | 1 of 2 | n/a | n/a |
| 180379 | Tang-Schomer, Min | Development of a Functional Neuronal Circuit with Human Neurons In Vitro | UConn Center for Brain and Cognitive Sciences | 1/1/17 | 12/31/17 | \$14,673.00 | 1 of 1 | n/a | n/a |
| 180845 | Tory, Heather | Efficacy, Safety and Tolerability of Tofacitinib for Treatment of Polyarticular Course Juvenile Idiopathic Arthritis (JIA) in Children and Adolescent Subjects | Pfizer, Inc | 1/1/17 | 12/31/17 | \$18,830.98 | 2 of 3 | n/a | n/a |
| 180853 | Tory, Heather | A Long-term, Open-label Follow-up Study of CP-690,550 for Treatment of Juvenile Idiopathic Arthritis (JIA) | Pfizer, Inc | 3/8/17 | 12/31/17 | \$9,250.00 | 1 of 2 | n/a | n/a |
| 180786 | Trapp, Christine | Colesevelam Oral Suspension as Monotherapy or Add-On to Metformin Therapy in Pediatric Subjects with Type 2 Diabetes Mellitus | Daiichi Sankyo, Inc | 1/1/17 | 12/31/17 | \$3,000.00 | 6 of 7 | n/a | n/a |
| 180365 | Valdez, Tulio | Technology Commercialization | UCONN Spark Fund | 1/1/17 | 8/31/17 | \$- | 2 of 2 | n/a | n/a |
| 180810 | Valdez, Tulio | A Multicenter, Randomized, Double-blind Clinical Trial to Assess the Efficacy and Safety of Ciprofloxacin 0.3% plus Fluocinolone Acetonide 0.025% Otic Solution Compared to Ciprofloxacin 0.3% Otic Solution and to Fluocinolone Acetonide 0.025% Otic Solution in the Treatment of Acute Otitis Media with Tympanostomy Tubes (AOMT) in Pediatric Patients | Salvat, SA | 1/1/17 | 12/31/17 | \$- | 5 of 6 | n/a | n/a |
| 179439 | Waynik, Ilana | Airway Microbiome and Age 6y Asthma Phenotypes in 2 Diverse Multicenter Cohorts | DHHS/NIH (Mass General) | 1/1/17 | 12/31/17 | \$848.73 | 2 of 7 | n/a | n/a |
| 179440 | Waynik, Ilana | Nasal MicroRNA During Bronchiolitis and Age 6y Asthmaphenotypes: MARC-35 Cohort | DHHS/NIH (Mass General) | 1/1/17 | 12/31/17 | \$- | 1 of 1 | n/a | n/a |
| 179379 | Waynik, Ilana | Infant-specific IgE, Rhinovirus C Bronchiolitis, and Incident Asthma in MARC-35 | DHHS/NIH (Mass General) | 1/1/17 | 12/31/17 | \$8,659.54 | 4 of 5 | n/a | n/a |
| 180852 | Weinstein, David | A Comparison of Glycosade® and Uncooked Cornstarch (UCCS) for the Dietary Management of Hepatic Glycogen Storage Diseases (GSD), Glyde Trial | (International) Limited, a Nestle Health Science company | 1/1/17 | 12/31/17 | \$144,912.02 | 2 of 3 | n/a | n/a |
| UCONN FDN | Weinstein, David | Glycogen Storage Disease Program | Donations | 1/1/17 | 12/31/17 | \$616,212.50 | 1 of 2 | n/a | n/a |
| UCHC | Weinstein, David | Gene Therapy Study | Dimension Therapeutics | 1/1/17 | 12/31/17 | \$500,000.00 | 1 of 2 | n/a | n/a |
| | Weinstein, David | Development of Kidney Direct Gene Therapy in GSD-1a Mice | The Children's Fund for Glycogen Storage Disease Research | 9/1/17 | n/a | \$158,329.00 | | x | x |
| | Weinstein, David | Glycogen Storage 1b Disease Research Fund | Foundation | | n/a | \$51,827.00 | | x | x |
| | Weinstein, David | Glycogen Storage Disease Type 1a Research Fund | Foundation | 9/1/17 | n/a | \$100,025.00 | | x | x |
| | Weinstein, David | Glycogen Storage Disease Type 6 | Foundation | 3/1/17 | n/a | \$5,000.00 | | x | x |
| | Weinstein, David | The Jamie Konieczka Fund for Glycogen Storage Disease Type 1b Research | Foundation | 9/1/17 | n/a | \$37,890.00 | | x | x |
| | Weinstein, David | Glycogen Storage Disease Program Fund | Foundation | 11/1/16 | n/a | \$38,109.00 | | x | x |
| | Weinstein, David | Global Center Glycogen Storage Disease Fund | Foundation | 10/1/16 | n/a | \$127,185.00 | | x | x |
| | Weinstein, David | The Jonah Pournazarian Fund for Glycogen Storage Disease Type 1b Research | Foundation | 12/1/16 | n/a | \$157,231.00 | | x | x |
| | Weinstein, David | Adeline Liem Fund for GSD Type 1a Research | Foundation | 10/15/17 | n/a | \$6,330.00 | | x | x |

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| 180371 | Wiley, Catherine | Two-generation Pediatrics Project | United Health Fdn (The Village for Families & Children, Inc.) | 1/1/17 | 12/31/17 | \$219,169.00 | 1 of 1 | n/a | n/a |
| 180828 | Wolkoff, Leslie | A Phase Ib/Ia Randomized, Placebo-controlled Study of the Safety and Efficacy of Once Daily Dosing of STP206 in Premature Very Low Birth Weight and Extremely Low Birth Weight Neonates | Sigma-Tau Pharmaceuticals, Inc | 1/1/17 | 12/31/17 | \$22,496.00 | 3 of 4 | n/a | n/a |
| 180835 | Wolkoff, Leslie | Multicenter Observational Study Regarding the Non-Interventional Surveillance Study of Respiratory Syncytial Virus Hospitalizations Among Infants Born at 29 to 35 Weeks Gestational Age Not Receiving Immunoprophylaxis | Astra Zeneca Pharmaceuticals, LP | 1/1/17 | 12/31/17 | \$- | 3 of 4 | n/a | n/a |
| 180861 | Wolkoff, Leslie | A Phase 2b Randomised, Double-blind, Placebo-controlled Study to Evaluate the Safety and Efficacy of MEDI8897, a Monoclonal Antibody with an Extended Half-life Against Respiratory Syncytial Virus, in Healthy Preterm Infants | MedImmune, LLC | 10/18/17 | 12/31/17 | \$- | 1 of 2 | n/a | n/a |
| 180323 | Zemel, Lawrence | Observational Study of Pediatric Rheumatic Diseases: The CARRA Registry | CARRA (Duke Univ) | 1/1/17 | 12/31/17 | \$3,025.00 | 3 of 4 | n/a | n/a |
| 180742 | Zemel, Lawrence | A 12 Week Randomized, Double-blind, Placebo-controlled, Parallel Group, Two-arm Study to Evaluate the Efficacy and Safety of Tocilizumab in Patients with Active Juvenile Idiopathic Arthritis: with 92-week Single Arm Open-label Extension to Examine the Long-term Use of Tocilizumab | Roche Laboratories, Inc | 1/1/17 | 12/31/17 | \$- | 7 of 8 | n/a | n/a |
| 180794 | Zemel, Lawrence | Phase 3, Multicenter, Open-label Study to Assess the Pharmacokinetics, Safety and Efficacy of Certolizumab Pegol in Children and Adolescents with Moderately to Severely Active Polyarticular-course Juvenile Idiopathic Arthritis | UCB, Inc | 1/1/17 | 12/31/17 | \$10,466.00 | 3 of 4 | n/a | n/a |
| 180813 | Zemel, Lawrence | A Phase 3 Multi-center, Open-Label Study to Evaluate Pharmacokinetics, Efficacy and Safety of Abatacept Administered Subcutaneously (SC) in Children and Adolescents with Active Polyarticular Juvenile Idiopathic Arthritis (pJIA) and Inadequate Response (IR) to biologic or non biologic Disease Modifying Anti-rheumatic Drugs (DMARDs) | Bristol-Myers Squibb | 1/1/17 | 12/31/17 | \$- | 4 of 5 | n/a | n/a |
| 180817 | Zemel, Lawrence | An Phase Ib Open-label Multicenter Study to Investigate Pharmacokinetics, Pharmacodynamics, and Safety of Tocilizumab Following Subcutaneous Administration in Patients with Polyarticular-course Juvenile Idiopathic Arthritis | Genentech | 1/1/17 | 12/31/17 | \$- | 4 of 5 | n/a | n/a |
| 180818 | Zemel, Lawrence | A Phase Ib Open-label Multicenter Study to Investigate Pharmacokinetics, Pharmacodynamics, and Safety of Tocilizumab Following Subcutaneous Administration in Patients with Systemic Juvenile Idiopathic Arthritis | Genentech | 1/1/17 | 12/31/17 | \$- | 4 of 5 | n/a | n/a |
| 180834 | Zemel, Lawrence | 8-SPECIFIC 4 Patients: Study of Pediatric Efficacy and Safety with First-line Use of Canakinumab. An Open-label Canakinumab (ACZ885) Dose Reduction or Dose Interval Prolongation Efficacy and Safety Study in Patients with Systemic Juvenile Idiopathic Arthritis (SJIA) | Novartis | 1/1/17 | 12/31/17 | \$- | 3 of 4 | n/a | n/a |
| 179434 | Zempsky, William | I Can Cope with Sickle Cell Disease | DHHS/NIH/NICHD (Seattle Children's Research Institute) | 1/1/17 | 12/31/17 | \$18,940.56 | 2 of 3 | n/a | n/a |
| 180358 | Zempsky, William | Strategies for Education in the Emergency Department (SEED) | Donaghue Fdn | 1/1/17 | 9/30/17 | \$- | 2 of 2 | n/a | n/a |
| 180389 | Zempsky, William | M1 Mentoring Program | Connecticut Institute for Clinical & Translational Science (CiCATS) | 7/1/17 | 12/31/17 | \$- | 1 of 2 | n/a | n/a |
| 180802 | Zempsky, William | An Open-label, Multicenter Study of the Safety, Pharmacokinetics, and Efficacy of Buprenorphine Transdermal System (BTDS) Opioid Analgesia for Moderate to Severe Pain | Purdue Pharma, LP | 1/1/17 | 12/31/17 | \$- | 4 of 5 | n/a | n/a |





ABOUT CONNECTICUT CHILDREN'S MEDICAL CENTER

Connecticut Children's Medical Center is the only hospital in Connecticut dedicated exclusively to the care of children and is ranked by *U.S. News & World Report* as one of the best children's hospitals in the nation. With a medical staff of more than 1,000, Connecticut Children's provides comprehensive, world-class health care in more than 30 pediatric specialties and subspecialties. Connecticut Children's Medical Center is a not-for-profit organization, which serves as the primary pediatric teaching hospital for the UConn School of Medicine, has a teaching partnership with the Frank H. Netter MD School of Medicine at Quinnipiac University and is a research partner of The Jackson Laboratory. Connecticut Children's Office for Community Child Health is a national leader in community-based prevention and wellness programs.

Connecticut Children's Medical Center complies with applicable Federal civil rights laws and does not discriminate on the basis of race, color, national origin, age, disability, or sex.
 ATENCIÓN: si habla español, tiene a su disposición servicios gratuitos de asistencia lingüística. Llame al 1.800.234.0780 (TTY: 1.800.545.8330).

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