



CONNECTICUT CHILDREN'S
DEPARTMENTS OF PEDIATRICS
& SURGICAL SUBSPECIALTIES

ANNUAL ACADEMIC REPORT 2019



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Christine Finck, MD, FACS

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

CHAIR

Dear Colleagues and Friends,

It is with great pleasure that we present the 10th annual report from the Department of Pediatric Surgical Subspecialties of Connecticut Children's Medical Center and the sixth combined report with the Department of Pediatrics. This report continues to reflect the solid alignment between Surgery and Pediatrics and the continued multidisciplinary growth of combined surgical and pediatric programs at Connecticut Children's.

U.S. News & World Report ranked Connecticut Children's divisions of Cardiology and Heart Surgery, Diabetes and Endocrinology, Neonatology, and Urology as among the best in the country. In addition, Connecticut Children's earned the high honor of Magnet® designation for Nursing. The Bariatric Surgery Program, in collaboration with Hartford Hospital, earned designation as a center of excellence from the American College of Surgeons and the American Society for Metabolic and Bariatric Surgery. Connecticut Children's is the only pediatric center in the state to achieve this designation.

Over the last year, we were successful in recruiting our first pediatric-trained plastic surgeon, Christopher Hughes, MD, MPH, who arrived in August. He works with Plastic Surgery division head Dr. Charles Castiglione in craniofacial anomalies as well as plastic surgery procedures.

Dr. Dennis Mello, who joined our staff in 2018, expertly treated numerous complex congenital heart conditions over the last year and substantially increased our surgical volume. Dr. Lee Pace, clinical director of surgical sports medicine, continues to lead the nation in arthroscopic trochleoplasty, a non-invasive procedure ideal for the treatment of trochlear dysplasia, a debilitating congenital condition that causes the kneecap to pop out unpredictably.

In 2019, the surgical services performed procedures on over 10,000 children with more than 2,800 cases performed at our ambulatory surgery center in Farmington, CT. We are hoping to continue our growth trajectory and have launched a hybrid operating room project to build a state-of-the-art, minimally invasive suite for cardiac catheterization and other procedures on the main campus. We continue to aggressively pursue our vision to bring the very best surgical care to the children of the region while simultaneously pursuing our two other core missions: research and education.

Some specific highlights from the past year:

Innovation through research is integral to the mission of the department. We launched our Innovation Center, a virtual enterprise that harnesses innovative ideas from our faculty. State Sen. John Fonfara was present for the ribbon-cutting ceremony. He also discussed the significance of this center on the senate floor. We will continue to focus efforts on children with solid tumors, premature lung disease, esophageal disease, congenital urethral defects, obesity, injury prevention, and sports-related injuries. Several federal grants and invention patents were submitted over the past two years focusing on diagnosis and treatment of these diseases.

Annually, dozens of students and residents from the University of Connecticut, Quinnipiac University, and other institutions receive their required pediatric surgical experience at Connecticut Children's. The Pediatric Surgery and Pediatric Orthopaedics Surgery programs continue to train the future leaders in surgical subspecialties. Pediatric Otolaryngology has begun the process for recruitment of a fellow, and Pediatric Neurosurgery will serve as the site for the newly implemented neurosurgical residency at the University of Connecticut.

As we continue to champion innovation and education, 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 Endowed Chair of Pediatric Surgery
Surgeon-in-Chief
Executive Vice President
Connecticut Children's
Professor of Surgery and Pediatrics
Associate Vice Chair of Surgery
UConn School of Medicine



Juan C. Salazar, MD, MPH, FAAP

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

Dear Colleagues and Friends,

I am extremely proud to present the combined *Annual Academic Report for the Departments of Pediatrics and Pediatric Surgical Subspecialties* and to share just a few of the many milestones achieved by our combined faculty and staff at the University of Connecticut and Connecticut Children's. The year 2019 brought remarkable clinical and academic achievement, recognition, expansion, and excitement for the Departments of Pediatrics and Pediatric Surgical Subspecialties at Connecticut Children's.

In 2019, our divisions of Cardiology and Heart Surgery, Diabetes and Endocrinology, Neonatology, and Urology were ranked by the *U.S. News & World Report* among the best in the country. Our Bariatric Surgery Program, in collaboration with Hartford Hospital, earned designation as a center of excellence from the American College of Surgeons and the American Society for Metabolic and Bariatric Surgery. Connecticut Children's is the only pediatric center in the state to achieve this designation thus far. Additionally, we earned the honor of a Magnet® designation for Nursing. This award is bestowed by the American Nurses Credentialing Center (ANCC), and it is the highest achievement a health care organization can receive for nursing excellence and quality patient care.

In 2019, Connecticut Children's expanded the clinical services in the state of Connecticut and beyond, with new specialty care centers opening in Danbury, CT, and South Hadley, MA. To better serve our patients, we opened a new, state-of-the-art Infusion Center at our Farmington location; our Nephrology department is now providing services in Fairfield County and western Massachusetts. The Ambulatory Blood Pressure Monitoring (ABPM) program continues to provide comprehensive hypertensive care to all Connecticut Children's locations across Connecticut and western Massachusetts. In September, we acquired a new state-of-the-art 3T MRI. Our pediatric cardiology imagers and pediatric oncologists are now able to use this imaging technology for innovative and timely identification and treatment of potentially devastating cardiotoxicity in children and young adults treated with anthracyclines.

Our faculty was honored with an increasing number of awards, earning recognition at local, national, and international levels. The National Institute of Allergy and Infectious Diseases (NIAID), part of the National Institutes of Health, awarded \$11 million to Connecticut Children's and the University of Connecticut to establish a new international, multi-university center that will work to develop a vaccine for syphilis. Jonathan Martin, MD, division head of Neurosurgery, is the inaugural chair holder of the Paul M. Kanev, MD, Endowed Chair of Pediatric Neurosurgery. Alyssa Bennett, MD, the division head of Adolescent Medicine at Connecticut Children's, is the inaugural holder of the Burton and Phyllis Hoffman Family Endowed Chair in Adolescent Medicine, and Michael Isakoff, MD, is the new Hartford Whaler's Endowed Chair in children's cancer. Dr. Isakoff follows in the steps of Dr. Arnold Altman, the first and only other recipient of this honor. Glenn Flores, MD, who leads our Health Services Research Institute, received the 2019 American Public Health Association's David P. Rall Award for Advocacy in Public Health. His protegee, Alex Hogan, MD, received the APA Young Investigator award at the 2019 Pediatric Academic Society meeting in Baltimore, MD.

The work done by all of our researchers in 2019 was truly remarkable. A total of 176 peer-reviewed manuscripts were published this year, and our research efforts included complex and innovative studies that in several cases achieved national and international significance. To best inspire and foster innovative thinking across the organization, we launched the new Connecticut Children's Center for Innovation with the goal of improving patient experience, outcomes, and cost in Connecticut and beyond. David Weinstein, MD, presented his groundbreaking, one-year clinical trial results for the novel gene therapy treatment for glycogen storage disease (GSD) at the Association for Glycogen Storage Disease's 41st Annual Conference in September 2019. Gyula Acsadi, MD, PhD, division head of Pediatric Neurology at Connecticut Children's, administered the first

gene therapy for spinal muscular atrophy (SMA) in Connecticut to a 6-month-old baby. The therapy was undertaken shortly before FDA approval of Zolgensma® as part of an extended access program sponsored by the drug company. Connecticut Children's is one of only 17 medical centers in the U.S., and the only one in Connecticut, that is offering the treatment. Dr. Emily Germain-Lee, MD, division head of Pediatric Endocrinology and Diabetes, and her husband, Se-Jin Lee, MD, PhD, of the Jackson Laboratory in Farmington, CT, sent mice to the International Space Station as part of a research collaborative between Connecticut Children's, UConn Health, and the Jackson Lab, to study the impact of space on muscle and bone loss. This project marks a major milestone for research and innovation at Connecticut Children's.

In the area of education, the residency program, under the distinguished leadership of Ed Zalneraitis, MD, and his team, continues to recruit terrific young graduates from top schools in the United States and abroad. Many of our graduates stay in Connecticut following their graduations and practice primary care in private practices and community health centers, while others move on to fellowships in the most competitive programs in the nation. In cooperation with the University of Connecticut Children's and Hartford Hospital, Connecticut Children's will serve as the primary pediatric teaching sight for the newly established Neurosurgical Residency program. The first resident will be selected in 2020. We also were granted accreditation to start a new fellowship program in Pediatric Otolaryngology with the first fellow expected to start in July 2021. Connecticut Children's joins a list of only 30 pediatric otolaryngology fellowship programs throughout the United States and Canada that have been accredited by the ACGME. Connecticut Children's pediatric rotations for third- and fourth-year medical students remain among the most highly rated at the UConn School of Medicine. Our residency and fellowship programs continue to attract and graduate highly accomplished residents and fellows.

Quality recruitment remains key to the successful expansion of our clinical and academic activities. During the year, we were very pleased to welcome 22 pediatricians and 10 surgeons to the departments of Pediatrics or Surgery; our surgical services continued to experience growth, performing procedures on over 10,000 children with more than 2,800 performed at our ambulatory surgery center in Farmington. Through equipment upgrades and recruitments, we significantly enhanced our surgical capabilities in pediatric ophthalmology.

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

In the pages that follow, you will find exciting and inspiring examples of the excellence, achievement and compassionate care that defines the Department of Pediatrics and Connecticut Children's. I am proud to represent our outstanding faculty and staff, and to stand alongside them all in support of our mission and vision to serve.

Sincerely,



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



HIGHLIGHTS

We are honored to present highlights from the sixth combined *University of Connecticut and Connecticut Children's Departments of Pediatrics and Pediatric Surgical Subspecialties Annual Academic Report 2019*. The report reflects the alliance between Surgery and Pediatrics and the continued multidisciplinary growth of combined surgical and pediatric programs at Connecticut Children's.

To view the complete 2019 Annual Academic Report, please visit:
connecticutchildrens.org/newsroom/publications/



The **2019-20 U.S. News & World Report “Best Children’s Hospitals”** once again ranked Connecticut Children’s among the top pediatric hospitals in the nation in four specialties: Cardiology and Heart Surgery, Diabetes and Endocrinology, Neonatal Care, and Urology.

Following a rigorous process, **Connecticut Children’s was awarded Magnet® status** by the American Nurses Credentialing Center (ANCC). The ANCC’s Magnet designation is the highest and most prestigious credential a health care organization can achieve for nursing excellence and quality patient care. Magnet hospitals provide high-quality care, a safer environment, and better patient outcomes as well as an improved nursing experience. Connecticut Children’s joins just 7 percent to 8 percent of hospitals across the country with this award.

Along with the Magnet® designation, **Connecticut Children’s Emergency Department was praised for low wait times**. Nurses and physicians in the ED have worked to keep patients’ wait times to a minimum, and Magnet reviewers noted the impressively low number of incidents in which patients left the ED before receiving care.

The **Bariatric Surgery Program was awarded national accreditation** by the Metabolic and Bariatric Surgery Ac-

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

Connecticut Children’s opened **two new specialty care centers**, one in Danbury at 105-A Newtown Road, the second in South Hadley, MA. The Danbury location offers services and specialties including Cardiology, Endocrinology, Gastroenterology, General Surgery, Hematology and Oncology, Nephrology, Neurology, Pulmonology, NICU Follow-up Clinic, and Urology Follow-up Clinic. The South Hadley, MA, center, at 84 William N. Sett St., MA, offers Rheumatology, Nephrology, Gastroenterology and Neurosurgery services.

In May, **the Connecticut Children’s Center for Innovation was launched**. The new center is designed to help foster innovative thinking across the organization and throughout the community with the goal of improving patient experience, outcomes and cost in Connecticut and beyond.

In March, the **Gastroenterology services** at Connecticut Children's **added a new site at 10 Birdseye Road** in Farmington. The new location is conveniently located off I-84 with free parking and access to all programs and services such as Nutrition and Psychology. Funded by donors, the spacious, world-class center combines state-of-the-art functionality with décor that is designed to distract, engage, and delight young patients visiting for procedures. Gastroenterology services remain available at Connecticut Children's main campus, and at satellite locations in Glastonbury, Shelton, Fairfield and Danbury.

In August, Connecticut Children's broke ground on the **new Robert R. Rosenheim Foundation Dialysis Center** on the fourth floor of 282 Washington Street. When completed in 2020, it will be the only pediatric dialysis center in the state.

October brought the opening of the **renovated Teen Lounge on the inpatient Hematology-Oncology floor**. The space allows teen and young adult patients who are battling cancer and blood disorders to relax and hang out away from their hospital rooms.

In cooperation with the University of Connecticut Children's and Hartford Hospital, Connecticut Children's will serve as the primary pediatric teaching sight for the newly established **neurosurgical Residency program**.

In the first of its kind operation at Connecticut Children's, division head of Ophthalmology **Paul Rychwalski, MD**, used **new eye surgery technology** to perform an extremely delicate operation. He removed cataracts that had formed in the eyes of a 15-year-old female patient and restored her sight to 20/20.

Ilana Waynik, MD, and her colleagues conducted research that led to a **new clinical pathway** for Peripheral Venous Access and the publication in *Pediatrics* of "Reducing Invasive Care for Low-Risk Febrile Infants Through Implementation of a Clinical Pathway."

Hendriana Nielson and **James Santanelli** coordinated a clinical trial for principal investigator **Gyula Acsadi, MD**, division head of Pediatric Neurology, on the use of Zolgensma® for treatment of spinal muscular atrophy (SMA), a genetic disorder characterized by muscle wasting and weakness. It represents the first gene therapy treatment trial for Connecticut Children's.

NOTABLE RECRUITMENTS

Under the direction of division head Paul Rychwalski, MD, the division of Ophthalmology significantly expanded with the addition of two new board-certified pediatric ophthalmologists, **Janine Collinge, MD**, and **Caroline DeBenedictis, MD**. Dr. Collinge did her fellowship in Pediatric Ophthalmology at Indiana University School of Medicine. Dr. DeBenedictis

completed her fellowship in Pediatric Ophthalmology and Strabismus at Wills Eye Hospital in Philadelphia, PA.

The Plastic Surgery Division welcomed its first pediatric-trained plastic surgeon in August. **Christopher Hughes, MD, MPH**, began his practice at Connecticut Children's and Hartford Hospital after completing his craniofacial fellowship at Boston Children's Medical Center.

Lori Pelletier, PhD, was named the new Chief Quality and Patient Safety Officer. She was chosen after a national search and joined the staff in August. She previously was employed at UMass Memorial Health Care where she held various leadership roles in Quality and Patient Safety, Performance Excellence and Continual Improvement.



FACULTY ACHIEVEMENTS



AWARDS & HONORS

Alyssa Bennett, MD, division head of Adolescent Medicine at Connecticut Children's, was named the inaugural holder of the Burton and Phyllis Hoffman Family Endowed Chair in Adolescent Medicine, which allows Connecticut Children's to recruit and retain world-class faculty for the benefit of adolescent patients both today and into the future.

Joanne Crowley, MD, was named director of Pediatric Undergraduate Medical Education at Connecticut Children's as of June 21, 2019. She joined Connecticut Children's and the Department of Pediatrics in 2017 as a member of the Division of Pediatric Hospital Medicine.

Following a national search, **Barbara Edelheit, MD**, was appointed division head of Rheumatology, effective October 1, 2019. She succeeded Larry Zemel, MD, division head from 1996 to 2019. He remains in the division providing clinical care and mentorship.

Christine Finck, MD, surgeon-in-chief, and **Emily Germain-Lee, MD**, head of the Division of Endocrinology and Diabetes, were named Women of Distinction by *Hartford Magazine*.

Chief research officer and associate chair of Research **Glenn Flores, MD, FAAP**, was the recipient of the 2019 American Public Health Association's (APHA) David P. Rall Award for Advocacy in Public Health. This award is given to an individual who has made an outstanding contribution to public health through science-based advocacy.

Melissa Held, MD, three-time winner of the McNeill Teaching Award and two-time winner of the Faculty Award for Excellence in Teaching from the UConn Pediatric Residency Program, was appointed associate dean for Medical Student Affairs at the UConn School of Medicine effective June 21, 2019. Dr. Held continues with her role as the assistant dean for Medical Education at Connecticut Children's, clinical activities in Pediatric Infectious Diseases at Connecticut Children's and remains an active member of the Department of Pediatrics and our medical staff.

Naveed Hussain, MD, won best platform presentation at the American Academy of Pediatrics Section on International Child Health for "Impact of a Multi-site Collaborative Regional Quality Project, 'Safe Care, Saving Lives' (SCSL), on Neonatal Outcomes in Teaching and Non-Teaching Hospitals in Andhra Pradesh and Telangana, India."

Michael Isakoff, MD is the new Hartford Whaler's Endowed Chair in children's cancer. Dr. Isakoff follows in the steps of Dr. Arnold Altman, the first and only other recipient of this honor.

Seth Lapuk, MD was appointed to the American Heart Association Eastern States board of directors. As a member of the former founder's board, Dr. Lapuk's insight and experience will be a critical component in the launch of the new region. The 2019-20 board of directors will serve as the translation board, leading the region in the delivery of the health impact and revenue goals for fiscal year 2019-2020.

Jonathan Martin, MD, division head of Neurosurgery, is the inaugural chair holder of the Paul M. Kanev, MD, Endowed Chair of Pediatric Neurosurgery. It was created in recognition of the retirement of longtime Pediatric Neurosurgery division head Dr. Kanev. It was funded by two generous, anonymous donors, and it provides Dr. Martin and future division heads of Pediatric Neurosurgery with the funding to address the greatest needs of their division and to afford the greatest benefit to their patients.

Allyson McDermott, MD, has been named the new assistant clerkship director for Inpatient Pediatrics. She will be involved in most aspects of the inpatient pediatric clerkship, and will also serve as lead faculty liaison for the Delivery of Critical Care (DoCC) program at Connecticut Children's for second-year UConn medical students.

James E. Moore, MD, PhD, took on an expanded leadership role as vice president of clinical network development and chief clinical network development officer. He has joined the Executive Management Team and remains division head of Neonatology, overseeing Connecticut Children's regional neonatal network of care. In his expanded role, Dr. Moore works with Trisha Farmer, vice president of Regional Partnerships & Operations, and is responsible for expanding Connecticut Children's health system's regional partnerships and referral volume across all clinical programs. On a national level, Dr. Moore was selected as the 2019 Graham's Foundation Honoree for contributions to Neonatology. This award has previously been given to three other neonatologists. Dr. Moore is the youngest to receive this award, which honors individuals who have dedicated their lives to improving outcomes for preemies and families.

Nicole Murray, MD, was elected to the executive committee of the Aerodigestive Society as the ENT representative.

Christine Ohannessian, MD, was named associate editor for the journal *Emerging Adulthood*. She is a professor of Pediatrics and Psychiatry at the University of Connecticut School of Medicine. She also is the director of the Children's Center for Community Research at Connecticut Children's. Dr. Ohannessian's research interests focus on psychological problems, substance use, and technology use during adolescence and emerging adulthood. Dr. Ohannessian currently serves on the editorial boards for *Developmental Psychology*, *Journal of Clinical Child and Adolescent Psychology*, *Journal of Adolescence*, and *Journal of Marriage and Family*. She also is an assistant field editor for the *Journal of Studies on Alcohol and Drugs*, and an associate editor for the *Journal of Early Adolescence*.

Andrea Orsey, MD, was promoted to associate chair of Medical Education in the Department of Pediatrics. She will complete her master's degree in education. She continues in her roles as a member of the Division of Pediatric Hematology-Oncology, fellowship program director, and faculty education coordinator (FEC) for resident education.

The **Department of Health and Human Services (HHS)** announced the appointment of Connecticut Children's physician-in-chief **Juan C. Salazar, MD, MPH, FAAP**, to the Tick-Borne Disease Working Group. Dr. Salazar will join other members on the Vaccine and Therapeutics Working Group Subcommittee.

Scott Schoem, MD, was elected by the Connecticut American Academy of Pediatrics (AAP) Chapter as president-elect for 2019 and chapter president for 2020. He is the first pediatric surgical subspecialist to be elected to this position.

Shailendra Upadhyay, MD, was officially appointed as medical director of the Division of Pediatric Cardiology.

Catherine Wiley, MD, received an extension on the grant "Rx for Success": A Randomized Controlled Trial of Technology-based Dialogic Reading Training Incorporated into Reach Out and Read. This brings total funding to \$65,350 from the Reach Out and Read National Center.

Division head **Aaron Zucker, MD**, is the chairperson of the Peer Review Committee, which oversees the medical staff's evaluations of each 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. For these activities,

he received the medical staff's annual award of Physician of the Year.

In 2019, physician-in-chief Dr. Juan Salazar established four new Chair's Awards. The first recipients are: **Aaron Zucker, MD**, the 2019 Chair's Award for Well-Being; **David Weinstein, MD, MMSc**, the 2019 Chair's Award for Innovation; **Alyssa Bennett, MD**, the 2019 Chair's Award for Teaching; and, **Ann Milanese, MD**, the 2019 Chair's Award for Citizenship.

FACULTY PROMOTIONS

Melanie Collins, MD, AnnMarie Golioto, MD, Louisa Kalsner, MD, Melissa Santos, PhD, Shailendra Upadhyay, MD, promoted to associate professor of Pediatrics; Christine Finck, MD, promoted to professor of Surgery, and Anton Alerte, MD, promoted to professor of Pediatrics; appointment of Paul Rychwalski, MD, to professor of Surgery. Junior promotions: Kelly Hawley, PhD, and Ji Hyun Lee, MD, to assistant professor of Pediatrics.

FACULTY APPOINTMENTS

New faculty members were provided with faculty appointments: Timothy LaVigne, PhD, Michael Reiss, PsyD, Siddika Mulchan, PsyD, and Lauren Ayr-Volta, PhD, Child and Adolescent Psychology; Patrick Ryan, MD, Glycogen Storage Disease; Nancy Grover, MD, and Amy Hughes, MD, Otolaryngology; Hayley Wolfgruber, MD, and Hareem Park, MD, IMT/Hospital Medicine; Joanna Gell, MD, Hematology/Oncology; Janine Collinge, MD, and Caroline DeBenedictis, MD, Ophthalmology; Andrew Carlson, MD, Primary Care/CHC; Chinyere Okoronkwo, MD, Primary Care East; Marie Sanford, MD, Primary Care West; Corey Baker, MD, Sarita Singhal, MD, and Donna Zeiter, MD, Digestive Diseases, Hepatology and Nutrition; Joseph Kuruvilla, DO, Cardiology; James Healy, MD, and J. Leslie Knod, MD, General/Thoracic Surgery; Veronica Fabrizio, MD, NICU; Noah Jablow, MD, and Ashley Notartomaso, MD, Emergency Medicine; Robert Parker, MD, PICU; Christopher Hughes, MD, Plastic Surgery; David Hersh, MD, Neurosurgery; W. Blaine Lapin, MD, Rheumatology; Allison Crepeau, MD, Sports Medicine; William Yorns, DO, Neurology; Sarah Dean, DNP, Child Abuse Pediatrics, Suspected Child Abuse and Neglect (SCAN); Katherine Hinderer, PhD, RN, Institute for Nursing Research and Evidence-Based Practice; Sabina Ahmad, MD, Pulmonary Medicine; Edward Kim, MD, Infectious Diseases/Immunology. Our 2019-2020 chief residents, Drs. Amy Blodgett, Abraham Khorasani and Sarah Kollar, each were provided with a faculty appointment in the Department of Pediatrics.

Community-based faculty: Shannon Beausoleil, MD, Kishore Kumar, MD, Karen Goldberg, MD, Jody Navitsky, MD, Elizabeth Northrop, MD, Clinical Longitudinal Immersion in the Community (CLIC), UConn Health.



The **National Institute of Allergy and Infectious Diseases (NIAID)**, part of the **National Institutes of Health**, awarded **\$11 million** to **Connecticut Children's and the University of Connecticut** to establish a new international, multi-university center that will work to develop a vaccine for syphilis. Connecticut Children's played a pivotal role in securing the grant and establishing a global network of collection sites. The proposal represents the culmination of years of work by **Juan C. Salazar, MD, MPH**, and **Justin Radolf, MD**, and other members of the Spirochete Research Laboratories at UConn, now recognized internationally for their leadership in the syphilis field. It also extends a highly productive collaboration over the past 16 years with investigators at CIDEIM Physicians, a state-of-the-art research institute in Cali, Colombia.

Christine Finck, MD, and her combined Connecticut Children's, UConn Health and Biostage teams, were notified in early February 2019 that the National Institutes of Health (NIH) intends to fund their Phase I/Phase II Fast Track small business grant for \$1.6 million.

Nancy Trout, MD, and **Stacy Chandna** will receive a \$350,000 grant from the **Kohl's Cares** foundation to expand their initiative, Start Childhood Off Right (SCOR),

which utilizes a comprehensive systems approach to educate pediatricians, parents and other community stakeholders on nutrition and obesity prevention for children from infancy to age 5. This is their second grant from Kohl's.

Teen Cancer America granted **Natasha Frederick, MD, MPH, MST**, \$250,000 to develop a program for adolescents and young adults undergoing cancer treatment. Her work will focus on developing effective programs to educate this population about the effects of various cancer treatments on their future reproductive health and wellness.

Golfers at the 17th Annual **Geno Auriemma's Fore the Kids Charity Golf Tournament** "teed it up" for premature and critically ill babies, raising funds for a new transport isolette. These isolettes are needed for transporting fragile babies to Connecticut Children's Neonatal Intensive Care Units (NICUs) in Hartford and Farmington for expert care. This year's event generated \$388,000 toward the purchase of the new transport isolette and a highly specialized spinal surgery table for patients undergoing complex surgeries in the Orthopaedics Division.

Dr. Melissa Santos received a R21 Grant to test whether a novel intervention combining both pain and obesity will improve treatment adherence and outcomes.

Kevin Borrup, associate director of the Injury Prevention Center, received a \$40,000 Good Starts Young® grant from the Allstate Foundation. This support enables the Injury Prevention Center to help high school students understand the importance of maintaining healthy, non-violent relationships through the Building a Culture of Healthy Relationships program.

INDIVIDUAL AWARDS

Jeffrey Bartlett, MD, NICU clinical director, Danbury and Norwalk Hospitals, received the 2019 Dr. Melville G. Magida Award for Notable Patient Care presented annually to a young practicing physician in Fairfield County that exhibits a sense of genuine care and concern for the patients they serve.

Paul Dworkin, MD, founder of the Office for Community Child Health (OCCH), delivered the keynote address at the Nurturing Developing Minds Conference and Research Symposium in Greenville, SC. His presentation, "Promoting Children's Optimal Healthy Development. It's the Environment, Stupid!" called for a major shift in child health transformation to include a focus on vulnerable children as well as a comprehensive approach to system building that embraces all of the sectors that impact child outcomes.

Emily L. Germain-Lee, MD, division head of Endocrinology and Diabetes, was awarded a Convergence grant for Research in Interdisciplinary Centers (CARIC): "Bed to Bench Collaboration for Skeletal Research" from the University of Connecticut. In addition, she was named to the Connecticut Academy of Science and Engineering. She joins 24 new members from among Connecticut's leading experts in science, engineering and technology. Dr. Germain-Lee and her husband, Dr. Se-Jin Lee of Jackson Laboratory in Farmington, sent mice to the International Space Station as part of a research collaboration between Connecticut Children's, UConn Health, and Jackson Lab to study the impact of space on muscle and bone loss. This project marks a major milestone for research and innovation at Connecticut Children's.

The proposal by **Alex Hogan, MD**, titled, "Predicting Children at Greater Risk for Late Asthma Readmissions Using

Cutting-Edge Analytics," was selected for funding by the 2019 APA Young Investigator Award Program. Dr. Hogan is the first from Connecticut Children's to receive the Young Investigator's Award.

Edwin Zalneraitis, MD, was inducted as a new faculty member of the UConn chapter of the Alpha Omega Alpha Honor Medical Society. Election to AΩA is an honor signifying a career-long commitment to scholarship, leadership, professionalism, and service.

OTHER

Students at the University of Connecticut hosted their 20th annual **HuskyTHON dance marathon** on Feb. 23 and 24, raising a record-setting \$1,328,402.19 for Connecticut Children's. HuskyTHON is a year-long fund-raising effort that culminates in an 18-hour dance marathon in the Hugh S. Greer Fieldhouse on UConn's Storrs campus.

On March 23rd, students at Quinnipiac University in Hamden joined forces for the eighth annual **QTHON, a Miracle Network Dance Marathon**. The 10-hour dance event was held at the Mount Carmel campus. It surpassed all previous efforts, raising \$332,567 to benefit patient care at Connecticut Children's.

Help Me Grow® associate director **Erin Cornell** received a \$250,000 grant from the Silicon Valley Community Foundation (SVCF). The SVCF represents a number of leading U.S. foundations pursuing early childhood development innovations. The award enables the Help Me Grow National Center to explore the possibility of a large-scale intervention within the pediatric setting to support clinicians and families in their pursuit of a child's optimal health and development.

An estimated 10,000 people showed up to ogle 170 supercars that descended upon West Hartford for **Concorso Ferrari & Friends**. The 19th annual event raised more than \$196,000 for the Family Support Fund at Connecticut Children's.

Connecticut Children's Medical Center strives to encourage, support, and recognize the academic activities and achievements of its Departments of Pediatrics and Surgical Subspecialties faculty and staff. The mission of our Academic Affairs office is to empower faculty, medical learners, and community providers to succeed in their academic, professional development, research, and quality improvement pursuits by providing critical and timely administrative, technical, and educational support. Our scope of work includes oversight of our pediatric and pediatric surgical subspecialty fellowship programs, faculty professional development including Continuing Medical Education (CME) and Maintenance of Certification (MOC), faculty appointments and promotions, strategic planning, and more.

The Department of Pediatrics is fortunate to have a very strong presence and administrative support on both the University of Connecticut Health Center (UConn Health) and Connecticut Children's campuses. With faculty based at multiple institutions, administration of the Department of Pediatrics is comprised of centrally managed academic functions for affiliated faculty, and decentralized business and research management functions for all faculty.

The Office of Academic Affairs, in collaboration with the offices of both Pediatrics and Surgery Chairs staffed at Connecticut Children's, manages academic appointments, reappointments and promotions; the academic merit plan for affiliated faculty, academic faculty contracts; and produces the *Departments of Pediatrics and Surgical Subspecialties Annual Report* and the *Faculty Resource Guide*. The administrative staff in the chair's office maintains close communication with the Department of Pediatrics Academic Office at UConn Health. Staff members of the Pediatric office at UConn manage the academic budgets, including tenured faculty support, components of the residency

budget, discretionary accounts, and UConn Health-based sponsored programs. The Pediatric academic office serves as the support and key logistical link between the decentralized offices within other institutions/departments and UConn Health's administrative and financial offices. Research and other faculty activity is administered by office staff where the faculty members are based, such as the Office of Sponsored Programs (page 95), and the Department of Research, including the Clinical Trials Unit (page 118) at Connecticut Children's.

In 2019, the Office of Academic Affairs facilitated the combined 2020-2022 Pediatrics and Surgery strategic plan, **Our Journey to Excellence**. This plan outlines the strategic and operational academic goals that will move our departments toward excellence in research and innovation; medical education across the continuum, and well-being; career, and leadership development. Academic operations are supported by Esperanza Lesmes, senior academic operations program manager, and Deborah Hornblow, per diem editor, and they include the following offices:

FACULTY APPOINTMENTS AND PROMOTIONS

• Faculty Appointments.

- **New faculty members:** Michael Reiss, PsyD, Siddika Mulchan, PsyD, and Lauren Ayr-Volta, PhD, Child and Adolescent Psychology; Patrick Ryan, MD, Glycogen Storage Disease; Nancy Grover, MD, and Amy Hughes, MD, ENT; Hayley Wolfgruber, MD, and Hareem Park, MD, IMT/Hospital Medicine; Jessica Gell, MD, Hematology-Oncology; Janine Collinge, MD, and Carolina DeBenedictis, MD, Ophthalmology; Andrew Carlson, MD, Primary Care/CHC; Corey Baker, MD, Sarita Singhal, MD, and Donna Zeiter, MD, Digestive Diseases, Hepatology and Nutrition; Joseph Kuruvilla, DO, Cardiology; James Healy, MD,



and J. Leslie Knod, MD, General/Thoracic Surgery; Veronica Fabrizio, MD, NICU; Noah Jablow, MD, and Ashley Notartomaso, Emergency Medicine; Robert Parker, MD, PICU; Christopher Hughes, MD, Plastic Surgery; David Hersh, MD, Neurosurgery; W. Blaine Lapin, MD, Rheumatology; Allison Crepeau, MD, Sports Medicine; William Yorns, MD, Neurology; Chinyere Okoronkwo, MD, Primary Care East; Marie Sanford, MD, Primary Care West; Sarah Dean, DNP, Child Abuse Pediatrics, Suspected Child Abuse and Neglect (SCAN); Katherine Hinderer, PhD, RN, Institute for Nursing Research and Evidence Based Practice. Our 2019-2020 chief residents, Drs. Amy Blodgett, Abraham Khorasanti and Dr. Sarah Kollar, were provided with a faculty appointment in the Department of Pediatrics.

- **Community-based Faculty:** Shannon Beausoleil, MD, Kishore Kumar, MD, Karen Goldman, MD, Jody Navitsky, MD, Elizabeth Northrop, MD, Clinical Longitudinal Immersion in the Community (CLIC), UConn Health.
- **Promotions to Senior Rank:** Melanie Collins, MD, AnnMarie Golioto, MD, Louisa Kalsner, MD, Melissa Santos, PhD, Shailendra Upadhyay, MD, to associate professor of Pediatrics; promotion of Christine Finck, MD, to professor of Surgery, and Anton Alerte, MD, to professor of Pediatrics; appointment of Paul Rychwalski, MD, to professor of Surgery.
- **Junior Promotions:** Kelly Hawley, PhD, and, Ji Hyun Lee, MD, to assistant professor of Pediatrics.

CONTINUING MEDICAL EDUCATION (CME)

The Connecticut Children's Office of Continuing Medical Education (CME), is supported by CME operations manager Elizabeth "Liz" Anderson, CME operations coordinator Nicole Capsolas, who joined us in April, and medical director Kenneth Spiegelman, MD. The year 2019 has been a period of innovation, change, growth, pushing the needle for improvement, and focusing on areas of opportunity. In September, our Office of CME was proud to announce the implementation and rollout of an electronic CME platform called *Eeds* (Electronic Education Documentation System). The transition from paper to electronic was a necessary step toward building a strong operational foundation. *Eeds* aligns with our institutional strategic goals and Compass 2022 to eliminate waste, offer a cutting edge platform to plan, implement and execute practical, evidence-based, quality continuing medical education while staying competitive with our learners' needs. Some additional noteworthy successes in 2019 include the implementation of the Divisional Needs Assessments when selecting grand rounds topics. This was made possible through collaboration with chief resident Lauren Boudreau, DO, Liz Anderson, CME operations manager, and the feedback, approval and encouragement of our dedicated CME Committee. In September, our office was able to check the box of ACCME Criterion C24, "engages patients/public," after having our first-ever patient panel at our Pediatric grand rounds. The topic was "Voices

of Sick Cell Disease: Patient and Family Perspectives." We look forward to the continued growth and challenges 2020 will bring while maintaining and celebrating the collaboration and one-team approach that worked so well in 2019.

PEDIATRIC FELLOWSHIP PROGRAMS ADMINISTRATION

Marianne Custer, fellowship program manager, and fellowship program coordinators Amanda Ross, Kierstyn Callahan, and Alivia Rhault, who arrived in September 2019, supported 12 pediatric and surgical subspecialty fellowships and 24 fellows.

In 2019, the pediatric fellowship programs graduated seven fellows and successfully filled eight of 11 available fellowship positions. In preparation for the 2020-21 academic year, coordinators effectively supported recruitment of 122 applicant interviews across 43 days. ACGME accreditation was received in April 2019 for a new fellowship program in Pediatric Otolaryngology. The Pediatric Hematology-Oncology Fellowship Program successfully completed its initial site visit in October 2019 and received continued accreditation.

Practice Quality Improvement and Maintenance of Certification

Cabrini Merclean, formerly program manager of the Practice Quality Improvement/Maintenance of Certification Program, has transitioned to Connecticut Children's Care Network as their quality consultant. The program welcomed a new team member, Kimberly Forbes. She previously worked as the executive operations coordinator for Saint Francis Healthcare Partners. In that role, she managed executive team projects and functioned as a liaison to the board of directors. Prior to that, she coordinated community-based education programs for the Center for Integrative Medicine at Saint Francis Hospital. Kimberly has a strong background in training, process improvement and documentation.

Currently, a total of 31 QI/MOC projects (12 internal for Connecticut Children's physicians and 19 community-focused) are available to providers through the MOC program, with plans to closely support the Clinically Integrated Network in the coming year. 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.

MEDICAL PHOTOGRAPHY

Erin Blinn-Curran, Connecticut Children's medical photographer, is the primary provider of medical and promotional photography for the institution. She supports photography needs in the craniofacial and bariatric clinics (over 1,302 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 more than 290 professional headshots and made more than 40 department visits for photos in 2019 while



also covering multiple events weekly throughout the institution. Photography highlights this year include support of our GROW campaign, photos that documented our Magnet Recognition Program® celebration, physician and nurse interactions with patients to support the Connecticut Children's Foundation, and an ongoing effort to capture patient stories in collaboration with Marketing and Communications, in addition to images for the 2019 edition of the *Departments of Pediatrics & Pediatric Surgical Subspecialties Annual Report*. In July of 2019, Erin transitioned from the Academic Affairs division to Marketing and Communications.

Departmental highlights over the last year include:

- Accreditation was received in April 2019 for a new fellowship program in Pediatric Otolaryngology from the Accreditation Council for Graduate Medical Education (ACGME).
- Our office was able to check the box of Accreditation Council for Continuing Medical Education (ACCME) Criterion C24, "engages patients/public," by having our first-ever patient panel, "Voices of Sickle Cell Disease: Patient and Family Perspectives," at our Pediatric grand rounds on September 10, 2019.
- Partnering with our Volunteer Department, we were able to recruit two high performing students to assist the various areas of Academic Affairs with appropriate tasks and activities. This has opened the door for future interdepartmental collaborations across other academic departments.
- As a result of our efforts to continually improve the value and usefulness of our visibility and daily management boards, our fellowship DMS boards received perfect score recognition multiple times from our Office of Continual Improvement.

STAFF

Annamarie Beaulieu, MPH, BBA

Senior Director, Academic Affairs, Fellowship and Continuing Medical Education, Sponsored Programs and Research Operations

Staci Brown

Administrative Assistant II

UConn Health

Julie Vigil

Administrative Manager, Department of Pediatrics

Laurie Papacs

Administrative Officer, Department of Pediatrics

Rose Sierra

Administrative Fiscal Assistant, Department of Pediatrics

Connecticut Children's Medical Center

Esperanza Lesmes

Senior Operations Manager

Elizabeth Anderson

Continuing Medical Education Operations Manager

Nicole Capsolas

Continuing Medical Education Operations Coordinator

Marianne Custer

Fellowship Program Manager

Amanda Ross

Fellowship Program Coordinator

Kierstyn Callahan

Fellowship Program Coordinator

Alivia Rhault

Fellowship Program Coordinator

Cabrini Merclean

Program Manager, Office for Community Child Health (OCCH)

Quality Improvement Consultant - Care Network, Network Development

Kimberly Forbes

Program Coordinator, Practice Quality Improvement, Office for Community Child Health (OCCH)

Erin Blinn-Curran

Senior Medical Photographer



In October 2019, our division head, Alyssa Bennett, MD, became the inaugural holder of the Burton and Phyllis Hoffman Family Endowed Chair in Adolescent Medicine. The endowment will support further expansion of adolescent medicine services at Connecticut Children's.

CLINICAL SERVICES

The Division of Adolescent Medicine provides both primary care and specialty care to adolescents and young adults in a variety of clinical settings.

- **Connecticut Children's Adolescent Medicine Clinic in Farmington:** Since its creation in February 2017, the Adolescent Medicine specialty care center has been providing the following consultative services to adolescents and young adults ages 10 to 25: medical management of eating disorders, menstrual disorders, polycystic ovary syndrome (PCOS), sexually transmitted infections (STIs), gynecologic exams, and contraception including same-day hormonal IUDs and the hormonal implant.
- **Connecticut Children's Primary Care at East/West Hartford:** Dr. Bennett and Jessica MacCormac, DO, MS, continue to provide primary care and consultative care of adolescents and young adults ages 13 to 21 within Primary Care.
- **Trinity College Health Center:** The fall of 2019 marked the fourth year of a partnership between Connecticut Children's and Trinity College Health Services. Dr. Bennett serves as the center's medical director. Drs. Bennett and MacCormac provide primary care, urgent care, and consultative care to Trinity's undergraduate students. They also coordinate access to both specialty care and emergency care at Connecticut Children's.

EDUCATION

Educating future pediatricians and pediatric subspecialists continues to be an essential part of our mission. University of

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

- Elite Sports Medicine, Farmington, CT: David Wang, MD, MS, 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 and CARES Unit, Hartford, CT: Jennifer Zajac, MD, Robert Sahl, MD, and Sheena Joychan, MD
- Women's Ambulatory Health Services, Teen Clinic and Family Planning Clinic, Hartford, CT: Sarah Lindsay, MD

In July 2019, we also launched a new adolescent medicine elective for fourth year medical students from UConn School of Medicine and the Frank H. Netter MD School of Medicine at Quinnipiac University.

RESEARCH & GRANTS

Dr. MacCormac presented the following workshop at the Society for Adolescent Health and Medicine's annual meeting in March 2019: "Transitioning Into Tomorrow: Developing Innovative Strategies for a Transition to Adult Care Program, Multidisciplinary Perspectives." Dr. Bennett joined a grant from the Connecticut Department of Health to increase access to HIV testing and pre-exposure prophylaxis (PrEP) services.

STAFF

Alyssa Bennett, MD, Division Head
Jessica MacCormac, DO, MS



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.

CLINICAL SERVICES

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 17 anesthesiologists and over 12 certified registered nurse anesthetists (CRNAs) and advanced practice nurses. The Connecticut Children's Hartford campus is our principal clinical site but we provide care at numerous locations throughout the greater capital area. We coordinate care for over 10,000 surgical patients of all ages and complexities each year including elective and emergent surgery, trauma surgery, endoscopy, imaging, and cardiac catheterization at the main campus. Additionally, we care for over 1,500 children at the Ambulatory Surgery Center in Farmington. For patients requiring MRA, nuclear medicine, interventional radiology or transplant services at Hartford Hospital, we provide the necessary expertise and a familiar face. Urgent procedures at Connecticut Children's NICU in Farmington and at Hartford Hospital also are covered by our division. Our vision is to provide compassionate care with extraordinary expertise for children in Connecticut.

Mark Indelicato, MD, MSc, FAAP, continues his collaboration with Marcus Bookland, MD, in the Division of Neurosurgery, researching the role of miRNA in possible memory and cognitive dysfunction in pediatric patients exposed to general anesthesia. Dr. Michael Archambault is working with Dr. Katherine Kavanagh, in the Division of Otolaryngology, on simulation-based training of anesthesiology and otolaryngology residents. Dr. Eapen Mathew spends time with members of the Division of Pain and Palliative Medicine, consulting on inpatients, seeing outpatients, performing therapeutic nerve blocks and conducting research. 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, 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, directed the first ever Hands-On Strategies for Managing Mass Casualties Workshop at this year's American Society of Anesthesiology Annual Meeting.

PUBLICATIONS

McFadden P, **McIsaac J**, et al. SALT triage for managing mass casualties: a skill for all physicians. *Conn Med.* 2019 Aug;81(3).

Mathew E. Implications of pain management on addiction behavior in youth. In: Kaminer Y, Winters K, editors. *Clinical manual of youth addictive disorders.* Washington: American Psychiatric Association Publishing; 2019.

STAFF

Craig Bonanni, MD, FAAP, Division Head

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Christina Biello, DO
Cheryl Bline, MD
Amy Bouchard, DO, FAAP
Sheila Buan, DO
Evan Burke, MD
Edward Cortland, MD, FAAP, *Assistant Division Head*
John Garrison, MD
Thomas Golembeski, MD
Mark Indelicato, MD, MSc, FAAP
Gregory Kernisan, MD
Kseniya Khmara, MD
Anil Mathew, MD, FAAP
Eapen Mathew, MD
Joseph McIsaac, MD, MS
Gregory Rutkowski, MD
Heather Allen, CRNA
Elizabeth Beatson, CRNA
Laura Pelullo, CRNA
Kelly Gorski, CRNA
David Hill, CRNA
Allison Holtman, CRNA
Barbara Richards, CRNA
Christine Rouleau, CRNA
Michelle Stevens, CRNA
Rachel Petree, CRNA
Vivian Ho, APRN
Tracy Kunkel, APRN



The Asthma Center is the region's leader in pediatric asthma research and its premier resource for evidence-based asthma programs. We are dedicated to improving the health and well-being of children and families through community-based collaborative research and programs, and we work to encourage, facilitate, and deliver a mechanism for program dissemination and outcomes assessment of clinical and translational research conducted by investigators within community settings, including schools, homes, community organizations, hospitals and ambulatory practice settings. The Asthma Center is committed to the training of investigators and community stakeholders in community-based research.

In 2019, the Asthma Center continued to adhere to its vision of developing and disseminating innovative approaches to improving the health and well-being of children, families, and communities. Using a public health approach, the Asthma Center continued to work to reduce health disparities and their determinants by conducting multi-faceted, interdisciplinary collaborative research on critical contemporary health issues facing children with asthma, and to establish optimal models of health management and best practices.

Also this year, the Asthma Center secured a second year of funding from the Cigna Foundation to continue digitally integrating the Easy Breathing© program across electronic health records and school information systems. With the assistance of this funding, the Asthma Center launched the digital Easy Breathing pilot project, the aim of which is to determine the feasibility and acceptability of a tablet-based program among pediatricians in a busy, federally-qualified health center. Secondary outcomes will examine provision of guidelines-based asthma care, asthma health-care utilization, and school absences. This project was in response to requests from primary care clinicians adopting paper-based Easy Breathing in an electronic health record setting. The results of the Asthma Center's evaluation of whether school nurses can assist pediatricians in providing asthma care and reduce school absenteeism through Easy Breathing for Schools were published in an Academic Pediatrics article, "A School Nurse-Led Asthma Program Reduces Absences: Evaluation of Easy Breathing for Schools." We demonstrated that successful implementation of Easy Breathing for Schools, a five-element, school nurse-led asthma management program, significantly decreased school absenteeism and improved inhaler technique among a sample of 251 students with physician-confirmed asthma over a period of two school years. We look forward to continuing this program in Hartford Public Schools and scaling it up to other school districts.

In September, center co-director Jessica Hollenbach, PhD, testified on behalf of the Asthma Center in support of a housing code proposed by Hartford Mayor Luke Bronin to establish specific environmental and safety-hazard requirements addressing air quality, mold, lead and infestations, and to support a more thorough

and comprehensive Hartford housing inspection program. The updated housing code was adopted by the Hartford city council in late October. To celebrate the newly adopted housing code, Dr. Hollenbach was invited to participate in a press conference at the Urban Hope Refuge Church, led by Pastor A.J. Johnson and the Christian Activities Council.

Dr. Hollenbach published "Hair Cortisol, Perceived Stress, and Social Support in Mother-Child Dyads Living in an Urban Neighborhood," an examination of the relationship between stress and hair cortisol in an understudied population of low-income, minority women and children experiencing disproportionate exposure to chronic stress. Findings suggest that hair cortisol is strongly associated among this sample of minority mother-child dyads and is not moderated by social support.

Christine Langton, MSW, MPH, published a first-author asthma manuscript, "Asthma Management in School: Parents' and School Personnel Perspectives." This Hartford-based cross-sectional study sought to understand school-based asthma care from the perspective of parents and school personnel, determining that while there is overall satisfaction among parents, guardians, and school personnel in Hartford, increased asthma training and enhanced communication are needed to address gaps in school-based asthma care.

PUBLICATIONS

Hollenbach JP, Kuo CL, Mu J, Gerrard M, Gherlone N, Sylvester F, et al. Hair cortisol, perceived stress, and social support in mother-child dyads living in an urban neighborhood. *Stress*. 2019 Nov; 22(6):632-639. doi: 10.1080/10253890.2019.1604667. Epub 2019 Apr 23.

Langton CR, Hollenbach JP, Simoneau T, **Cloutier MM**. Asthma management in school: parents' and school personnel perspectives. *J Asthma*. 2019 Jan 24. doi: 10.1080/02770903.2019.1568455. PMID: 30676162.

Simoneau T, **Langton CR, Hollenbach JP, Cloutier MM**, Gherlone N, **Marrero J**, et al. A school nurse-led asthma program reduces absences: evaluation of Easy Breathing for schools. *Acad Pediatr*. 2019 Jul 28. doi: 10.1016/j.acap.2019.07.007.

STAFF

Jessica Hollenbach, PhD, Co-Director, Asthma Center

Michelle Cloutier, MD, *Professor Emerita*

Christine Langton, MSW, MPH

Senior Program Evaluator/Research Associate

Brian Lesmes, BA

Administrative Assistant/Research Intern

Sigrid Almeida, BS

Research Assistant

During 2019, the Division of Medical Informatics continued to experience significant growth and celebrate new milestone achievements. Led by division head Dr. Richelle deMayo, the team is now comprised of six jointly appointed physicians and three advanced practitioners. The division includes five Clinical Informatics board-certified/eligible physicians, two Epic-certified physician builders, and two Epic-certified “power users.” The division’s energies are invested in the design, implementation and evaluation of applied health information systems solutions, focusing on human factors and user interface principles to support effective information assimilation and decision-making by providers and patients.

All members of the division are regularly engaged in activities to ensure health information technology supports rather than impedes excellent health care. Individual members of the division also have developed interest and expertise in provider resilience, population health, patient engagement, medication safety/clinical decision support, clinical care pathways and health information exchange.

Highlights of Biomedical Informatics-led endeavors this year include the ongoing vigorous “smart-EHR, bett-EHR, happi-EHR” provider experience program consisting of advanced training, at-elbow support and mentored personalization concerning use of the EHR (electronic health record). During 2019, the team worked with over 250 providers, resulting in qualitative and quantitative improvements in provider proficiency, efficiency and satisfaction with the EHR. The division also led efforts to rapidly enhance the clinical team experience in several specialty areas. Division members were rewarded by 84 percent of providers participating in our Agile divisional optimization, reporting “our EHR has the functionality for my specific clinical care focus.”

The division is also proud of significant accomplishments for the health center’s patients. This fall marked the launch of universal screening for patient language barriers and creation of technology tools to connect patients to interpretation and translation resources. The effort represented a year-long initiative to integrate electronic and operational workflows to better address social determinants of health; it was presented to the Connecticut Public Health Association as a model for adoption. The division’s work to develop novel “dose too close” cross-care-continuum alerts for patient safety was recognized for its generalizable value, and will be incorporated into our EHR vendor’s “foundation” system made available to its global client base.

The division’s tireless advocacy of patient engagement technologies succeeded in more than doubling the number of patients using organizational Mychart portal technology to interact with their care teams. The division has long been committed to championing meaningful enhancement of Mychart to support patient needs. Among new functionality introduced this year:

direct-to-patient virtual visits for post-operative care, patient self-scheduling and, in late 2019, “Open Notes” to extend patient access to their own records. The division is also deeply involved with the health system’s dedicated mobile application, which launched in December 2019.

Biomedical Informatics is an inherently multidisciplinary, team-based specialty. Within the institution, informaticists work closely with colleagues from every other Department of Pediatrics academic division and with hospital leadership. The coming year will mark the advent of a collaborative “clinical builder” program that includes physicians, advanced practice providers, and nurses. Beyond the walls of Connecticut Children’s, Biomedical Informatics team members collaborate with counterparts at the Ohio State University, West Virginia University, University of Connecticut, Yale University and the Connecticut Office of Health Strategy. The division’s members regularly present their scholarship at conferences and serve on committees at state, regional and national levels.

STAFF

Richelle deMayo, MD, CM, Division Head

Christopher Grindle, MD

Andrew Heggland, MD

Jane Im, MD

Bethany Peri, MD, PhD

Jessica Zimmerman, MD

Robin Bradshaw, APRN

Jill Herring, APRN

Kimberly Kempner, APRN



The mission of the Division of Pediatric Cardiology is to care for and improve the cardiovascular health of newborns, children and adolescents, and to transition them into healthy adulthoods. We strive to embrace discovery, teamwork, integrity and excellence in all that we do. Again this year, U.S. News & World Report ranked Connecticut Children's Medical Center among the best hospitals for pediatric cardiology and heart surgery.

EXPANSION

In 2019, Joseph Kuruvilla, DO, FAAP, joined our division. He brings pulmonary hypertension expertise to the region. We treated our first patient with severe pulmonary hypertension with injectable prostacyclin therapy. This marked the formal start of our advanced pulmonary hypertension program, likely the only dedicated pediatric pulmonary hypertension program in the state.

Our fetal cardiology program continues to expand, and we trained three sonographers to perform fetal echocardiograms. We added one additional cardiac sonographer, Ms. Michelle Wright, to our team to accommodate increasing cardiology patient volumes. With the establishment of our dedicated space in Danbury, we

now have increased cardiology presence and services there. We added an additional satellite location in Shelton, CT, to provide outpatient services closer to home for patients. These new locations are in addition to our other ambulatory pediatric specialty care centers in Danbury, Glastonbury, Farmington and Norwich.

INTERVENTIONAL CARDIOLOGY AND ELECTROPHYSIOLOGY: PROCEDURAL INNOVATIONS

Frederic Bernstein, DO, FACC, FSCAI, serves as the director of interventional cardiology at Connecticut Children's, performing all of the cardiac catheterization for the pediatric and adult congenital population.

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

Shailendra Upadhyay, MD, CEPS, FHRS, the division's medical director and interim chief, performs state-of-the-art, non-fluoroscopic catheter ablation for supraventricular tachycardia in children. Connecticut Children's is the only medical facility in the state to routinely perform this procedure without X-ray use. Fluoroscopy time for catheter ablation of arrhythmias at Connecticut Children's is way below the national average.

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.

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

ADULT CONGENITAL HEART DISEASE PROGRAM

Since receiving accreditation as a comprehensive adult congenital heart disease center by the Adult Congenital Heart Association (ACHA) in 2018, Connecticut Children's continues to provide the most comprehensive care of adults with congenital heart disease (ACHD) in the state of Connecticut. Our program is the first and only accredited ACHD program in the state of Connecticut and one of only 33 in the nation. Our ACHD program was rated excellent by *U.S. News & World Report*. It is overseen by three providers, Felice Heller, MD, Dr. Upadhyay, and Whitney Fairchild, APRN. Drs. Heller and Upadhyay are both board-certified adult congenital cardiologists. The outpatient clinic follows over 1,000 adults with congenital heart disease on an annual basis. It also 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.

NON-INVASIVE IMAGING: PEDIATRIC AND ADULT

This year marked the highest volume yet of transthoracic, transesophageal and fetal echocardiograms performed by the Echocardiography Lab at Connecticut Children's, with a total of 5,873 studies performed at the main hospital, and at satellites and non-Connecticut Children's NICU locations. This is the fifth straight year of growth in echocardiography volume. Connecticut Children's new specialty care center, which opened this year in Danbury, includes a brand new echocardiography space with a state-of-the-art Epiq machine with pediatric and fetal probes to perform transthoracic and fetal studies. This new space allows us to expand our high quality care to the children of western Connecticut.

Our echocardiography team, certified by the Intersocietal Accreditation Commission, continues our commitment to perform the highest quality echocardiograms with efficient and

accurate interpretation to serve the babies, children and adults with congenital heart disease and acquired cardiac illness in our community.

NON-INVASIVE IMAGING: FETAL

Our fetal cardiology program experienced continued growth this year. To accommodate it, our division increased staff levels with the addition of a fetal sonographer and a dedicated fetal nurse. We also increased clinic accommodations substantially to meet the growing needs. Our multidisciplinary fetal cardiology team includes cardiologists, nurses, specially trained sonographers, obstetricians, maternal-fetal medicine specialists, neonatologists, the palliative care team, and pediatric cardiothoracic surgeons. We provide services in Hartford on the main campus and at our satellite clinic in Farmington. We present monthly educational conferences for the regional maternal-fetal medicine specialists, and we are the primary site for teaching fetal echocardiography for the maternal-fetal medicine fellow at the University of Connecticut. We are actively working on the development of a fetal registry and on clinical care pathways that will enable us to track and optimize outcomes in our fetal patients.

NON-INVASIVE IMAGING: CARDIAC MRI

Cardiac magnetic resonance (CMR) imaging is an important diagnostic tool in the care of all patients with congenital and acquired heart disease. It is now a standard of care for evaluation of adults with congenital heart disease. Olga Toro-Salazar, MD, leads our program. Alexandra Channing, MD, is our other advanced-imaging-trained cardiologist with expertise in cardiac MRI. We are proud to share the addition of 3T cardiac MRI at Connecticut Children's. This cardiac MRI program, which is over a decade old, has gained national recognition and allows the performance of complex pediatric and adult congenital and acquired cardiac cases. It has become an asset to both institutions, Hartford Hospital and Connecticut Children's, and has provided care for over 1,800 pediatric and adult cardiac patients.

NON-INVASIVE IMAGING: CARDIO-ONCOLOGY PROGRAM

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

INPATIENT CARDIOLOGY

The inpatient cardiology program continues to serve the hospital for inpatient consultations and to 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 Pediatric Surgery service, and the Neonatal Intensive Care team to provide care of pre- and post-operative cardiac patients with special attention to standardization of care, smooth transition of care from the ICU to regular nursing floor settings, and from inpatient to outpatient settings. The inpatient team continues to provide education to the house staff and medical students, both on rounds and in didactic settings.

EDUCATION

Our division is dedicated to the medical education of future providers and medical professionals. Drs. Heller and Upadhyay provide training in congenital heart disease for adult cardiology fellows from Hartford Hospital and John Dempsey Hospital. Dr. Heller serves as a content expert for the first-year medical student's core curriculum. She created a highly regarded lecture series on congenital heart disease for adult cardiology fellows.

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

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

Under the research mentorship of Drs. Olga Toro-Salazar, Brooke Davey and Shailendra Upadhyay, our residents, Drs. Sarah Kollar and Andres Moreno, were able to participate and complete research studies and present data at national meetings.

PROFESSIONAL RECOGNITION

Dr. Heller has an international reputation as an expert for LMNA cardiomyopathy with patients from outside the state of Connecticut seeking her care. She presented on the topic of "Cardiac Manifestations of LMNA Congenital Muscular Dystrophy" at the Congenital Muscle Disease Scientific and Family Conference in Chicago, IL, in July, and presented "Adult Congenital Heart Disease: What the Internist Needs to Know" at the 55th Annual Robert M. Jeresaty, MD, Cardiovascular Symposium at St. Francis Hospital in Hartford, CT, in May 2019.

Dr. Upadhyay represented Connecticut Children's during his invited professorship at the U.N. Mehta Institute of Cardiology and Research Center (which is affiliated with B.J. Medical College) in Ahmedabad, India, in February 2019. Drs. Davey and Upadhyay were invited to moderate and give an oral presentation at the Innovations in Cardiovascular Disease Symposium, which was

held in New York in February and organized by the Rambam Foundation.

Whitney Fairchild, APRN, and Felicia Tam, RN, were accepted into and completed the evidence-based practice (EBP) fellowship program. Ms. Fairchild spearheaded an ongoing project involving a study to investigate and improve self-health management skills in the adult congenital heart disease population. In addition, she gave an oral presentation on "Increased Prevalence of Infective Endocarditis in Congenital Heart Disease Patients With Transvenous Cardiac Implantable Electronic Devices and Pulmonary Valve Replacement" at the Annual International Symposium on Congenital Heart Disease in the Adult, which was held in Skamania, WA, in May.

Dr. Upadhyay was an invited speaker on adult congenital heart disease at the Innovations in Cardiology and Vascular Medicine at the East Region Hartford Healthcare Symposium in Norwich, CT, in October.

Seth Lapuk, MD, FAAP, FACC, joined the Connecticut Children's medical staff board of the executive committee. He rejoined the Connecticut chapter of the AHA board of directors and remains on the board of directors of the Connecticut Chapter of the American College of Cardiology.

CARDIOLOGY RESEARCH PROGRAM DIVISION REPORT

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

CHD DIAGNOSIS AND PARENTAL PSYCHOLOGICAL COPING

The purpose of this research study is to learn more about how parents react and adapt to a new diagnosis of congenital heart disease (CHD), and how this process evolves over time.

IMMUNOLOGY AND CONGENITAL HEART DISEASE

Drs. Davey and Toro-Salazar published a manuscript detailing the multicenter collaborative project T-Cell Receptor Excision Circles: A Novel Approach to Identify Immunodeficiency in Newborns with Congenital Heart Disease in the *Journal of Pediatrics*. This study demonstrated that newborns with CHD have lower T-Cell Receptor Excision Circle (TREC) levels, which are a sign of immunodeficiency, than the general population.

ROLE OF AEROBIC EXERCISE TO MODULATE CARDIOTOXICITY IN LONG-TERM CANCER SURVIVORS EXPOSED TO ANTHRACYCLINE THERAPY

With support from the Hoffman Foundation, Drs. Toro-Salazar and Andrea Orsey in Hematology-Oncology are exploring the effects of exercise intervention on survivors of childhood cancer exposed to cardiotoxic meds, the effects of which are measured by Cardiac Magnetic Resonance Imaging (CMR), cardiopulmonary indices obtained by stress test, and microRNA expression.



NECCA BICUSPID AORTOPATHY REGISTRY

The Connecticut Children's team is participating in the bicuspid aortopathy registry through the New England Congenital Cardiology Association (NECCA). The goal is to improve preventive cardiology care throughout the New England region for children and young adults with bicuspid aortic valve and proximal aortic dilation.

MRI RESEARCH PROGRAM

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

FONTAN WORKING GROUP

The Connecticut Children's team, led by Dr. Davey, continues to work closely with the Fontan working group through the New England Congenital Cardiology Association.

CARDIO-ONCOLOGY RESEARCH

Anthracycline-induced cardiomyopathy (AIC) presents a major long-term issue in survivors of childhood cancers treated with anthracycline group medications. Dr. Toro-Salazar and Milena Furtado from the Jackson Laboratory in Farmington, CT, are leading a multidisciplinary team to ensure advancement of our understanding of molecular and cellular mechanisms underlying the development of AIC severe adverse sequelae. Our preliminary data are quite encouraging, and results were published in the *American Journal of Physiology*, and *Cardio-oncology*.

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Alicia Wang, MD

Whitney Fairchild, APRN

PEDIATRIC CARDIOTHORACIC SURGERY



The Pediatric Cardiothoracic Surgery service provides world-class surgical care and support to the children and adults of Connecticut born with congenital heart disease. In 2019, U.S. News & World Report ranked Connecticut Children's Medical Center among the Best Hospitals for pediatric cardiology and heart surgery.

Dennis Mello, MD, has performed numerous complex congenital heart surgeries since his arrival in 2018, including a Norwood operation for hypoplastic left heart syndrome, with excellent outcomes. Our surgical volumes have significantly increased since his arrival. Neal Devejian, MD, a congenital heart surgeon, and Kenneth Warner, MD, an experienced adult congenital heart surgeon, have both been credentialed for congenital heart surgeries at Connecticut Children's. Drs. Devejian and Warner operate alongside Dr. Mello, further strengthening our congenital heart surgery program and regional collaborations. To continue to support the post-operative care of cardiac surgery patients, we added Kathleen Kellerman, PA-C, to our team.

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, 2018 and 2019, we were ranked among best U.S. hospitals for heart surgery. Our results are included and updated on the STS website.

The Pediatric Cardiothoracic Surgery service strives for discovery, teamwork, integrity and excellence in cardiac surgical care. Cardiothoracic Surgery, Pediatric Cardiac Anesthesia, the Pediatric Intensive Care Unit (PICU), and Pediatric Cardiology have worked together in a strong collaboration to provide a uniform standard of care to patients with congenital heart disease who are seeking surgery.

EDUCATION

The service provides ongoing education and support for cardiac nurses in the PICU.

STAFF

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Kathleen Kellerman, PA-C

CENTER FOR AIRWAY, VOICE & SWALLOWING

The Center for Airway, Voice and Swallowing, also known as the Aerodigestive Center, provides state-of-the-art care for children with complex disorders affecting airway, breathing, feeding, swallowing, and growth.

Our multidisciplinary Aerodigestive Center consists of pediatric specialists from Otolaryngology, Pulmonology, Gastroenterology, Speech and Language (Swallow) Pathology, and Pediatric Surgery. Appointments with our team include a coordinated visit with pertinent specialists and concurrent diagnostic tests or interventions. For many patients, coordinated surgical endoscopy (also called a “triple scope”) is the next step in evaluation and treatment.

Our synchronized approach offers many advantages for patients and families, including fewer doctor visits and missed days of school/work; fewer exposures to anesthesia; less time to effective treatment; and, by combining surgical procedures and minimizing off-target testing, families generally see fewer out-of-pocket medical costs. Ultimately, our collaboration yields more comprehensive, sophisticated, and effective treatment for this vulnerable population.

We offer specialty care centers in Farmington, Glastonbury, and Hartford. Full aerodigestive team clinics are held three times monthly (Hartford, Farmington). Focused specialty clinics are also offered: Airway clinics are held twice weekly (Hartford), voice clinics are held twice monthly (Glastonbury, Farmington), and swallow clinics are held twice monthly (Hartford, Farmington). The year 2019 brought more growth and enrichment for our

team. We welcomed pediatric gastroenterologist and motility expert Corey Baker, MD. He has added esophageal and anorectal manometry and upgraded pH/impedance probe testing to the large array of services we offer patients. We also welcomed nutritionist Debbie Verkin-Siebert, RD, CSP, CD-N, and a second administrative assistant/special scheduler, Renee Grenier, to our team.

Our physicians continue to participate meaningfully in the growing international Aerodigestive Society. This year, division head Nicole Murray, MD, was elected to be the Society Otolaryngology Representative, and she moderated the keynote Tracheomalacia Session at the 7th Annual Contemporary Management of Aerodigestive Diseases in Children conference in Denver, CO.

This year, our physicians' international reputations expanded as well. Katherine Kavanagh, MD, continues to teach sophisticated pediatric airway procedures to international learners, teaching this year at the World Congress of Pediatric Otolaryngology in Buenos Aires, Argentina, and the Starship Simulation Programme “Boot Camp” in Auckland, New Zealand. Dr. Murray continues to teach the pediatric component of the United States sessions of the international course “The Altered Airway,” which is sponsored by the Global Tracheostomy Collaborative.

Our speech therapists enhanced their local and national teaching activities, including guiding other Connecticut hospitals in the adoption of the International Dysphagia Diet Standardization Initiative (IDDSI), and presenting at the American Speech-Language-Hearing Association (ASHA) conference in Orlando, FL.



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Claribel Vega, MA
Administrative Coordinator

Renee Grenier, MA
Special Scheduler

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Pediatric Pulmonology

Christine Rader, MD
Pediatric Surgery

Victoria Grossi, DO
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Katie McLoughlin, MS, CCC-SLP
Speech-Language Pathology

Virginia M. Van Epps, MEd, CCC-SLP, CLC
Clinical Manager, Speech-Language Pathology

Anna Maria Mennella, LMSW
Family Support Clinician

Debbie Verkin-Siebert, RD, CSP, CD-N
Registered Pediatric Dietitian





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

The past year has been a time of transition for the CBH. During the summer of 2019, Emily Simpson left the CBH to pursue a post-doctoral fellowship at Penn State University, and Anna Vannucci left the CBH to complete her doctoral work at Columbia University. During the same time, the CBH welcomed research assistant Rachel Taylor, a human development and family studies graduate student from the University of Connecticut. During the summer, Drs. Nicole Watkins, a developmental psychologist from Indiana University, and Katie Newkirk, a clinical psychologist from the University of Massachusetts, also joined the team as post-doctoral fellows, and Caroline Salafia, a master's student in health psychology from Central Connecticut State University, began her internship. In addition, Arlie Koziol, a recent graduate from the University of Connecticut, worked at the CBH during the summer as part of the University of Connecticut PIE (Partnership for Innovation and Education) Fellowship program.

The year was an extremely active one for the CBH. Our work yielded 17 presentations at national and international conferences including the Society for Research in Child Development,

the Society for Adolescent Health and Medicine, the Journal of Clinical Child and Adolescent Psychology Future Directions Forum, the Obesity Society, the Society for the Study of Emerging Adulthood, and the International Conference on Social Media and Society. We also presented more locally at the University of Connecticut's Institute for Collaboration on Health, Intervention, and Policy (InCHIP) Research Showcase, and the University of Connecticut's Social Media and mHealth Conference, where one of our poster presentations (Fagle, Vannucci, & Ohannessian, "Determining optimal social media use in relation to risk for conduct disorder during early adolescence") was awarded first place. During 2019, we also published 18 manuscripts in top-tier journals (refer to the list below) and were featured in *Parade* magazine.

Currently, the CBH has a number of active research projects led by the center's director Christine Ohannessian, PhD. These projects include the Adolescent Adjustment Project (AAP; adolescentadjustmentproject.org), the BALANCE project (balanceresearchproject.org), the PANDA project (Predictors of Anxiety and Depression during Adolescence; pandaresearchproject.org), and the REACH Project on emerging adults (reachresearchproject.org). The AAP is a large longitudinal study that focuses on psychosocial variables that moderate the relationship between parental substance abuse and related psychopathology and adolescent behavioral health. The AAP sample is a diverse community sample of 1,347 adolescents who were followed annually throughout their high school years.

In 2014, a fifth wave of data was collected from this group, now in emerging adulthood. Another follow-up wave of data collection is planned for the spring of 2020. To date, the AAP has yielded 36 publications. The BALANCE project is a partnership between Connecticut Children's, the University of Maryland, and Georgia State University. The primary aim of the project is to examine the influence that parental work and family conflict have on one another and how they interact to influence adolescent behavioral health. Survey data collection has been completed for 100 families, and laboratory data collection currently is ongoing. The PANDA project, funded by the Alvord Foundation, has been quite active this year as well. The primary aim of the project is to examine predictors of gender differences in depression and anxiety during early adolescence. The diverse sample includes 1,686 adolescents from Connecticut and Massachusetts. To date, six waves of data have been collected. We are in the process of collecting a seventh wave of PANDA data. This past year, Dr. Ohannessian also collaborated with Dr. Caitlin Elsaesser from the University of Connecticut's School of Social Work and Dr. Desmond Patton from Columbia University's School of Social Work on a research project focusing on social media use and aggressive behavior in youth living in violent neighborhoods.

Our group has been actively involved in editorial work. In 2019, Dr. Ohannessian continued to serve as associate editor for the *Journal of Early Adolescence*, and for *Emerging Adulthood*. In addition, she was promoted to field editor for the *Journal of Studies on Alcohol and Drugs*, and named assistant editor for the *Journal of Adolescence*.

During 2019, the CBH collaborated with many external partners including Columbia University, Illinois State University, 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 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.

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The ongoing mission of the Center for Global Health (CGH) is to impact the lives of children throughout the world who live in resource-limited settings by supporting the collaborative, sustainable, and capacity-building activities of our members, including, but not limited to, clinical learners, staff and faculty. During the past eight years, the CGH has successfully created a culture of establishing and promoting influential activities to increase global health involvement, and contributed to improving employee engagement. This has resulted in the CGH creating a culture that reinforces our status as world citizens and the recognition that we have the ability, opportunity, and responsibility to improve the health of children, not just locally, but throughout the world.

Our objectives continue to be accomplished through various activities sponsored by the CGH. These include the annual Global Health Symposium, the annual Global Health Film Festival, as well as on-location operational and clinical work in several resource-limited settings, and other consultative, training, and developmental activities that prepare our team to make an impact in the global health community. During the past fiscal year, our accomplishments have included over a dozen capacity-building trips by our team to China, Colombia, Haiti, India, Rwanda, and Uganda.

Specifically, during this past year, major accomplishments of the CGH included ongoing work in Haiti, a trip to India to continue the work regarding an infant cooling program to prevent hypoxic ischemic encephalopathy, a trip to Rwanda to teach Paediatric BASIC to a group of health care providers at University Teaching Hospital of Kigali (CHUK), and three trips to Uganda, in collaboration with the Masooli Project, to assess the clinical status and capacity of the Faith Mulira Health Care Centre as a potential site for medical learners, and finally, to partner with Mengo Hospital in Kampala, Uganda, the largest hospital in East Africa, to develop a center of excellence in neonatal care in partnership with the Ministry of Health.

The CGH continues to be led by Adam Silverman, MD, as director, and Karen Damon Callahan, MHS, RN, CPN, as 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 continuing to provide 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. These efforts are associated with improved job satisfaction and institutional loyalty, and they reduce staff turnover. The CGH identifies methods for lowering barriers to participation in global health-care activities as well as training the next generation of global health-care providers and leaders.

During 2019, the CGH continued its mission of a train-the-trainer model, education through collaborative monthly virtual meetings, and culture-building by providing a venue for sharing

the efforts of health-care providers from Connecticut Children's, the University of Connecticut School of Medicine, and our other institutional health-care partners during the seventh annual **Global Healthcare Symposium** and the sixth annual **Global Health Film Festival**. Specifically, the 2019 symposium included speakers from within Connecticut Children's as well as outside institutions in order to highlight the activities of volunteers who participated in a variety of activities in locations such as Colombia, Haiti, India, Israel, Rwanda, and Uganda, and locally at the University of Connecticut refugee clinic in Farmington. Additionally, the CGH expanded its efforts to educate and bring awareness to health care providers regarding global health successes and dilemmas by presenting at medical grand rounds, nursing grand rounds, and accepting invitations to speak in a Traveling Grand Rounds program hosted by various hospital locations around the state of Connecticut.

The foundation of these capacity-building activities includes collaborations, partnerships and sustainable volunteering opportunities with several organizations including:

- Justinien University Hospital as volunteers with Konbit Santé in Cap-Haitian, Haiti
- St. Damien Pediatric Hospital as members of the St. Damien Collaborative in Port-au-Prince, Haiti
- Hospital Sacré Coeur Pediatric Diabetes Program as volunteers with CRUDEM in Milot, Haiti
- NICE Foundation "Cool the Kids" program in Hyderabad, India
- The University Teaching Hospital of Kigali (CHUK) in Kigali, Rwanda
- The Faith Mulira Health Care Centre as volunteers with the Masooli Project, in Masooli, Uganda
- Mengo Hospital in collaboration with the Friends of Mengo Hospital, USA, and in Kampala, Uganda

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The Division of Child Abuse Pediatrics provides clinical evaluation services through the Suspected Child Abuse and Neglect (SCAN) 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.

In 2019, the SCAN program received a grant from the Connecticut Office of Victim Services to improve sexual abuse medical services in Northern Connecticut. This project includes:

- Establishing three new satellite medical services in Children's Advocacy Centers in Waterbury, Torrington, and Hartford
- Providing subcontract support and regular peer review for established regional examiners in Danbury and Putnam
- Providing regular education for sexual abuse examiners statewide using the ECHO telementoring model

Beyond clinical work, 2019 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: Hartford/MDT 14, Central Connecticut New Britain/Bristol, East Central MDT, North Central MDT, and Tolland MDT
- Provision of regular expert testimony in Connecticut courts
- Participation in statewide initiatives focused on child abuse prevention, human trafficking, domestic violence, and abusive head trauma
- Provision of national training to attorneys on medical evaluation of abuse and neglect
- Participation in research

- Participation in quality improvement initiatives, including development of a new clinical pathway for suspected sexual abuse
- Provision of national medical peer review to other medical providers

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The Division of Child and Adolescent Psychiatry remains a highly vibrant resource within the Department of Pediatrics at Connecticut Children's Medical Center. In 2019, we expanded our division to include two additional physicians to our inpatient service at the Institute of Living (IOL). We continue to be actively recruiting new physicians as the demand for child psychiatry services, especially in future collaboration efforts with Connecticut Children's, continues to grow.

This past year, we participated in a collaborative effort led by Connecticut Children's project management team to open up a Transitions Clinic to provide immediate access to behavioral health services for children presenting to our emergency department. The clinic opened in January 2019, and the data shows that it has helped to keep high acuity children from requiring recurring admissions to the emergency department. We presented this data at both the Connecticut Children's Illuminations Patient Safety and Quality Conference, and at the American Academy of Child & Adolescent Psychiatry (AACAP) Annual Meeting in Chicago, IL. In addition, our team at Connecticut Children's has continued to partner with the division of Pediatric Hospital Medicine (PHM) to maintain 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. In June of 2019, our most recent collaborative pathway for the management and detection of delirium went live, and we are among the first pediatric hospitals to do hospital-wide screening. An additional area of collaboration has been with the Emergency Medicine Division team; with which we have embarked on a process of determining innovative models of care for children presenting to the emergency department. As part of this effort, we helped to promote global suicide screening for all patients presenting to the Connecticut Children's emergency department and have completed a proposal that

reflects a model based on New York State's Comprehensive Psychiatric Evaluation Program (CPEP), which is designed to enhance behavioral health care in the emergency department.

At Connecticut Children's, our division's services include: a consultation/liaison service that provides inpatient evaluations on any patient presenting with behavioral health concerns that may indicate co-occurring psychiatric and medical conditions; and emergency psychiatric assessment, triage and disposition services within the Connecticut Children's Emergency Department along with the new Transitions Clinic located in the outpatient offices at 85 Seymour Street. At the 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 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.

Connecticut Children's and the IOL remain highly active teaching sites for many trainees: child and adolescent psychiatry fellows; general psychiatry residents; psychology interns; pediatric residents and medical students; as well as a post-doctoral fellow who joins our consultation-liaison service for 12 months. In 2019, 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. Namerow and her colleagues from the IOL continue to study the benefits and limitations of pharmacogenomics testing on the treatment of children and adolescents with anxiety and depression. This group continues to be actively involved with academic presentations and publications. In addition, Michael Stevens, PhD, and Michal Assaf, MD, of the Olin Neuropsychiatry Research Center on the campus of the IOL, remain 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 Mirjana Domokonda, MD. It continues to have active and ongoing projects.

While our division is relatively modest in size compared to those at other hospitals, we are among the most active in terms of presentations on topics that integrate the work of pediatrics and child psychiatry. This year, we were honored to have been selected to make several presentations at the AACAP Annual Meeting in Chicago. We presented in the areas of homicide risk assessments, pharmacogenomics, autoimmune encephalopathy, and integration of clinical pathways in pediatrics to target somatic symptom and related disorders (SSRDs) and eating disorders. Drs. Catherine Sullivan, PHM, Christine Nunes (pediatric psychology), and Lisa Namerow, presented together at a workshop on SSRDS with colleagues from the University of Michigan. The presentation included the metrics we have obtained from our SSRD pathway. Mirela Loftus, MD, presented with Susan Ratzan, MD, of the Endocrinology division, on psychosocial dwarfism also highlighting the significant collaboration efforts between child psychiatry and the other divisions at Connecticut Children's.

At the national level, Lynn Mangini, MD, was a contributing member of a work group comprised of 17 experts in emergency child and adolescent psychiatry and psychopharmacology from the American Association for Emergency Psychiatry and the American Academy of Child and Adolescent Psychiatry Emergency Child Psychiatry Committee who sought to create consensus guidelines for the management of acute agitation in children and adolescents in the emergency department. Dr. Namerow participated in the Pathways in Clinical Care AACAP work group, which successfully published two national consensus

guidelines on a clinical pathway for both delirium and somatic symptom and related disorders. In addition, Dr. Namerow was promoted to associate professor this year in the departments of psychiatry and pediatrics.

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The Division of Community Pediatrics is the largest division at Connecticut Children's Medical Center with 160 members and growing. A significant number of members also have faculty appointments at the University of Connecticut School of Medicine.

Our members provide primary pediatric care to most children from the Greater Hartford area, including health maintenance, sick care, and behavioral health care. Member pediatricians diagnose most chronic diseases of children in our area. 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 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 to provide efficient and cost-effective care.

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 quarterly meetings of the Referring Provider Advisory Board 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.

The members of the division, in partnership with physicians from Connecticut Children's specialty divisions, are in the process of creating a pediatric affordable care organization. This will increase opportunities to provide consistent high-quality care to children through the development and adoption of evidence-based care models, and provide increased primary care and specialty access for children with chronic diseases and special care needs. This effort also will expand the footprint of the division beyond the Greater Hartford area to include practices in the wider southern New England region.

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 community physicians as well as nurse practitioners, physician assistants, and school nurses who care for children in the community setting.

The division sponsors a lectureship in honor of Christopher O'Connor, MD, that addresses the concerns of community-based pediatric medicine.

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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:

Christopher Carroll, MD, 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 deputy editor of multimedia for the journal *Chest*, chair of the Critical Care NetWork and vice-chair of the program committee of *Chest*, and member of the board of trustees of the Chest Foundation. Dr. Carroll also served on the task force to establish the first set of Pediatric Surviving Sepsis Campaign Guidelines from the Society of Critical Care Medicine and received a distinguished educator award from *Chest*.

Adam Silverman, MD, continued to lead the Center for Global Health in an effort to build local cultural awareness and support for global health in 2019. The major internal activities in these regards are the annual Global Healthcare Symposium and the Global Health Film Festival. Over the last two years, he has lectured regionally, nationally, and internationally about global health-care topics. He has organized and participated in training missions to Rwanda and Haiti to improve the care of critically ill

newborns and small children. 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 staff members who travel to developing countries to help improve the health care of children.

Heather Schlott, MD, 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 a program of our size) from the national Extracorporeal Life Support Organization for excellent outcomes. These capabilities are key components of modern PICU (pediatric intensive care unit) care and specifically crucial to the expansion of our cardiac surgery program.

Dr. Schlott also led the development and implementation of our continuous renal replacement therapy (CRRT) program, which has grown with excellent clinical results. This year, a collaboration with Neonatology, Nephrology, Gastroenterology (Hepatology), and Pediatric Surgery was formed to expand the services available to a growing population of neonates and infants that might benefit from CRRT.

Dr. Schlott continues as a champion of sepsis care, including acting as the clinical expert for Connecticut Children's in the Children's Hospital Association's "Improving Pediatric Sepsis Outcomes" Collaborative, which has goals of reducing both sepsis deaths and hospital-onset severe sepsis by 75 percent by 2020.

Kenneth Banasiak, MD, 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, staff competency, and patient outcomes. He continues as assistant director of the ECMO program. He has initiated an entirely new comprehensive curriculum, "Critical Care Physiology," focused primarily on the education of residents who intend to go on to careers in acute care subspecialties.

Daniel Fisher, MD, in collaboration with the Simulation Center, continues to oversee the interdisciplinary educational program with focus on in-hospital resuscitation of patients in emergency situations. Using a high-fidelity simulation manikin, care team learners are presented with a patient in a life-threatening scenario and are called upon to resuscitate the patient. Sessions focus on medical decision-making, critical task completion, and interdisciplinary communication during high risk situations. 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.

Leonard Comeau, MD, continues his activities to improve the comfort and quality of care for our patients, both in the PICU and hospital-wide. He participates in care delivered by the Sedation Service, and also serves as the leader of the quality and safety oversight activities of the Sedation and Analgesia Committee. He serves as the chair of the hospital Clinical Ethics Committee, which addresses issues related to the appropriateness and decision-making regarding health care for some of our most complicated patients.

In addition, Dr. Comeau leads Schwartz Rounds, a series of discussions for all Connecticut Children's staff where they can openly and honestly discuss the social and emotional dimensions of providing patient care. The goal is to foster empathy, collaboration, and compassionate support for the self and others, including our patients, their families, and all members of the health care team.

Allison Cowl, MD, serves as a member of the steering committee of the Pediatric NetWork for the American College of Chest Physicians. She continues her clinical research collaborations with the Pediatric Acute Lung Injury and Sepsis Investigators (PALISI) international network, focusing on various aspects of the care of critically ill patients that can adversely affect both their in-hospital experience and status after discharge from the hospital ("post-intensive care syndrome"). To this end, she leads our comprehensive multidisciplinary program ("BLOOM") in which the care team, among other things, develops expertise to minimize, recognize and manage delirium, promote early mobilization of patients, and liberate them as early as possible from mechanical ventilation support. In recognition of the great impact

of this program, Dr. Cowl was the recipient of the prestigious 2019 Medical Staff Quality and Safety Cup award.

She also participates in clinical research protocols evaluating platelet transfusion practices in the PICU, as well as the use of prone positioning and various modes of mechanical ventilation in the treatment of patients with severe acute respiratory failure. She serves as the lead for resident education in the PICU, including expansion of the critical care subtrack with multiple new rotations for pediatric residents who are pursuing careers in acute care pediatrics (with particular focus on pediatric critical care medicine). She has mentored house staff in the completion of clinical studies about the role of ECMO in the treatment of asthma, the utilization of two modes of non-invasive pressurized respiratory support devices for treatment of patients with bronchiolitis, and the feasibility of providing enteral nutrition to these critically ill patients.

Rosanne Salonia, MD, 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 continues her clinical research collaboration with the Pediatric Neuro-critical Care Research Group (PNCRCG), which addresses various aspects of care of patients with severe brain injuries (such as management of sedation and delirium). She is involved in a collaboration with the national Children's Hospitals' Solutions for Patient Safety group, which works to eliminate serious safety events in children's hospitals. She is working with Dr. Fisher and members of the Emergency Medicine division in resident and staff simulation education sessions to review treatment decisions and team communication during high-risk clinical scenarios.

Robert Parker, DO, joined the Division of Critical Care in 2019. Following graduation from college, he traveled to Siberia and Scotland to complete a fellowship in psychoneuroimmunology and shamanism, exploring how the mind and the body interact to promote healing. He attended medical school at the University of New England and subsequently completed his pediatrics residency at Maine Medical Center, and a Pediatric Critical Care Fellowship at Nemours/A.I. duPont Hospital for Children in Delaware. After beginning his career as an attending physician at Baystate Health in Springfield, MA, Dr. Parker became a member of our division faculty.

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

Division head Aaron Zucker, MD, FCCM, is the chairperson of the Peer Review Committee, which oversees the medical staff's evaluations of each 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. For these activities, he received the medical staff's annual award of Physician of the Year and first-ever Chair's Award for Well-Being.

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STAFF

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Christopher Carroll, MD
Leonard Comeau, MD
Allison Cowl, MD
Daniel Fisher, MD
Robert Parker, DO
Rosanne Salonia, MD
Heather Schlott, MD
Adam Silverman, MD
Petronella Stoltz, APRN



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

The Division of Developmental and Rehabilitation Medicine is composed of a diverse faculty of developmental-behavioral pediatricians (DBPeds), an integrative medicine (IM) specialist, a speech language pathologist/autism specialist, a child psychologist and an advanced practice nurse (APRN). Our 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, optimal clinical care, and consultative services to schools and agencies across the state.

STAFF UPDATES

Mariel Zeccola, APRN, joined the division in January 2019 at the Norwalk Developmental Center, a joint venture between Connecticut Children's and Norwalk Hospital, which is part of Nuvance Health™. She provides a rich background in children's mental health and brings a depth of psychopharmacology and therapeutic experience to the center.

Mikaru Lasher, PhD, also joined the division in January 2019 at the Norwalk Developmental Center. She is a child psychologist/neuropsychologist with experience in developmental, behavioral and academic issues.

Jennifer Twachtman-Bassett, MS, CCC, SLP, autism program coordinator, has expanded her support to the DBPeds providers, to include training new staff and providing direct autism and social language evaluations for all of our sites. She works in close collaboration with our division's research lead, Thyde

Dumont-Mathieu, MD, MPH, to support our research activities. She is currently overseeing triage for patients referred for autism diagnosis in an effort to serve patients with the most need and to avoid unnecessary duplication. In her capacity on the Connecticut Children's Autism Taskforce, she has expanded our Picture Story Library, which is designed to help patients cope with medical visits and procedures. She has trained staff in multiple departments on how to approach and interact with patients diagnosed with autism spectrum disorder (ASD).

Keith Ellis, APRN, has not only enhanced access for families but also has helped to identify the training needs and service role of an advanced practice provider in the division.

The division's flagship clinical program is the Autism Spectrum Assessment Program (ASAP). We are replicating the program in our Fairfield County location at the Norwalk Developmental Center. The current ASAP service includes DBPeds and Speech-Language Pathology, as well as the rapidly growing ASAP Neurogenetics Program, which is under the leadership of Louisa Kalsner, MD, in Neurology. For parents, families and medical providers, ASAP represents a direct line from the autism diagnosis to standard-of-care clinical genetic and laboratory evaluation. It also provides the opportunity for patients to participate in our research initiatives.

Robert Keder, MD, co-led an advocacy track embedded within the 2019 annual meeting for the Society for Developmental & Behavioral Pediatrics (SDBP), and in that capacity, he led a group of over 90 participants to Capitol Hill in Washington, DC, to meet with their legislators and advocate for the Autism Cares bill and pediatric subspecialty loan repayment. He was first author/presenter for a three-hour workshop entitled, "A Higher Calling: Advocacy Skills for Capitol Hill and Beyond," and co-author/presenter for the concurrent session, "We're Just a Field Advocating on Capitol Hill." He is expected to assume a leadership position as future co-chair of the SDBP Advocacy Committee.

Dr. Keder continues as an embedded developmental-behavioral pediatrician in two of Connecticut Children's primary care settings, serving the goal of enhancing collaboration and co-management with primary care providers, as well as improving access to care for our highest risk patients and families.

Dr. Mark Greenstein, who served for many years in the role of core faculty liaison (CFL) in Developmental-Behavioral Pediatrics for medical students, graduate students, and residents in pediatrics, retired on September 30, 2019. We gratefully acknowledge his decades-long contributions to resident and student education. In recognition of his contributions to the teaching mission of the University of Connecticut and the Department of Pediatrics, Dr. Juan C. Salazar nominated Dr. Greenstein for professor emeritus status. The Academic Affairs subcommittee of the UConn Health Board of Directors approved the request effective November 1, 2019. Dr. Keder assumed the role of core faculty liaison on October 1, 2019.

With the expansion of staff, service array and sites, Sarah Schlegel, MD, has transitioned into the role of assistant division head in DBPeds. Her Developmental Transition Program continues to grow. It is the first of its kind in the state. It meets a unique and pressing need for comprehensive support and care coordination for children with developmental needs as they approach adulthood. Dr. Schlegel continues to develop the School Consultation Program, which provides direct consultation for complex patients within their school districts over the entire state.

The division continues to support post-graduate education in DBPeds in collaboration with the Behavioral Sleep Center (Dr. Lynelle Schneeberg, sleep psychologist), the Child Abuse Program (Nina Livingston, MD), the Medical-Legal Partnership (Jay Sicklick, JD), the American School for the Deaf (Jeffrey Bravin), and the Creative Child Care Center at the UConn Health Center (Barbara Brush), along with Acute Rehabilitation (Ann Milanese, MD, division head of Developmental and Rehabilitation Medicine), Occupational Therapy (Jeanne Kagan, MA, OTR), and Speech/Language Pathology (Virginia Van Epps, MEd, CCC-SLP, CLC) services at Connecticut Children's.

Dr. Dumont-Mathieu continues to serve as the research lead for the division. Her research is supported by Rosalie Lyons, BS, a research associate from the Department of Research. Dr. Dumont-Mathieu currently has five active research projects, three of which are grant-funded. The five research projects are: (1) Bridging the Gap (described below) (2) Strategies to Promote Culturally Effective Screening, Referral and Service Provision in Primary Care Practices and Birth-to-Three Programs, (3) Decision-Making Process and Experiences with Genetic Testing in Autism Spectrum Disorder: Pilot Study with a Clinically Derived, Diverse Sample of Participants (Co-I: Louisa Kalsner, Division of Neurology), (4) Early Detection of Pervasive Developmental Disorders (described below) and, (5) Connecting the Dots: An RCT Relating Standardized ASD Screening, Intervention Access, and Long-Term Outcomes (described below). In 2019, Dr. Dumont-Mathieu authored five peer-reviewed poster presentations, two oral presentations, and two publications. She also submitted four grant proposals, one of which was an R21 sent to the NIH. Two of the submitted grant proposals were funded by the Connecticut Health Foundation for the ongoing Bridging the Gap project, and one proposal is under review.

GOALS FOR 2020

- Expand the statewide Developmental Transition Program
- Expand the Autism Spectrum Assessment Program to include comprehensive monitoring and intervention services for patients and their families
- Pursue academic presentations and division research activities
- Hire an additional physician and an APRN to enhance the division's Fairfield County capacity

- Hire an additional APRN to enhance the division's Farmington capacity
- Add a care coordinator to develop alternative care models and enhance access to care and community-based services
- Pursue an R21-NIH grant to study follow-through with the American College of Medical Genetics and Genomics (ACMG)'s recommended genetic consultation in our diverse population of patients who are diagnosed with an autism spectrum disorder

RESEARCH/GRANTS

Bridging the Gap (PI: Thyde Dumont-Mathieu, MD, MPH). This model implementation grant has been funded by the Connecticut Health Foundation to explore the impact of: (a) embedding Birth-to-Three programs in pediatric practices and, (b) screening with the M-CHAT-R in early learning programs and referring to Birth-to-Three on the equitable identification and service provision for children at risk for an autism spectrum disorder, thus eliminating existing racial/ethnic health disparities in this aspect of health care.

Early Detection of Pervasive Developmental Disorders – Year 12. R01. (PI: Deborah Fein, PhD, University of Connecticut Department of Psychology). This study has focused on the validation of the autism-specific screening tool, the Modified Checklist for Autism in Toddlers (M-CHAT-R) and improving the efficiency of screening in various populations.

Connecting the Dots: An RCT Relating Standardized ASD Screening, Intervention Access, and Long-Term Outcomes – Year 4. R01 (Study PI: Diana Robins, PhD, Drexel University Department of Psychology; University of Connecticut PI: Deborah Fein, PhD, UConn Department of Psychology). This is a multi-site, NIH-funded study (Drexel University, the University of Connecticut, and the University of California – Davis Mind Institute). The purpose is to test whether early screening will ultimately result in earlier referral to and maximal benefit from treatment. Drs. Robins and Fein are the co-authors of the autism spectrum disorder screening tool, the M-CHAT-R.

PUBLICATIONS

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STAFF

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Mark A. Greenstein, MD, Professor Emeritus

Susan Dellert, MD

Paul H. Dworkin, MD

Thyde Dumont-Mathieu, MD, MPH

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Mikaru Lasher, PhD

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Keith Ellis, APRN

Mariel Zeccola-Swan, APRN

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 2019, 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. Pioneering research at Connecticut Children's and its collaborating institutions funded by the National Institutes of Health and the Crohn's & Colitis Foundation has begun to unravel some of the mysteries underlying the genesis of bowel inflammation and provide tools to risk-stratify patients at diagnosis, supporting the concept of personalized medicine. Division chief Jeffrey Hyams, MD, the holder of the Mandell Braunstein Family Endowed Chair

in Pediatric Inflammatory Bowel Disease, has continued his groundbreaking work and was lead author of the primary results of a five-year, \$10.4 million, NIH-funded project on predictors of disease course in children with ulcerative colitis in the highly prestigious journal *The Lancet*.

Our Center for Pediatric Liver Care, directed by Karan Emerick, MD, provides care to children with a wide variety 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, under the guidance of Dr. Emerick, coordinates the program caring for children with non-alcoholic fatty liver disease (NAFLD) and works closely with other divisions in the hospital. For the first time, the center adopted Fibroscan® technology to non-invasively follow liver fibrosis in children with chronic liver disorders. Dr. Emerick serves as an attending physician on the hepatic transplant service at Yale New Haven Hospital six to eight times yearly.

Wael Sayej, MD, directs our eosinophilic esophagitis program along with Susan Goodine, RD. This clinical program has expanded greatly and now cares for almost 350 patients ranging in age from infancy to young adults. Clinical trials of new and emerging therapies are being carried out at Connecticut Children's under Dr. Sayej's leadership.

Our fecal transplantation program, previously headed by Dr. Zev Davidovics, is now directed by Peter Townsend, MD, and Jasmeet Mokha, MD. Dr. Townsend is also the divisional liaison to the inpatient service and works with the Hospitalist Program to improve communication and care of inpatients with gastrointestinal disorders.

Our multidisciplinary Intestinal Rehabilitation Team (IRT) is the only one of its kind in the state. Co-directed by Drs. Mokha and Christine Rader from Pediatric Surgery, this group focuses on the care of children with intestinal failure of all causes. Phyllis Bebyn, RN, and Kate Samela, RD, are integral parts of this team, which also facilitates the transition of patients from hospital to home. Dr. Mokha is also collaborating with Erin Young, PhD, a pain geneticist at UConn Health Center, exploring the mechanisms of functional gastrointestinal disorders in children.

Bella Zeisler, MD, is the primary pediatric gastroenterologist in the Aerodigestive Disease Program at Connecticut Children's. This coordinated program of otolaryngologists, pulmonologists, gastroenterologists, and speech therapist cares for children with complex airway, pulmonary and gastrointestinal disorders.

Franziska Mohr, MD, has been active as the division quality and safety officer as part of the GI Service Line Development. She has worked on standardizing the use of biologic therapy for children with IBD.

Our fellowship program, under the leadership of Dr. Zeisler and Melissa Fernandes, MD, continues to attract outstanding candidates from around the country. 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 make our fellowship program particularly attractive.

Victoria Grossi, DO, Katherine Baldwin, MD, and Logan Jerger, MD, provide strong clinical care to our patients. Dr. Grossi published her work on the genetics of pain in children with IBD, and Dr. Baldwin is leading our efforts to improve the breadth of care we provide to our young adult patients, who now range in age up to 26 years.

Corey Baker, MD, joined our faculty after having completed his fellowship at Massachusetts General Hospital. Dr. Baker brings new skills to the division including the capability of performing anorectal manometry and esophageal motility studies. He will be developing a center for neurogastroenterology.

We opened our South Hadley, MA, office in September 2019 with the addition of Sarita Singhal, MD, who had previously

been at Baystate Medical Center. Donna Zeiter, MD, who had worked in our division from 1996 to 2016, and then relocated to the University of Maryland, rejoined our program in November 2019 as the director of Connecticut Children's Specialty Group's Western Massachusetts initiatives.

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

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STAFF

Jeffrey Hyams, MD, Division Head

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

Fellows

Joelynn Dailey Fitz, DO
 Andrew Fondell, MD
 Temara Hajjat, MBBS
 Chelsea Lepus, DO



The Division of Emergency Medicine is committed to a continuous quality improvement process, and we have upgraded our efficiency, the safety of our health-care delivery system, and ultimately our patient satisfaction. Connecticut Children's was awarded Magnet® status by the American Nurses Credentialing Center (ANCC) in 2019, and along with that honor, Magnet reviewers praised the Emergency Department for its low wait times. Our nurses and physicians have worked tirelessly to ensure that patients are seen in a timely manner, and reviewers noted the impressively low number of incidents in which patients left the ED before receiving medical care.

In 2019, the Emergency Department of Connecticut Children's treated 60,561 patients. The Division of Emergency Medicine continues to grow and is composed of 18 pediatric emergency medicine board-certified/eligible fellowship-trained faculty, five per diem pediatric emergency medicine- and emergency medicine-trained providers, three per diem pediatricians, 16 advanced practitioners, and three per diem advanced practitioners.

This has been a year of transition in the leadership of the division. John Peng, MD, who served as division head and medical director for eight years, stepped down in April. Under his leadership, the division grew significantly with increases in the numbers of patients and faculty, and the division was recognized in the institution for its focus on quality and marked improvements in both patient satisfaction and throughput. Dr. Peng continues with the division in a clinical role. The Emergency Department's medical director Dr. John Brancato, MD, FAAP, FACEP, is serving as interim division head.

Although the volume of mental/behavioral health patients continued to rise, Connecticut Children's Emergency Department (ED), under the leadership of Steve Rogers, MD, director of Emergency Mental Health Services, is working on innovative ways to care for these patients. A transition clinic was opened in 2019, bringing together psychiatry, social work, and care coordination to help facilitate the discharge from the ED of those patients who require a bridge to community resources. Dr. Rogers led the application for a grant from the Child Health and Development Institute of Connecticut. It will allow the trial of a Comprehensive Psychiatric Emergency Program. This program will provide for the initiation of limited mental health interventions for some patients with the goal of alleviating the need for subsequent inpatient care. In 2019, the ED was one of the first pediatric EDs in the nation to begin universal suicide screening of all patients ages 10 and up. More than 5,000 patients were screened in the first three months. Of those who screened positive, 245 had presented to the ED with non-mental/behavioral health complaints.

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

The members of the Division of Emergency Medicine play an integral role in many areas of the hospital. Education and research are core parts of our mission. Faculty members teach and mentor 60 pediatric residents and 54 emergency medicine residents as well as family practice residents, medical students, dental

students, and advanced practitioner students. Lana Friedman, MD, and Mariann Kelley, MD, share responsibility for orienting, scheduling and evaluating these learners. The fellowship in pediatric emergency medicine (a subspecialty of both Emergency Medicine and Pediatrics) is now in its 20th year, led by program director Matt Laurich, MD. Dr. Laurich also leads the ED Sepsis Working Group. The Undergraduate Research Assistant Program, which was developed by Sharon Smith, MD, and is taught by our faculty, supports the research productivity of our division. Dr. Smith teaches two honors-level undergraduate courses at the University of Connecticut. She also serves as the division's director of research and is the medical director of Pediatric Advanced Life Support (PALS) for the institution. Research projects covering topics such as violence prevention, mental health, simulation, point-of-care ultrasound, ultrasound-guided IV placement, lethal means restriction, nutrition, and asthma are ongoing. The division continues to be productive with many poster presentations at national conferences and publications in peer-reviewed journals. Carla Pruden, MD, director of Simulation for Connecticut Children's, has increased the use of structured simulation and the use of the 'shared mental model' in resuscitation training throughout the institution and at our affiliate hospitals in the Nuvance Health™ system in western Connecticut. With assistance from Dr. Kelley, she leads bimonthly simulation sessions for the Pediatric Emergency Medicine attendings, monthly sessions for the trauma team, monthly sessions for residents and fellows, and ad hoc sessions for the hospital using high fidelity manikins. Dr. Kelley was named director of Simulation Education at the University of Connecticut School of Medicine.

Members of the Division of Emergency Medicine continue to be highly involved in leadership and committees at Connecticut Children's. Dr. Brancato serves on numerous committees throughout the institution and as the medical editor of *Connecticut Children's Medical News*, a publication that goes to all referring provider practices in the state. Henry Chicaiza, MD, developed the point-of-care ultrasound curriculum for the fellows, and the formal ultrasound credentialing and quality program for the attending staff. Eric Hoppa, MD, and Kristin Welch, MD, are active members of the Clinical Effectiveness Committee and have led the production of many pathways that help create standard work and improve the quality of care. Michael Soltis, MD, is the medical director of the Pediatric Critical Care Transport team. Andrew Heggland, MD, leads our continuing education program and our efforts in medical informatics, improving our ability to document and communicate both internally and externally.

Finally, we welcomed two new members of the division, Noah Jablow, MD, and Ashley Notartomaso, MD.

PUBLICATIONS

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STAFF

Attendings

John Brancato, MD, FAAP, FACEP

Interim Division Head and Medical Director

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

Per Diem Attendings

Zoe Casey, MD
 Sandra Johnson, MD
 Seth Lotterman, MD
 James Parker, MD
 James Wiley, MD

Per Diem Pediatricians

Meredith Barrows, MD
 Jonah Mandell, MD

APRN'S & PA's

Lauren Appel, APRN
 Mandi Boisvert, APRN
 Chelsea Byrd, PA-C
 Rachel Caplan, APRN
 Nicole Chaves, PA-C
 Lauren Cohen, PA-C
 Katelyn Claudomir, APRN
 Carol Erickson, Lead APRN
 Jessica Fett, APRN
 Ann Gorjanc, PA-C
 Jessica Haggett, APRN
 Garry Lapidus, PA-C
 Sarah Orlando, PA-C
 Christopher Scheinberg, APRN
 Lisa Tryon, PA-C
 Alexis Veith, PA-C

Per Diem APRNs / PA's

Kate Pesce, APRN
 Alissa Zalewski, APRN

Pediatric Emergency Medicine Fellows

Jacob Greenberg, MD / PGY-6
 Candice Jersey, DO / PGY-4
 Ruchika Jones, MD / PGY-5
 Owen Kahn, MD / PGY-4
 Prina Patel, MD / PGY-6
 Rahul Shah, MD / PGY-5

PEDIATRIC ENDOCRINOLOGY AND DIABETES



This year in the Division of Pediatric Endocrinology and Diabetes has been highlighted by extensive growth of our clinical programs in both breadth and geographical location. Under the leadership of Emily Germain-Lee, MD, as division head at Connecticut Children's and professor at the University of Connecticut School of Medicine, we also expanded our research and educational programs. The overriding mission of the division continues to be focused on improving the health and quality of life of patients through our clinical expertise, compassionate care, and research investigations aimed at the development of new treatments.

This past year, in addition to outpatient clinics in Farmington, Glastonbury, Hartford, and Shelton, a specialty care center in Danbury opened and has been expanding greatly. With the launch of this new clinic came the addition of Raul Arguello, MD, to our faculty. Dr. Arguello already follows a large population of patients in Danbury, and as a well-established pediatric endocrinologist, he has been very helpful in our expansion within the new location.

The subspecialty clinics within the division also have continued to grow, with patients coming from not only local cities and towns but also from throughout the United States and overseas, with the main international centers for several rare disorders being at Connecticut Children's. The division is ranked 43rd in the country by *U.S. News & World Report*. We have 14 faculty devoted to patient care and to the education of medical students, residents, and fellows. All of the faculty members have given local, national, and/or international presentations in the educational and research arenas, and most are involved in clinical, translational, and/or bench research.

Leadership in our division includes Rebecca Riba-Wolman, MD, assistant professor, who serves as the clinical director and who

has been instrumental in clinical operations overall. She has been extensively involved in the expansion of the division into Danbury. In addition, she is the director of the division's very active fellowship program, which is in its 22nd year and which has been fortunate to have four fellows this year. With the joint efforts of the fellowship's associate director, Christine Trapp, MD, assistant professor, the fellowship is flourishing. Cem Demirci, MD, the Chase Family Chair of Juvenile Diabetes, continues as director of our very large and successful Diabetes Program, which he has overseen for the past nine years.

Our division has benefited from major inroads in the development of patient engagement technologies and effective implementation of electronic resources through the help of Bethany Peri, MD/PhD, assistant professor, and a member of our division.

Summary of Subspecialties Within the Division of Pediatric Endocrinology and Diabetes

The Division of Pediatric Endocrinology and Diabetes is unique in that it has a wide array of subspecialty clinics within it, including those that are interdisciplinary and multidisciplinary.

Diabetes Program: One large focus in the division is the Diabetes Program. Directed by Dr. Demirci, it cares for approximately 1,200 children and adolescents with diabetes. A diabetes clinic will be added in Danbury in early 2020, and will be directed by Angela Verardo, MD, assistant professor. Twelve pediatric endocrinologists in the division are involved in providing care for all forms of diabetes including type 1 and type 2 DM, monogenic diabetes, maturity onset diabetes of the young (MODY), permanent neonatal diabetes, cystic fibrosis-related diabetes, and steroid-induced diabetes. The Division of Endocrinology and Diabetes is accredited by the American Association of Diabetes

Educators (AADE) and has a multidisciplinary team including advanced practice practitioners, registered nurses, physician assistants, registered dietitians, certified pediatric diabetes educators, and pediatric social workers.

Gender Program: This program has grown tremendously under the direction of Priya Phulwani, MD, who provides unique care to children and adolescents with gender incongruence and also offers support to families. She has made enormous strides this year not only through her clinical care but also through a multitude of presentations given regionally, nationally, and internationally. She is an ardent advocate at the governmental level in Connecticut. At this year's Connecticut Transadvocacy Health and Law Conference, held at UConn Health in Farmington, she was an invited speaker on the topic of "Understanding Hormone Options for Trans Youth: Risks and Benefits." The conference aims to provide participants with a better understanding of the issues facing transgender and gender non-conforming individuals.

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

Center for Rare Bone Disorders: Established by Dr. Emily Germain-Lee, this center combines both clinical care and translational laboratory research to help patients with rare bone disorders, while at the same time working to discover potential new therapies. Within this center are two subcenters including both clinical care and translational research:

- **Albright Center:** This is the first and only center dedicated to Albright hereditary osteodystrophy (AHO), which includes two subtypes called pseudohypoparathyroidism type 1A and pseudopseudohypoparathyroidism. Dr. Germain-Lee has evaluated the largest population of patients with AHO worldwide, and patients travel from throughout the USA and from other countries to the Albright Center. She also has developed a translational research program focused on her patients as well as her knockout mouse model for AHO.
- **Osteogenesis Imperfecta (OI) Center:** This center is co-directed by Dr. Germain-Lee and Nancy Dunbar, MD, MPH, assistant professor, with the addition over the past year of Dr. Angela Verardo. The Connecticut Children's OI Center is recognized officially by the OI Foundation and is a premier site in New England and the mid-Atlantic for patients with OI to be evaluated and treated. This center provides clinical care to

OI patients, as well as quarterly education and support sessions. Dr. Germain-Lee has an established translational research program that includes both clinical research studies as well as basic science laboratory investigations utilizing mouse models of OI, and she is working toward developing new treatments.

- Additional rare bone disorders also are seen extensively by Drs. Dunbar and Germain-Lee including hypophosphatemic rickets, hypophosphatasia, and a wide array of skeletal dysplasias (among a multitude of other genetic bone diseases).

Metabolic Bone Clinic: Dr. Dunbar continues to direct and expand this clinic at Connecticut Children's and Shriners Hospitals for Children® in Springfield, Mass., which focuses on all forms of bone disorders as well as disorders of mineral metabolism. Dr. Dunbar has developed a focus on bone loss in children with various physical impairments and is an expert in DXA scan interpretations for both clinics, while serving other divisions within Connecticut Children's.

Global Health: Dr. Dunbar has been crucial in developing a type 1 diabetes clinic in Haiti, working with local pediatric staff at Hôpital Sacré Coeur in Milot along with Comalita Elliott, a nurse/diabetes educator in our division. They travel to Haiti each year to expand this program. Their ongoing fundraising efforts support 100 percent of the needs of the program. Dr. Dunbar has made a tremendous impact in the improvement of diabetes care based on quantitative measures. Even when in Connecticut for the majority of the year, Dr. Dunbar continues her work with this clinic through frequent communication with the staff at Hôpital Sacré Coeur.

Lipid Disorders Clinic: Dr. Sunitha Sura, assistant professor, has headed up this clinic, which has been fully running with a specialized nutritionist since the end of 2018 and has continued to expand greatly. This is one of the few lipid clinics in the country that is within a pediatric endocrinology division and is focused solely on the management of childhood lipid disorders.

Turner Syndrome Clinic: Karen Rubin, MD, an international expert in the field who is involved in global consensus statements for Turner syndrome, serves as director. The clinic has expanded greatly and involves an interdisciplinary team including a psychologist and a nutritionist.

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

Dr. Riba-Wolman is the endocrinologist for the REACH for the STARS Cancer Survivorship Program, a multidisciplinary clinic in the Hematology-Oncology Division for long-term survivors of

childhood cancer. She also is involved in the Neuro-Oncology Program, a multidisciplinary clinic involving Oncology, Neurosurgery, and Endocrinology. She has embarked on clinical research in areas involving the endocrine disorders observed in children with cancer and is a member of the New England Childhood Cancer Consortium.

Obesity: Dr. Phulwani serves as the endocrinologist in the multidisciplinary Bariatric and Weight Management Clinic overseen by members of the Pediatric Surgery department. In addition, the Endocrinology Division's Dr. Trapp has expertise in caring for children with co-morbidities secondary to obesity as well as those with early onset obesity, and her research interests lie in this area, including the effects of maternal stress on infant weight gain.

Glycogen Storage Disease Program: David Weinstein, MD, a world-renowned clinical and scientific expert in glycogen storage disease (GSD), continues as head of this program. As a pediatric endocrinologist by training, his expertise is a highly valued addition to our division. He has an exciting gene therapy trial for GSD type Ia that has been progressing successfully. (Please refer to page 64 for more information about Dr. Weinstein's Glycogen Storage Disease Program.)

TRANSLATIONAL RESEARCH

Rare bone disorders: A new grant focused on the dental and craniofacial abnormalities that are ubiquitous among rare bone disorders was awarded this year to Dr. Germain-Lee and her collaborators from the University of Connecticut School of Dental Medicine and UConn Storrs. The overall goal is to improve and develop new treatments in this area.

Muscle wasting and bone loss: Research efforts have extended even beyond Earth with a grant awarded by the International Space Station National Laboratory (NASA). Dr. Germain-Lee and her collaborator Se-Jin Lee, MD, PhD, from the Jackson Laboratory/UConn Health in Farmington, sent mice to the International Space Station in December. The goal of this research is to test a novel experimental agent that was created by Dr. Lee that can increase both muscle and bone mass. Microgravity causes both muscle and bone loss, as is evident in astronauts during space travel. By giving this experimental drug to mice exposed to systemic microgravity, the goal is to test this therapeutic strategy for combating both the muscle and bone loss that occur not only in astronauts in space but also in many patients here on Earth who suffer from either muscle-wasting disorders, bone fragility disorders, or both.

Diabetes research: Dr. Demirci is collaborating with Dr. Derya Unutmaz, a researcher at the Jackson Laboratory, to investigate the intestinal microbiome and the link between food, microbes, and diabetes with the ultimate goal of finding which genes are turned on and off as a result of the interaction between the microbiome and the immune system. Dr. Germain-Lee is also working on basic science research in diabetes. She is currently collaborating with Dr. Se-Jin Lee on a research program aimed

at discovering new strategies to improve the body's ability to control blood sugar levels. The goals of this project, which is being partly supported by a grant from the NIH, are to enhance the ability of the pancreas to produce insulin as well as to improve the responsiveness of peripheral tissues to insulin. The focus is to understand the role of secreted proteins belonging to the transforming growth factor- β superfamily of signaling molecules in regulating metabolism.

Glycogen Storage Disease: The first human gene therapy clinical trial for glycogen storage disease type Ia, headed by the world's expert, Dr. Weinstein, has been progressing successfully, allowing weaning or discontinuation of traditional therapy. (Please see page 64.)

FEDERAL GRANTS

NIH

R21HD078864 – PI: Emily L. Germain-Lee, MD. The Role of G Protein-coupled Signaling in Neurocognitive and Psychosocial Abnormalities. 3/1/16–2/29/20 (includes no-cost extension).

R01AG052962 – Co-investigator: Emily L. Germain-Lee, MD; (PI: Se-Jin Lee, MD/PhD). TGF- β Family Members and Their Binding Proteins in Aging Skeletal Muscle. 9/15/17–5/31/21.

U54AR068069 – Co-investigator: Emily L. Germain-Lee, MD; (PI: Brendan Lee, MD/PhD). Brittle Bone Disorders Consortium of the Rare Disease Clinical Research Network. 8/6/14–7/31/19.

NASA

International Space Station National Laboratory/The Jackson Laboratory – Co-investigator: Emily L. Germain-Lee, MD; (PI: Se-Jin Lee, MD/PhD). Mighty Mice in Space: Preclinical Evaluation of a Broad Spectrum Myostatin Inhibitor to Prevent Muscle Wasting and Bone Loss Due to Disuse. 3/1/19–8/31/20.

STATE GRANTS

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

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

NATIONAL/INTERNATIONAL RECOGNITION (HIGHLIGHTS)

Nancy Dunbar, MD/MPH

- Editorial Board, *Journal of the Endocrine Society*
- Selected as member of writing committee of the International Society for Clinical Densitometry Certification Council for the Clinical Bone Densitometry Exam, March, 2019
- National/international speaker for hypophosphatasia

Emily Germain-Lee, MD

- Vice president and member of board of directors, Human Growth Foundation
- Editorial board, *Journal of Clinical Endocrinology and Metabolism*
- Scientific Advisory Panel, Rare Bone Disease Alliance
- Selected to Best Children's Hospitals Diabetes & Endocrinology Working Group for 2018-2019 & 2019-2020, *U.S. News & World Report* rankings
- Society for Pediatric Research (elected member)
- Member of International Expert Consensus Panel on Pseudohypoparathyroidism and Related Disorders (Albright hereditary osteodystrophy)
- Selected as session chair/moderator for Hot Topic Symposia for Pediatric Academic Societies, Pediatric Academic Societies/Pediatric Endocrine Society meeting, 2019
- National/international speaker on rare bone disorders
- Co-organizer/co-moderator for 1st Pediatric Bone Symposium, New Orleans, March, 2019
- Elected to Connecticut Academy of Science and Engineering, 2019
- Member of Human Growth Foundation Executive Committee, Grant Review Committee, and Education Committee

Priya Phulwani, MD

- National/international speaker for gender incongruence, transgender health, and variations in sexual development

Rebecca Riba-Wolman, MD

- Member of New England Childhood Cancer Consortium
- Member of Pediatric Endocrine Society Program Committee
- Selected as session chair/moderator for session for Pediatric Academic Societies/Pediatric Endocrine Society, 2019

Karen Rubin, MD

- Chair, Pediatric Endocrine Society (PES) Leadership Advantage Program
- Member of PES Practice Management Committee
- Member of PES Quality Improvement Program
- Member of PES Special Interest Group for Turner syndrome
- Member of Physician Advisory Board, Turner Syndrome Foundation
- Member, Type 1 Diabetes Outcomes Steering Committee (joint initiative by Type 1 Diabetes Exchange and JDRF)

Christine Trapp, MD

- Selected as co-chair, Obesity Special Interest Group for Pediatric Endocrine Society as of 2019

Angela Verardo, MD

- Elected to board of Human Growth Foundation

David Weinstein, MD

Please refer to section on Glycogen Storage Disease Program

PUBLICATIONS

Arguello RA, Bhushan S, Cornacchia MA, Castro Magana M. Effect of anastrozole therapy on bone formation and growth of orchietomized pubertal male rats: anastrozole effect on bone formation and growth. *Adv Clin Endocrinol Metabol*. 2019 online. <https://www.gratisoa.org/journals/index.php/ACEM/article/view/1853>

Bilbao N, Kaulfers A-MD, Bhomick SK. Case report: subacute thyroiditis in a child. *AACE Clinical Case Rep*. 2019 May/June; 5(3):e184-186.

Germain-Lee EL. Management of pseudohypoparathyroidism. *Curr Opin Pediatr*. 2019; 31(4): 537-549. PMID 31145125.

Lim WY, **Riba-Wolman R**. Intravenous formulation of desmopressin delivered via oral and g tube routes for the treatment of central diabetes insipidus: first experience in infants. *Clin Endocrinol*. 2019 Nov 12. doi: 10.1111/cen.14125. PMID 31715009. [Epub ahead of print]

Prakash SK, Lugo SK, Lugo-Ruiz S, Rivera-Davila M, Rubio Jr N, et al. (**Rubin K**, 13/17). The Turner syndrome research registry: creating equipoise between investigators and participants. *Am J Med Genet Part C*. 2019; 181C:7-12. PMID 30758128.

STAFF

Emily Germain-Lee, MD, Division Head

Rebecca Riba-Wolman, MD

Clinical Director & Fellowship Director

Christine Trapp, MD, *Associate Fellowship Director*

Cem Demirci, MD, *Director of Diabetes Program*

Raul Arguello, MD

Nordie Bilbao, MD

Nancy Dunbar, MD, MPH

Bethany Peri, MD, PhD

Priya Phulwani, MD

Susan Ratzan, MD

Karen Rubin, MD

Sunitha Sura, MD

Angela Verardo, MD

David Weinstein, MD

Carey Driscoll, PNP

Maureen Fearon, PNP

Elena Schneider, PA

Fellows

Laura Forero, MD

Neetu Krishnan, DO

Whei Ying Lim, MD

Massiel Sarmiento Mojica, MD

Komalben Parmar, MD

DIVISION OF EXCELLENCE IN PATIENT SAFETY & CLINICAL QUALITY



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

The division experienced exciting changes in 2019, with Dr. Lori Pelletier assuming the role of division director/chief quality and patient safety officer. Dr. Pelletier is also an assistant professor at the University of Massachusetts Medical School in the Division of Health Informatics and Implementation Science in the Department of Quantitative and Population Health Sciences. She brings a wealth of knowledge in improvement science and organizational transformation including research as a co-principal investigator on an NIH/NIMH grant called "A System of Safety (SOS)." The SOS will study the implementation of best practice suicide-related care processes that embody the Zero Suicide Essential Elements of Care across emergency departments, inpatient medical and behavioral health units, and primary care clinics associated with a large health-care system.

Many of the division's faculty members received regional and national recognition this year, with their work highlighted through podium presentations at various meetings and conferences. Many of these projects represented improvement efforts based on clinical pathways, including the initiative of Emilee Lewis, MD, to decrease pain associated with obtaining intravenous access in pediatric patients and the endeavors of Dr. Lewis, Ilana Waynik, MD, and Eric Hoppa, MD, in improving methods of delivering nutrition to infants admitted with bronchiolitis, such as increasing the use of nasogastric tube supplementation. The Clinical Effectiveness (clinical pathways) program continued to flourish under the co-direction of Dr. Waynik. New this year was

the addition of outpatient ambulatory pathways, augmenting the nearly 50 pathways directed at standardizing and improving hospital-based care.

The Surgical Quality Improvement Program continued to evolve and become increasingly prominent under the direction of Brendan Campbell, MD, MPH. We continue to participate in the American College of Surgeons' National Surgical Quality Improvement Program, and this year became enrolled in the Children's Surgery Verification Program, which has developed the nation's first and only set of multispecialty standards for children's surgical care with the goal of creating processes to align each patient's individualized care needs with their care environment to optimize quality and effectiveness.

Dr. Campbell, with Heather Tory, MD, MPH, partnered as the physician champions for multidisciplinary, institutional work aimed at reducing our rate of central-line associated blood stream infections, which had been increasing over the past year. Dr. Tory, in her role as associate chief quality and patient safety officer, championed much of our organizational effort to improve our events of serious harm through the Solutions for Patient Safety (SPS) network. This is a national collaborative quality improvement network with the goal of decreasing and eliminating hospital-acquired conditions and associated patient harm. Many of the division's faculty are engaged in improvement efforts related to measures followed by the SPS collaborative. Natalie Bezler, MD, has presented work related to reduction in adverse drug events and infusion reactions at our institution, both of which are components of the SPS serious harm rate, as well as the development of individualized plans for pain management for patients with sickle cell disease, impacting readmissions. Daniel Fisher, MD, participated in a nationally-recognized quality improvement training program, working through efforts to further reduce our adverse drug events by improving and standardizing our processes related to ordering and administering medications in the hospital. David Sink, MD, has guided multiple improvement projects through the SPS consortium, implementing cascading

changes to reduce unplanned extubations in neonates in the NICU. Dr. Sink has championed clinical pathways, as well as worked to align quality initiatives in our NICUs across the state. We also have continued to participate in a pilot project with SPS to increase awareness and decrease incidence of nephrotoxic-medication-associated acute kidney injury, championed by Sherene Mason, MD, FAAP, MBA.

The Simulation Program has continued to expand, led by medical director Carla Pruden, MD, MPH. The breadth and impact of the program have been enhanced to provide simulation sessions for multidisciplinary teams across our care network, covering a range of clinical topics as well as addressing issues related to communication, disclosure and debriefing. Mariann Kelley, MD, provides additional support for the Simulation Program, and has also taken on a new role as director of simulation education for medical students at the University of Connecticut School of Medicine.

Jennifer Giroto, PharmD, has continued to champion the Anti-microbial Stewardship Program, which has produced dramatic effects on prescribing practices throughout the organization. She championed an added focus on antimicrobial stewardship in the ambulatory areas this year, aligned with more recent requirements from the Joint Commission.

Christopher Grindle, MD, with a dual role in Informatics, has led multiple efforts to improve efficiency, effectiveness and safety within the electronic health record that have had a significant regulatory impact. He, along with Alex Golden, MD, MMM, and Dr. Tory, acted as co-directors of cross-institutional work to enhance prioritization of resources and optimization of our electronic health record through a new governance process, in which Franziska Mohr, MD, also participated.

Drs. Tory and Bezler also have continued to lead the resident quality improvement educational curriculum, with the addition of faculty mentorship of the resident medical morbidity and mortality rounds during the past year.

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.

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FACULTY

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David Sink, MD
Heather Tory, MD, MPH
Ilana Waynik, MD



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. Our activities place special emphasis on caring for children with special health-care needs, including disadvantaged children, children growing up in low-income families, and children with complex and chronic health conditions.

The Division of General Pediatrics continues to provide the majority of pediatric primary care to Hartford's children through the ambulatory and primary care clinics at Connecticut Pediatrics at Community Health Center (CHC), Inc., Connecticut Children's Primary Care East 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 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 Primary Care East Hartford/West Hartford. 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, 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 four talented new faculty members: Andrew Carlson, MD, Shannon Hogan, DO, MPH, Chinyere Okoronkwo, MD, and Marie Sanford, MD. All four are experienced general pediatricians with a passion for teaching the next generation.

The partnership between Connecticut Children's and Community Health Center, Inc., has continued to evolve with faculty members Alyssa Bennett, MD, Jennifer Haile, MD, and General Pediatrics division chief Catherine Wiley, MD, serving as lead faculty in year two of Project ECHO: Complex Integrated Pediatrics. This collaboration between the Weitzman Institute, with offices in

Connecticut and Colorado, and Connecticut Children's provides video-based conferencing on complex pediatric topics, emphasizing integration, collaboration and shared learning between medical, behavioral and specialist providers.

Faculty members in the division play a central role in education in the University of Connecticut system by providing the majority of pediatric primary care and newborn nursery educational experiences for medical students and pediatric residents in the region. Rotating learners from UConn and other institutions include family practice residents, dental residents, psychiatry residents, 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 validation of the Childhood Trauma Screen.

Melissa Held, MD, and Patricia Joyce, MD, continue to transform the highly regarded mDelta Ambulatory Pediatrics Clerkship, now in its third year. Grae O'Brien, MD, MPH, continues as site director for CORNET (Continuity Clinic Research Network) of the Academic Pediatric Association and has been active on the UConn School of Medicine Curriculum Reform Committee. Dr. Wiley continues her advocacy work in the area of emergent literacy and is medical director of Reach Out and Read Connecticut. She also serves as co-chair of the Department of Public Health State Health Improvement Project (Healthy Connecticut 2020) Immunization Committee. Patricia Garcia, MD, MPH, continues her 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 host of community agencies. She is also the director of the Healthy Homes program and serves as an assistant residency program director.

Dr. Haile received a continuing grant from the Connecticut Department of Public Health for the Hartford Regional Lead Poisoning Treatment Center. Nancy Trout, MD, and Stacy Chandna, MS, CIP, continue their early childhood obesity prevention work, "Start Childhood Off Right," funded by the Kohl's Cares foundation, and are also developing a practice-based quality improvement intervention supported by the Child Health and Development Institute. In partnership with Cincinnati Children's and the Reach Out and Read National Center, Dr. Wiley completed a study, "Rx for Success: A Randomized Controlled Trial of Technology-Based Dialogic Reading Training Incorporated into Reach Out and Read," funded by the Grossman Family Foundation and the Carol Ann and Ralph V. Haile, Jr./U.S. Bank Foundation. In partnership with the Village for Families and Children, Drs. Wiley, Karen Rubin

(Office of Innovation), and Larry Scherzer 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-behavioral health care and care coordination at the East Hartford and West Hartford sites.

PUBLICATIONS

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GLYCOGEN STORAGE DISEASE PROGRAM



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

CLINICAL CARE

Due to the rarity of the glycogen storage disease (GSD) 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 51 countries. The program presently follows over 700 patients with the liver forms of GSD. To meet the clinical needs, the program expanded this year with the addition of Patrick Ryan, MD, who is running the adult GSD program and outpatient clinics.

CURRENT LAB RESEARCH

Under the direction of Youngmok Lee, PhD, laboratory research is currently being conducted in the laboratory facilities at the University of Connecticut Cell and Genome Sciences building. The basic science team has three PhD specialists, each focusing on a particular form of the disease: glycogen storage disease type Ia (Youngmok Lee, PhD), GSD type Ib (Junho Cho, PhD), and the ketotic forms of GSD (Lane Wilson, PhD). Since the program relocated to Connecticut in 2017, mouse models for GSD type VI and IX have been created. Present laboratory research includes the following:

- Drug trials aimed at preventing immune responses during gene therapy
- Drug trials aimed at treating neutropenia in GSD Ib
- Drug trials using mRNA mediated enzyme replacement for GSD
- Development of kidney-directed gene therapy on GSD Ia mouse
- Artificial bone marrow generation for GSD-Ib neutrophil research
- Hematopoietic stem cell transplantation for GSD-Ib mouse model
- Characterization of GSD IX mice (PHKB knockout mice)
- Synergistic heterozygosity research evaluating carriers for multiple types of GSD
- Whole exome and genome sequencing of untyped GSD

Current Clinical Research

After 20 years of research, the first trial of gene therapy for glycogen storage disease type Ia began with the Connecticut Children's/University of Connecticut team as the lead site. In July 2018, the first GSD Ia patient in the world was treated with gene therapy at the University of Connecticut Health Center, and the patients have now entered the follow-up phase of this work. Additional first in-human drug trials are scheduled to commence in 2020 run by the Connecticut Children's/University of Connecticut GSD team. Program director David Weinstein, MD, MMSc, is the principal investigator for these international studies. Other clinical research studies are the following:

- United States representative in the International Study for GSD

- Natural history study assessing impact of treatments on GSD
- Biorepository for GSD samples
- Characterization of untyped forms of GSD
- Working with several companies on new treatments for GSD including gene therapy, enzyme replacement, and DNA repair

COLLABORATION

International Collaborations in 2019

- Dr. Weinstein and the GSD team actively collaborate with other scientists and clinical personnel around the world. In 2019, the team hosted doctors from Argentina, Brazil, Canada, Faroe Islands, Germany, Israel, Italy, Mexico, and South Korea.
- The GSD Program has active collaborations with doctors, nurses, metabolic dietitians, and researchers around the world including Canada, United Kingdom, Faroe Islands, France, Spain, Mexico, the Netherlands, Germany, Poland, Israel, China, South Korea, Argentina, and Brazil.
- In 2019, members of the GSD team presented at professional conferences or invited lectures in Colombia, Ecuador, Brazil, Argentina, Mexico, Spain, Romania, Germany, the Netherlands, and Italy.

Domestic Collaborations

- The GSD team also is active in domestic collaborations. The GSD Program helps to staff Camp Cornstarch Kids (Texas), a camp experience dedicated to children with the metabolic disorder.
- The GSD team presented nationally throughout the country.
- College students from Trinity College in Hartford, the University of Connecticut, and Wesleyan University in Middletown did internships with the program.

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PEDIATRIC & 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, the Connecticut Children's emergency room, and in inpatient settings. In addition, outpatient consultations in all areas of pediatric and adolescent gynecology are available in our Farmington, Hartford, Glastonbury, and Rocky Hill offices of Gynecology and Obstetrics, a Division of Women's Health Connecticut.

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

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

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

at locations in Hartford, Farmington, Glastonbury, and Rocky Hill. Our extensive range of pediatric and adolescent-friendly providers has improved the ability of community physicians to refer families for age-appropriate gynecologic care.

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

For 2020, the division will maintain and improve our patients' access to superior specialty care in pediatric and adolescent gynecology to promote reproductive health and wellness for our community's children and teenagers.

STAFF

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Kelley Sturrock, MD

Marlaine Miller, MD

Ellen Lamb, MD

Ashley Young, MD

Jennifer Kiback, APRN





Members of the Hematology-Oncology Division strive 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 and safety, and research and teaching.

In 2019, the Division of Hematology-Oncology was proud to witness the awarding of the Hartford Whaler Endowed Chair in Children's Cancer to Michael Isakoff, MD. This represents a well-deserved recognition of Dr. Isakoff's outstanding care of patients not only at Connecticut Children's but also of the many adults who had sarcomas that are rarely seen by adult oncologists in the community. Dr. Isakoff's dedication to developing the Adolescents and Young Adults (AYA) Cancer Program as well as his leadership role in the Center for Cancer and Blood Disorders at Connecticut Children's were also acknowledged.

We continue to enjoy much success from the collaboration of our advanced practitioner staff and our nursing staff with the faculty to provide continuous, streamlined, and patient-centered care as well as research. We continue to refine our Care Team

Model of comprehensive care, supporting each patient with a team of nurses, advanced practitioners, a social worker, and a physician to provide longitudinal care. All of these efforts were recognized by several grants received by advanced practitioner Megan Coco, APRN, and child life specialist Kelly Foy in support of the multidimensional care we strive to deliver. The quality of this collaborative care for our patients is also acknowledged in unsolicited feedback from patients and families. Using this model, our team is poised to align with the growth plans of Connecticut Children's and extend our service to other locations in western Connecticut.

Under the leadership of Dr. Isakoff, and with the addition of Natasha Frederick, MD, MPH, the Adolescent and Young Adult (AYA) Cancer Program has been very active in the past year. Following a rigorous process of application, Dr. Frederick led a team that successfully competed for a Teen Cancer America Program Development Grant. This funding not only allows us to create dedicated space for the AYA program on both the in- and outpatient floors, but it also led to the official launching of the Onco-Fertility and Reproductive Health Program complete with resources for gonadal tissue cryopreservation. The grand

rounds presentation on December 3, 2019, served as the introduction of the onco-fertility program to the Connecticut Children's community. Dr. Isakoff continues to provide consultation services for young adults at Hartford Hospital, St. Francis Hospital and Medical Center, and UConn Health Center, thus maintaining our presence at all the major hospitals in the vicinity and also building direct bridges to consolidate our collaborations with these hospitals in patient care and research. Additionally, Dr. Isakoff received funding support from the Reid R. Sacco Cancer Alliance for AYA cancer care and research.

Under the leadership of Natalie Bezler, MD, our quality and safety program continues to improve the quality of care delivery as well as patient safety as evidenced by the reduction in chemotherapy errors. In addition, the attendance remained very high for the regular mortality and morbidity rounds that were launched last year 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 programs continue to maintain a high level of activity. We participate in several major clinical trial consortia including the Children's Oncology Group, the National Pediatric Cancer Foundation's Sunshine Project, and the Beat Childhood Cancer consortium, bringing novel treatments to children with various types of cancers including relapsed and refractory cases. Our partnership with Jackson Laboratory for Genomic Medicine in Farmington continues to thrive under the leadership of our division head Ching Lau, MD, PhD. As part of the cancer genomics and personalized medicine programs, multiple patient-derived xenograft models as well as genetically engineered mouse models of pediatric cancers have been launched and utilized for the development of novel treatments. For example, we are in the process of developing a clinical trial to follow up on the observation published last year by Dr. Lau and his collaborators that the cardiotoxic drug digoxin is active against a subtype of medulloblastoma, the most common malignant brain tumor in children for which there is currently no targeted therapy.

We also have made much progress with the development of the hospital-wide biorepository for oncology and hematology cases. In parallel to the biorepository, we have been developing the patient registry within Epic, and it serves as the clinical data repository that is linked to the genomics data generated from the samples accrued through the biorepository. The availability of such clinical materials and data allows us to participate in major consortium studies in precision medicine.

In addition to the grants mentioned above, we have been successful in securing multiple research grants from federal agencies and private foundations. Dr. Lau's multinational project to study the genetic predisposition of intracranial germ cell tumors received a multi-million dollar grant through the Kids First Initiative that aims to support the whole genome sequencing of 800 samples. In addition, he received an NCI subcontract to join a multi-investigator team to conduct functional validation of some of the germ line variants in gliomas that were previously identified by the Gliogene consortium he co-lead. Another NCI subcontract Dr.

Lau received will support his contribution to yet another consortium that will utilize single cell sequencing to study the cellular heterogeneity and microenvironment of high-grade glioma in the AYA population. Donna Boruchov, MD, received a multi-year NIH grant for improving the understanding of the social determinants of health for families with children with sickle cell disease. She continues to receive grant funding for collaboration with the Children's Hospital of Philadelphia in the Patient-Centered Outcome Research Initiative (PCORI) to help advance the care of patients with sickle cell disease.

In addition to contributing to residency training for which we consistently receive outstanding feedback for our program, Andrea Orsey, MD, MSCE, has been promoted to associate chair for medical education in the Department of Pediatrics. In her new role, she oversees both the undergraduate and graduate medical educational programs at Connecticut Children's. As part of our educational efforts, we organized a grand rounds presentation entitled "Voices of Sickle Cell Disease: Patient and Family Perspectives" in September 2019. Dr. Boruchov led a panel discussion with several patients and families during which they shared their personal experiences of living with a chronic illness such as sickle cell disease. They offered a perspective that sometimes escapes the minds of health care providers. The positive feedback by the standing-room-only audience was overwhelming.

Our ACGME-accredited clinical fellowship program in pediatric hematology-oncology continues to attract the best candidates in the country. We have successfully recruited outstanding fellows to our program two years in a row and completed the interviews for next year's applicants. Our second-year fellow, John Norko, MD, has embarked on his research project at the Jackson Laboratory under the tutelage of Dr. Lau.

This past year, we were excited to welcome an additional physician to our group. Joanna Gell, MD, came to us from the Mattel Children's Hospital of the University of California – Los Angeles. In addition to taking care of patients with cancer or blood disorders, Dr. Gell also has research expertise in germ cell tumors, and she will be spending half of her time carrying out research at the Jackson Lab in collaboration with Dr. Lau.

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PEDIATRIC HOSPITAL MEDICINE



The Division of Hospital Medicine provides high value, family centered care for the hospitalized children of the New England region. We emphasize an evidence-based approach driven by best practice and continual improvement. We seek to lead the institution in educational excellence, while we help to shape our young and evolving field through our academic scholarship. This has been a banner year for us on the national front, with the introduction of the first-ever American Board of Pediatrics certification exam for Pediatric Hospital Medicine. With this development, many of our physicians have attained board certification in our field for the first time. This was a year of many other “firsts” for the division, as we saw unprecedented success in our main areas of impact – clinical work, medical education, scholarly activity, and hospital leadership.

On the clinical front, we had our busiest year ever. Patient volume increased by 20 percent over the prior year, and has nearly doubled within the past five years. We continue to provide top quality inpatient care across four sites – at our main campus in Hartford, in our 12-bed satellite unit in Waterbury, and most recently within the inpatient units and newborn nurseries of Danbury and Norwalk hospitals. We have brought to these

practice sites our own brand of care, with an emphasis on family centered rounds, clinical pathways, and coverage models that promote continuity of care. Our hospitalists now cover 100 percent of general pediatric inpatients in all of these locations.

As a division, we are particularly proud of our clinical partnership with our Advanced Practice Provider (APP) colleagues, who are themselves leaders in many ways. In the past year, this group evolved to a more autonomous role, functioning closer to “the top of their license.” This innovative model has allowed the division to expand its clinical reach, while challenging this highly capable group in new and exciting ways. The lead APP, Basia Adams, earned a DNP (doctor of nursing practice) degree, a first for our division, and it places her in a very select group in the institution. She achieved this milestone while also leading the overall institutional APP group of more than 170 members. Our newest APRN, Christina Giudice, joined Cathy Sullivan, MD, to present a talk at our national Pediatric Hospital Medicine conference. Ms. Giudice was the only APP amongst over 1,000 conference attendees to speak at a session of that size. We believe that fostering the talents of our APPs will help their growth while also driving us closer to our mission.

In the realm of medical education, we enjoyed our most successful year ever. The pediatric residents awarded Joanne Crowley, MD, the 2019 Overall Faculty Award for Excellence in Teaching, with runners-up Kathy Kalkbrenner, MD, Patricia Garcia, MD, and Alex Hogan, MD. All four finalists for this top resident teaching award were from Pediatric Hospital Medicine. Dr. Crowley was appointed director of Undergraduate Pediatric Education for the University of Connecticut. Melanie Rudnick, MD, led the Quinnipiac University medical student rotation at Connecticut Children's, and the rotation has received stellar comments from these learners. Marta Neubauer, MD, spearheads the Quinnipiac medical student experience at the St. Mary's unit, also a highly rated rotation. Christine Skurkis, MD, continues in her prominent role as associate director of the Pediatric Residency Program, and she became a national faculty member for the APEX program (Advancing Pediatric Educator Excellence). Allyson McDermott, MD, submitted an application to establish a Pediatric Hospitalist Medicine Fellowship program, which represents the next major step for us as a division.

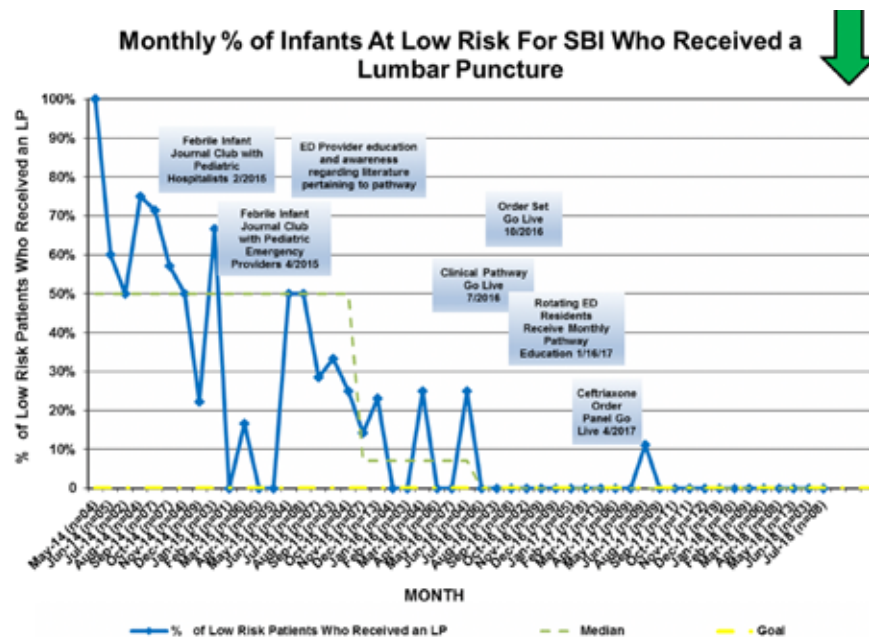
On the academic front, we had our most productive year ever with more publications and national presentations than in any year prior. Quality improvement served as a primary vehicle for this work. Under the leadership of Ilana Waynik, MD, the Clinical Pathways program has expanded to nearly 40 pathways and will soon move to an Internet site. These clinical maps improve the value of care by decreasing costs and length of stay while improving clinical outcomes. As an example of creating value, Dr. Waynik collaborated with our Emergency Department to demonstrate decreased lumbar puncture need for low risk infants through use of our fever pathway (see Figure 1). Beth Natt, MD, worked with national leaders in our field to help standardize testing for febrile infants. Dr. Rudnick contributed as an author on three impactful papers, the most we have ever seen in one year from a junior faculty member. One of our quality improvement and research standouts, Dr. Alex Hogan, received the Academic Pediatric Association (APA) Young Investigator Award. This is a first for the

institution and a huge honor for Dr. Hogan. He continued his work in prevention of asthma readmissions, funded by a CICATS grant from the University of Connecticut. Dr. Sullivan and Ms. Giudice together received a Top 15 Innovations award from the Society of Hospital Medicine, another first for our division. Jane Im, MD, began a new informatics role in which she helps physicians more effectively harness the power of our electronic health record.

Fostering leadership across local, regional and national spheres has been a priority for our division for many years. Division head Anand Sekaran, MD, served on the 12-member American Academy of Pediatrics Pediatric Hospitalist Medicine (PHM) PREP editorial board, which wrote the first exam for pediatric hospital medicine. This exam served as a primary learning tool for the first PHM board exam in 2019. Dr. Sekaran also served as associate editor for the PHM core competencies, and he had his first full year as associate chair of Pediatrics for clinical affairs at Connecticut Children's. Dr. Kalkbrenner took the group to new levels of cohesiveness and engagement in her role as clinical director. MacDara Tynan, MD, was appointed vice president for our institution's practice plan, and Dr. Neubauer served her first full year as site director of our St. Mary's unit. She has brought a new level of quality and momentum to that satellite location. Dr. Natt, in her role as regional director of the division, ensures that as we expand to other locations, we continually achieve the highest quality of care close to home. The division was pleased to welcome two new providers in 2019. Hayley Wolfgruber, MD, and Hareem Park, MD, joined us as seasoned hospitalists, both top recruits from Cohen Children's in New York.

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

Figure 1



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Kathy Kalkbrenner, MD

Emilee Lewis, MD

Allyson McDermott, MD

Marta Neubauer, MD

Hareem Park, MD

Melanie Rudnick, MD

Christine Skurkis, MD

Catherine Sullivan, MD

MacDara Tynan, MD

Ilana Waynik, MD

Hayley Wolfgruber, MD

Basia Adams, APRN, leader

Kara Denz-Fluck, PA-C

Christine Giudice, APRN

Jill Herring, APRN

Abby Theriaque, APRN

NUVANCE HEALTH PROVIDERS

Danbury:

Beth C. Natt, MD, MPH, Regional Director

Donald Sampson, MD

Jacqueline Talbot, PA-C, lead PA

Beth Cross, PA-C

Alexandra Pavain, PA-C

Devin Stimpson, PA-C

Alexis D'Aloisio, PA-C

Lauren Smith, PA-C

Norwalk:

Alicia Briggs, MD

Amanda Begley, MD

Pamela Fanning, PA-C, lead PA

Sharon Smith, PA-C

Jennifer Napolitano, PA-C

Nora Croll, PA-C

Jessica Gonzalez, PA-C

Kimberly Orzech, PA-C

Jacquelyn Brown, PA-C



The Division of Infectious Diseases and Immunology provides excellent care for patients with unusual and chronic infections, patients with immune deficiencies and patients who require travel advice. Members of the division are also involved in cutting edge, NIH-funded research in spirochetal infection, as well as antimicrobial resistance and vaccine development.

CLINICAL PROGRAMS

The division provides extensive inpatient and outpatient consultation and primary services for children and youth with common and complex infectious diseases, travel medicine, and congenital and acquired immunodeficiencies, including HIV care. The program continues to grow and gain recognition throughout the state of Connecticut, including Fairfield County. This past year the division has undergone key staffing changes. We were sad to see Dr. Nicholas Bennett depart Connecticut Children's in June of 2019. Dr. Bennett, who served as head of the division for five years, provided excellent patient care, was an acclaimed teacher and co-directed our Antimicrobial Stewardship program. We wish him well in his new clinical endeavors at the University of Florida. Additionally, Dr. Melissa Held was promoted to assistant dean of education at the UConn School of Medicine. Despite her very busy new role overseeing close to 450 medical students, she continued to provide infectious diseases consultation services at Connecticut Children's. During this time of unexpected

transition, the division worked as one team to review countless charts, assign new providers to each patient and act on existing treatment plans. Our physicians, advanced practitioners, nurses and administrative staff worked tirelessly to re-arrange schedules and provider templates, and personally contact each family affected by changes to their care. With the national shortage of yellow fever vaccine, our travel program is the only site in the state of Connecticut offering pediatric-specific travel consult services that include provision of yellow fever vaccine under an expanded access program. The department elicited help from PAs and APRNs for the travel medicine clinic.

In late October, Jonathan Schreiber, MD, MPH, joined the Infectious Disease team as interim division head. Trained as a pediatric infectious diseases clinician and researcher at Boston Children's Hospital and Harvard Medical School, Dr. Schreiber established a nationally recognized, basic and translational research program centered on the mammalian host response to bacterial polysaccharides and polysaccharide-protein conjugate vaccines while at Case Western Reserve University. Dr. Schreiber also served as chair of pediatrics at the University of Minnesota, where he spearheaded the opening of a new children's hospital in Minneapolis. He subsequently moved to Boston, where he was appointed chair of pediatrics at Tufts University and physician-in-chief at Floating Hospital for Children in Boston. Most

recently, Dr. Schreiber served as the chief physician executive, president of the physician practice and chief academic officer of Baystate Health, one of the largest health systems in western New England.

Lastly, we have successfully recruited two new junior faculty clinicians to provide clinical services for our patients. Dr. Edward Kim, who completed his pediatric residency and pediatric infectious diseases fellowship training at Detroit Children's, and Dr. Hassan El Chebib, who trained in pediatrics and pediatric infectious diseases at SUNY Upstate Medical University Hospital in Syracuse. We welcome their arrival and the new vigor they bring to our clinical services. Their presence will allow our program to expand its pediatric infectious diseases consultation services to our satellite locations in Farmington and Danbury.

ANTIMICROBIAL STEWARDSHIP PROGRAM

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

HIV PROGRAM AND SERVICES

The Pediatric and Youth HIV Program at Connecticut Children's is comprised of a multidisciplinary team of physicians, case managers, nurses and health advocates that provides timely, family-centered, and culturally sensitive care to children, adolescents, and parents infected and affected by HIV. Our clinical team, which has been in existence for over 25 years, provides state-of-the-art HIV prevention as well as HIV diagnosis and treatment services. The program has been continuously funded through the Ryan White program for almost three decades, having been awarded over \$20 million from the federal government for the provision of direct HIV patient care services. The Ryan White-funded medical case management team stays abreast of cutting edge, innovative and evidence-based practice modalities, augmenting their skills by participating in professional development opportunities through trainings and workshops such as Motivational Interviewing, Couples Testing, Functional Behavioral Assessment, Adolescent Opioid Screening, Brief Intervention and Referral to Treatment (S-BIRT), Youth Mental Health First Aid.

The HIV team has established and implemented an evidence-informed psycho-educational peer-to-peer group that enhances the overall mental health of our patients. The Peer-to-Peer Psychosocial Group is facilitated by women who are HIV positive.

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

RESEARCH

It was a banner year for research in the division. The Spirochetal Research Labs co-directed by Justin Radolf, MD, and Juan Salazar, MD, MPH, received a five-year \$11 million award from the National Institute of Allergy and Infectious Diseases (NIAID) at the NIH to develop a vaccine for syphilis. The international study team is comprised of researchers from UConn School of Medicine, Connecticut Children's Medical Center, the Duke Human Vaccine Institute, the University of North Carolina (UNC) at Chapel Hill Institute for Global Health and Infectious Diseases, UNC Project-Malawi, CIDEIM in Cali, Colombia, Masaryk University in the Czech Republic, and Southern Medical University in Guangzhou, China. Three projects comprise the Cooperative Research Center. The first builds upon research conducted by Dr. Radolf with Melissa Caimano, PhD, a scientist at UConn Health and member of the Department of Pediatrics and the Division of Pediatric Infectious Diseases. Project 1 will select leading vaccine candidates based on bioinformatics, biophysical analysis, and structural modeling, regardless of whether they induce antibodies during the course of syphilitic infection in humans. The second project is directed by Dr. Salazar and Arlene Seña, MD, MPH, associate professor of medicine at UNC-Chapel Hill. Project 2 includes Kelly Hawley, PhD, a talented research scientist in the Division of Pediatric Infectious Diseases at Connecticut Children's. It will map the global diversity of various *Treponema pallidum* strains and determine outer membrane protein variation in preparation for a proper vaccine formulation. The third project leverages technology developed for HIV research at the Duke Human Vaccine Institute. Armed with knowledge of the structures of the syphilis bacterium outer-membrane proteins generated at UConn Health and Connecticut Children's Medical Center, the Duke team, led by Anthony Moody, MD, can identify B cells that produce antibodies directed against extracellular loops.

In addition, Drs. Caimano and Radolf have successfully competed for several additional NIH grants to conduct research in Lyme disease and Leptospirosis animal models, genomics and genetic regulation. Dr. Hawley was promoted to assistant professor. She was instrumental with the U-19 project and is now co-directing Dr. Salazar's laboratory at UConn Health. The division continues to publish cutting-edge research, as well as clinical reports and

reviews and book chapters. Divisional members are frequently invited to speak at national and international venues on hot topics in pediatric infectious diseases and to present their research.

ACTIVE RESEARCH GRANTS

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

R21 AI128379 (Caimano) – 08/01/2017-07/31/2019, NIH/NIAID, \$150,000.

Identification of Genes Required by *Leptospira interrogans* for Mammalian Host Adaptation and/or Persistence in the Rat Model.

R01 AI029735 (Radolf/Caimano) – 09/19/2018-08/31/2023, NIH/NIAID, \$330,974.

RpoS Regulation of *Borrelia burgdorferi* Genes in Vivo.

R21AI139940 (Radolf/Caimano) – 06/15/2018-05/31/2020, NIH/NIAID, \$150,000.

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Radolf JD, Tramont E, **Salazar JC**. Venereal syphilis. In: Mandell, Douglas and Bennett's principles and practice of infectious diseases. 9th ed. Elsevier; 2019.

Bennett NJ, Giroto JE, Murray T. Fungal pneumonia. In: Domachowske J. Introduction to clinical infectious diseases: a problem-based approach. 2019 Feb.

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Kara Denz Fluck, PA

OFFICE OF INNOVATION IN CLINICAL CARE DELIVERY

Operational since 2016, the Office of Innovation in Clinical Care Delivery (ICCD) is designed to lead, prepare, and gear up frontline care teams to transform Connecticut Children's into an integrated system managing and optimizing patient outcomes at lower costs. A new position, Connecticut Children's chief clinical transformation officer (CCTO), created in 2018, leads the office with a focus on population health. The office accelerates clinical transformation by engaging clinicians across divisions to produce new care models with tools to support it.

Among the office highlights in 2019 were a number of significant awards and external collaborations. They include:

1. Award from the Department of Public Health: PI: CCTO.

Total award of \$1,797,531. The award supports the creation of the Connecticut Newborn Diagnosis and Treatment Network, which coordinates timely diagnosis and therapeutic oversight from infancy through age 21 for infants diagnosed through newborn screening (NBS). This transformational model applies population health principles through the use of an electronic health record-based registry. The registry supports clinical care teams that provide quality care, and it enables the network to report on key developmental and health outcomes for a population cohort comprised of over 64 genetic conditions. Infants identified with these conditions are seen by experts in Genetics, Endocrinology, Hematology, Neurology, or Immunology. The 2019 accomplishments of the network were presented at the New England Consortium of Metabolic Programs, which included the build and launch of the NBS Registry, establishing connectivity with the state's

electronic system, moving forward with the steps to integrate the registry with Yale New Haven Hospital's clinical care teams, and the development of educational content and platforms for birthing hospitals, PCPs, and families around newborn screening.

2. Award from the United Health Foundation: Total award of \$627,296 to Connecticut Children's. Two-Generation Pediatrics Integrating Intergenerational Family Services, Behavioral Health (BH), and Care Coordination is a jointly funded project with the Village, a longstanding Hartford community agency that provides a full range of behavioral health treatment and support services for children, families, and adults. The Office of Innovation supports all aspects of this care transformation project. In the final year of the award, the team increased effective utilization of the pediatric psychologists and achieved financial sustainability. The introduction of care coordinators for the "at risk" population significantly decreased no-show rates for well child visits. Team members presented their approaches and outcomes at two national meetings, Collaborative Family Healthcare Association's (CFHA) annual conference in Denver, CO, in October, and the biennial Developing and Researching Advanced Models of Integrated Primary Care Conference (DREAM IPC) in Wilmington, DE, in September.

3. HRSA sub-award and FFS e-consult contract with the Weitzman Institute, the research and quality arm of Community Health Center Inc. (CHCI): Total award: \$72,000. The Office of Innovation has continued this partnership, which fundamentally changes the way primary care providers (PCPs) and subspecialists work together.



This collaboration uses technology to integrate two complementary co-management approaches, structured co-management guidelines and e-consults, to expand the practice scope for safety-net providers and thereby improve timely access to care. To date, 54 percent of e-consults in three subspecialties have been resolved within the primary care medical home. The Office of Innovation also oversees the development of the now 35 structured co-management guidelines in 20 subspecialty areas. The tele-mentoring component of this award is the planning and delivering of a Project ECHO program for “complex integrated pediatrics.” Using a short didactic followed by de-identified case studies, our curriculum focuses on complex and common pediatric conditions with a strong behavioral component to expand the capability of safety net providers to manage these conditions.

4. Collaboration with Center for Advanced Reproductive Services (CARS) in Farmington, CT: The goal was to put safeguards in place that would make it acceptable for CARS to perform oocyte retrieval and cryopreservation on our adolescent patients (14-18 years) at high risk for ovarian insufficiency. We expanded the focus beyond cancer to bring in three additional subspecialty areas facing the same problem. In order to achieve this, we created a fertility readiness assessment and tool for this population. Assessments are carried out by our pediatric psychologists, and referrals to CARS will be based on their recommendations. Plans are underway to assess the efficacy.

The Office of Innovation’s achievements in transformation projects and internal collaborations were numerous. The year’s highlights include:

1. A survey, by interview, was conducted and completed with 15 interdisciplinary clinic leaders. Each clinic provides integrated and coordinated care to a specific patient population that requires ongoing care by more than one subspecialty area. The mixed quantitative and descriptive survey focused on getting a sense of the care delivery model and workflows, the educational and academic output, the challenges faced, and the opportunities for further enhancing the care team and patient/family experience and patient outcomes. The survey analysis is identifying best practices and common themes that will provide a road map for us to advance the collective performance, population health capabilities, and the regional and national reputations of these unique care delivery units. Results and recommendations are being presented to leadership in the first quarter of 2020.

2. An organization-wide staged transition process from pediatric to adult care for youth with chronic conditions: We convened a stakeholder team comprised of different provider types and subspecialty areas. The group assessed the current state of patient transition, which highlighted the deficiencies in the quality and consistency of preparation. The group finalized a set of generic transition tools to be built into Epic, and formulated workflows to support care

team adoption of the staged process. The Children's Hospital Association's quality metric for transition preparation, the Adolescent Assessment of Preparation for Transition (ADAPT) Survey, is based on youth reports. Three composite scores summarize youth responses in key domains of health-care transition preparation: counseling on transition self-management, counseling on prescription medication, and transfer planning. Our future goal is to score high on this metric and add it to our value-based care contracts.

Development and support of an infrastructure committee to advance the development and effective use of Epic’s Healthy Planet Registry platform at Connecticut Children’s:

Healthy Planet is an Epic software module that, through automated reports, real-time dashboards and workflow tools, compiles key patient data determined by each care team. This information, now at their fingertips, makes it possible to proactively and reliably manage a defined patient population and better ensure optimal health and cost outcomes. Building the relevant metrics for each registry is the first step. The second “care transformational” step is to support and assign care team roles for the regular review and response to the population and individual patient-level dashboards. We have done this for our Sickle Cell Disease Registry (a sub-registry of our NBS Registry) and demonstrated its feasibility. The office supported and now leads Connecticut Children’s Epic Registry Committee. The committee has developed and disseminated an Epic Registry Request form and scoring tool that assesses the potential population health impact of each incoming request related to volume, scope, severity, and costs of a defined patient cohort. Since Epic Analyst resources are finite, this method provides the committee with the information it needs to prioritize those registry requests with the greatest potential impact. A substantive collective impact on value of care is anticipated as more of our ambulatory care teams go live with this.

STAFF

Karen Rubin, MD, Chief Clinical Transformation Officer (CCTO)

Michele Krivickas,
Program and Data Coordinator, Office of ICCD



The Division of Medical 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 metabolic dietitians. Dr. Joseph Tucker currently serves as interim division head.

It has been an exciting year for the division. We welcomed Jaclyn Beirne, MD, to the clinical genetics team.

Our team now consists of 2.0 FTE clinical medical geneticists, 2.0 FTE prenatal genetic counselors, 0.8 FTE general genetic counselor, 0.5 FTE newborn screening genetic counselor, 1.8 FTE hereditary cancer genetic counselors, 1.0 FTE teratology counselor, and 0.8 FTE metabolic dietitians. The clinical, administrative, and academic offices are currently housed at the UConn Health satellite at 11 South Road, Farmington, CT, where children and adults are seen in a general genetics clinic. Prenatal and hereditary-cancer genetic counseling services are provided in the outpatient pavilion on the main UConn Health campus. 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.

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.

The division's educational mission begins in the first year of medical school and goes through a postgraduate fellowship. We have an active medical genetics and genomics residency training program. There are also students, residents, fellows, and genetic counseling learners who spend time with us in genetics.

NEW/ONGOING COLLABORATIONS

Collaborations with the Connecticut Department of Public Health Newborn Screening Program, UConn's Maternal-Fetal-Medicine program, and UConn's Carole and Ray Neag Comprehensive Cancer Center in Farmington are robust and active.

Connecticut Children's has contracted with the Connecticut State Department of Health to provide newborn screening triage services for the entire state. The core newborn screening team is housed within the Division of Medical Genetics. As part of this effort, a 0.5 FTE genetic counselor, 1.0 FTE nurse, 0.8 FTE metabolic dietitian, and a 0.6 FTE data coordinator have been dedicated to provide support for children and adults with conditions identified through newborn screening. Our metabolic clinic is now housed within Connecticut Children's to provide better continuity of care and care coordination.

Dr. Tucker continues in his role as an active member of the GUPPE program, which works in collaboration with the Urology, Psychiatry, Psychology, and Endocrinology divisions at Connecticut Children's to provide 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 Postpartum Support International, CT Chapter.

STAFF

Medical Geneticists

Joseph Tucker, MD, Interim Division Head

Jaclyn Beirne, MD

Genetic Counselors

Alicia Craffey, MS, LCGC

Brittany Gancarz, MS, LCGC

Ginger Nichols, MS, LCGC

Jennifer Stroop, MS, LCGC

Sharon Voyer Lavigne, MS, LGC

Connor Linehan, MS, LGC

Samantha Wesoly, MS, LCGC

Metabolic Dietitians

Sherry Gray, MS, MPH, CD-N

Kaitlyn Ware, MS, RD, CNSC, CD-N



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

The division faculty provides care at multiple sites across the state including Connecticut Children's (Hartford), Connecticut Children's at the University of Connecticut Health Center (UCHC)/ John Dempsey Hospital (JDH) in Farmington, St. Francis Hospital and Medical Center (SFHMC) in Hartford, Eastern Connecticut Health Network (ECHN) in Manchester, the Hospital of Central Connecticut (THOCC) in New Britain, MidState Medical Center in Meriden, William W. Backus Hospital in Norwich, St. Vincent's Medical Center in Bridgeport, Windham Hospital in Willimantic, and NuVance Health™, which includes both Danbury Hospital and Norwalk Hospital. Our faculty members not only work collaboratively across these sites but also are leaders in the Connecticut Perinatal Quality Collaborative, helping to improve maternal and newborn care at the state level. Under the direction of Naveed Hussain, MD, our global health projects in India and Africa are continuing to grow. Dr. Hussain's presentation on the "Impact of a Multi-Site Collaborative Regional Quality Improvement Project (Safe Care, Saving Lives) on Neonatal Outcomes in India" won best platform presentation at the American Academy of

Pediatrics (AAP) Section on International Child Health in New Orleans in October 2019. Dr. Hussain has developed a global health elective and has had both neonatology fellows and pediatric residents participating in his work in India.

Among the year's other highlights, division head James Moore, MD, PhD, was honored by Graham's Foundation, the global support organization for families facing the challenges of premature birth. He was honored for his dedication to improving outcomes for premature babies and their families, and for his expertise as a clinician, educator and researcher. The award was bestowed at the organization's annual 'Tinis for Premies event, held on Nov. 7 in New York. Dr. Moore is the fourth neonatologist, and the youngest, to receive this honor.

At Connecticut Children's, Dr. Moore took on an expanded leadership role as vice president of clinical network development and chief clinical network development officer. He joined the Executive Management Team, and as division head of Neonatology, he oversees Connecticut Children's regional neonatal network of care. In his expanded role, Dr. Moore works with Trisha Farmer, vice president of Regional Partnerships & Operations, and is responsible for expanding Connecticut Children's health system's regional partnerships and referral volume across all clinical programs.

The research mission of the Division of Neonatal-Perinatal Medicine focuses on several areas including the science of human milk and nutrition with multidisciplinary teams of professionals working within the Connecticut Children's Human Milk Research

Center. We also have a core faculty group interested in inflammation biology and NEC (necrotizing enterocolitis) and how TLR and PXR are involved within the development of or protection from NEC. Our division's continued partnership with UConn Storrs has focused on examining neuroprotection strategies after hypoxic-ischemic encephalopathy (HIE) from a translational perspective. Our Neonatal Neurodevelopment Follow-up Clinic (NNFP) is also involved in the New England Regional Follow-up Consortium and has been publishing outcomes data from our multiple NICUs.

As an academic section, education through teaching and mentoring neonatology fellows, pediatric residents, medical students, nurse practitioners, physician assistants and pharmacy students is a primary objective. The faculty continues to lecture and organize National Neonatology board review courses, publish textbooks in the field, and, in 2019, hosted our fourth annual Symposium on Neonatal Advances, featuring five international speakers discussing neonatal nutrition. The division also held a Neonatal Research Day at our main campus in Hartford. The research day included five regional speakers with topics covering stem cells in management of neonatal problems, mucosal immunology research, nutrition and breast milk research, and neurosciences.

Neonatal Critical Care Transport Team

The Neonatology division's dedicated Transport Team is responsible for the transport of critically ill neonates from referring hospitals across New England to a newborn intensive care unit (NICU) within our network that is appropriate for the baby's individualized medical needs. We believe in leveraging our clinical neonatal network to provide the right care, at the right place, at the right time, as close to home as possible. The team also transports newborns requiring procedures or evaluations to and from Connecticut Children's Level IV NICU at the Hartford campus. In fiscal year 2019, the Neonatal Transport Team provided approximately 360 transports. Neonatal-Perinatal medicine fellows (PGY4-6) are involved in the transport program. There is graduated responsibility from PGY 4-6 resulting in the capacity for high acuity transports. Fellows participate in transports during on-service rotations and during calls on nights and weekends. Our teams consist of a neonatal nurse practitioner (NNP) or PA, neonatal nurse and respiratory therapist.

Neonatal Neurodevelopmental Follow-Up Program

Connecticut Children's Neonatal Neurodevelopmental Follow-Up Program is a regional effort that provides services to all high-risk infants born and discharged from the NICUs in the Greater Hartford and eastern and central Connecticut regions. We are pleased to announce that in 2019 we opened a second Neonatal Follow-up Clinic at our subspecialty care center location in Danbury. These programs receive referrals from NICUs at Connecticut Children's in Hartford and Farmington, St. Francis Hospital, the Hospital of Central Connecticut, and Eastern Connecticut Health Network, as well as Connecticut Children's ECMO program, the medical center's Cardiology, Neurosurgery, Pediatric Surgery divisions, and community pediatricians. With our two locations, we are

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

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Books

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Published Media

Updated App - Neodiagnosis (Co-developed by Aniruddha Vidwans, MD, and Naveed Hussain, MBBS, DCH - an app for iOS and Android)

STAFF

James E. Moore, MD, PhD, Division Chief

Annmarie Golioto, MD, Regional Clinical Director

David W. Sink, MD, Regional Clinical Director

Jose Arias-Camison, MD

Tina Rita Bafumi, MD

Fadel Balawi, MD

James Belisle, MD

Arvin Bundhoo, MD

Brett Citarella, MD

Leonard I. Eisenfeld, MD

Veronica Fabrizio, DO

Nada Ghoneim, MD

Ahmet Gork, MD

James Hagadorn, MD

Catherine Hansen, MD

Victor C. Herson, MD

Naveed Hussain, MBBS, MD

Carla Jacobson-Kiel, MD

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Indira Panthagani, MD

Alaina Pyle, MD

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Marilyn Sanders, MD

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Meltem Seli, MD

Julie Sheehan, MD

Morgan Spaight, MD

Jennifer Trzaski, MD

Aniruddha Vidwans, MD

Joseph Vitterito, MD

Ramindra Walia, MD

Scott Weiner, MD

Leslie I. Wolkoff, MD

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Allison Bailey, PA-C

Molly Berning, PA-C

Allison Bloom DaCruz, PA-C

Jillian Bouchard, PA-C

Jacquelyn Browne, PA

Alyson Buck, PA-C



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 Candace Calhoun, PA
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 Corey Champeau, PA-C
 Gillian Carella, PA-C
 Sabrina Colangelo, PA-C
 Nora Croll, PA
 Beth Cross, PA
 Alexis D'Aloisio, PA
 Shivani Desai, PA-C
 Heather Diversi, PA-C
 Pamela Fanning, PA
 Denise Filosi, PA-C
 James Gerace, PA
 Kaitlyn Jones, PA-C
 Cheryl Juhnke, PA
 Brian Landry, PA-C
 Jessica LaVacca, PA
 Erin Leishman, PA-C
 Matthew Light, PA-C
 Sheila Mattei, PA
 Amy Messinger, PA-C
 Betsy Meyer, PA
 Kristen Moore, PA-C
 Jennifer Napolitano, PA
 Sandy Narciso-Owen, PA
 Lucia Onofrio, PA-C
 Kim Orzack, PA
 Alexandra Pavain, PA
 Jammie Rancourt, PA-C
 Philip Roach, PA
 Meagan Sheakoski, PA-C
 Susan Small, PA

Lauren Smith, PA
 Sharon Smith, PA
 Devin Stimpson, PA
 Jacqueline Talbot, PA
 Jenna Trenbeath, PA-C
 Danielle Waite, PA-C
 Susan Beebe, APRN
 Jean Bender, APRN
 Ashley Bourassa, APRN
 Kim Bottone, APRN
 Kate Boxberger, APRN
 Mary Brennan-Centrella, APRN
 Renee Brockett, APRN
 Anna Camacho, APRN
 Stephanie Capps, APRN
 Jessica Cauchon, APRN
 Karen Cleaveland, APRN
 Andrea Dameron, APRN
 Caroline Dempsey, APRN
 Nicole Dugay, APRN
 Michelle Foell, APRN
 Jeanne Franza, APRN
 Connie Freeman, APRN
 Jessica Gonzalez, APRN
 Margarida Haar, APRN
 Jill Herr, APRN
 Debra Karinski, APRN
 Krista Kusinski, APRN
 Victoria Langer, APRN
 Kelley Lavine, APRN
 Lindsay Leighton, APRN
 Michelle Letendre, APRN
 Laura Lissner, APRN
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Sherry Matook, APRN
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 Stephanie McGuire, APRN
 Suanne Menick, APRN
 Karen O'Brien, APRN
 Kim Oski, APRN
 Arti Patel, APRN
 Wendy Petow, APRN
 Wendy Pietruszkiewicz, APRN
 Laura Pittari, APRN
 Terry Poppiti, APRN
 Christine Raymond, APRN
 Heather Remy, APRN
 Megan Richardson, APRN
 Jennifer Rogers, APRN
 Stacey Rubin, APRN
 Jessica Simao, APRN
 Susan Small, APRN
 Patricia Trehey, APRN
 Jenna Trenbeath, APRN
 Lindsay Tucker, APRN
 Rebecca Valentine, APRN
 Laura Van Dyke, APRN
 Erin Vlahakis, APRN
 Alyssa Weiss, APRN
 Mary Young, APRN

Fellows

Aditya Chhikara, MD
 Betté Ford, MD
 Rachel Koski, MD
 Mishika Malik, MD
 Poonam Thakore, MD



In 2019, the Nephrology division experienced significant expansion with growth at satellites throughout the region. Massive efforts were made toward the building and design of the first pediatric dialysis unit in the state, which is slated to open in early 2020. The division also saw growth in hypertension services and in the Ambulatory Blood Pressure Monitoring program.

The year of 2019 was marked by many clinical successes, with the growth of Nephrology in the Fairfield and western Massachusetts regions. The division maintained a clinical presence at six satellites total across Connecticut and Massachusetts, allowing children to access renal care close to home. The division continues to be robust with four board-certified pediatric nephrologists, a dietitian, a physician assistant, three nurses, a dialysis RN manager, and a dedicated full-time social worker. Strong clinical relationships exist between Urology and Transplant Surgery to provide seamless, comprehensive care for our patients, regardless of where they are located in our hospital.

In 2019, the division expanded its Ambulatory Blood Pressure Monitoring (ABPM) program, which is co-managed by Ian Macumber, MD, and Robyn Matloff, MD. This program is providing comprehensive hypertensive care not only in Hartford, but at all

Connecticut Children's locations across Connecticut and western Massachusetts. Dr. Matloff was named medical director for Fairfield County and helped spearhead growth for all specialties in the region. The division experienced continued steady growth of outpatient visits with a total of approximately 6,500 for the year. These visits included pre-transplant, post-transplant, inpatient, and outpatient consults as well as acute and chronic dialysis. Our renal transplant service continued with two recipients for the year, and our patients are now undergoing cutting-edge, steroid-free protocols. The division continues to work closely with the ICU on a regular basis to provide continuous veno-venous hemodiafiltration for our sickest patients.

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



This year our team exhibited national academic excellence with division head Cynthia Silva, MD, FAAP, presenting her work on nephrogenic diabetes insipidus at the Pediatric Academic Societies National Conference. Sherene Mason, MD, FAAP, MBA, was the recipient of the 2019 Trailblazer Award for the Jamaican American Connection (JAC) in New Haven. She joined the medical advisory board of the National Kidney Foundation, Connecticut and Greater New York chapter. She co-authored an abstract, "LN-Autoantibodies: A Midwest Pediatric Nephrology Consortium Study of Pediatric Onset Lupus Nephritis," which was presented at the Childhood Arthritis and Rheumatology Research Alliance (CARRA) Annual Scientific Meeting in Louisville, KY. And she was an invited lecturer on neonatal acute kidney injury at the Yale Neonatal-Perinatal Fellowship Conference in New Haven.

As we look forward to the upcoming year, we expect to increase volume as we expand ambulatory blood pressure monitoring services toward Danbury and Fairfield, CT, and to Baystate Medical Center in Springfield, MA. We will continue our extensive research portfolio and increase IRB-approved, research-funded studies.

PUBLICATIONS

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STAFF

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

Ian Macumber, MD

Sherene Mason, MD, FAAP, MBA

Robyn Matloff, MD

Molly Band, PA-C



The year 2019 was one of continued expansion and clinical achievement for the Division of Pediatric Neurology. The division increased its services in 2019 to provide a full-time neurology clinic in Danbury. We welcomed William (Billy) Yorns, MD, who originally completed his pediatric training at Connecticut Children's Medical Center. The division's Epilepsy Center received a Level 4 designation from the National Association of Epilepsy Centers and was accepted as a member of the Pediatric Epilepsy Research Consortium. The neuromuscular program began performing gene therapy on infants with spinal muscular atrophy (SMA) and two patients were treated. This represents the first gene therapy ever performed at Connecticut Children's. Jennifer Madan Cohen, MD, was appointed to serve as medical director of the Neurology Division. Louisa Kalsner, MD, was promoted to associate professor of pediatrics and neurology. The division is in the final stages of preparation for a new child neurology residency program with Mark Schomer, MD, appointed as its director.

The Division of Neurology evaluates and treats pediatric patients with all types of neurological diseases including headaches, epilepsy, neurocutaneous, neurodevelopmental and other neurogenetic disorders and diseases, cerebral palsy, nerve and muscle diseases, movement disorders, and neuroimmunology conditions. Epilepsy patients receive comprehensive care in the Epilepsy Center directed by Dr. Madan Cohen. The treatment options include a ketogenic diet, and epilepsy surgery in collaboration with the Neurosurgery division. Dr. Schomer is conducting electrophysiology research on epilepsies and collaborates with UConn Storrs. The autism genetic research program, led by Dr. Kalsner, continues to enroll established autistic patients for genetic studies. William Graf, MD, FAAN, diagnoses and follows patients with neurodevelopment conditions and also serves on the bioethics committees of both the American Academy of Neurology and the Child Neurology Society. Francis DiMario, MD, directs the neurogenetics clinic, which is focused on the evaluation and care of patients with neurocutaneous disorders.

This clinic is recognized by the TS Alliance (TSA) as a specialty care clinic that provides advanced treatment for patients with tuberous sclerosis complex 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 Gyula Acsadi, MD, PhD, FAAN, is one of the few centers of excellence for pediatric Charcot-Marie-Tooth disease as part of the Inherited Neuropathy Consortium supported by the National Institutes of Health (NIH) Rare Disorder Research Center and the Muscular Dystrophy Association (MDA). The center collaborates with Sylvia Öunpuu of Connecticut Children's Center for Motion Analysis and Dr. Kristan Pierz of Pediatric Orthopaedic Surgery. The neuromuscular program was designated by the Cure SMA organization as an SMA care and treatment center. The program offers intrathecal administration of a drug to treat SMA and collaborates with the Connecticut Children's Center of Procedural Excellence. Dr. Elizabeth Ng provides electrophysiology (NCV/EMG) service. The service is one of only two programs in the state that has the ability to provide pediatric patients with sedation during testing. Dina Conley, APRN, and Richard Young, MD, are active in the headache and concussion treatment program.

Division members presented their work at numerous national and international conferences. We also are involved in clinical trials for tuberous sclerosis, autism, epilepsy, muscular dystrophy, and spinal muscular atrophy.

Awards & Honors

Dr. DiMario was the recipient of the 2019 Didactics Teaching Award for Excellence in Resident Teaching. The prize is bestowed by the University of Connecticut's Department of Pediatrics.

Dr. Madan Cohen was elected to the faculty of the American Epilepsy Society Epilepsy Fellowship Curriculum, a newly formed online lecture series that serves as a nationwide curriculum for epilepsy fellows.

Active Grants

New grant for participating I-ACQUIRE (NIH-sponsored) multi-center treatment study for infantile hemiplegic stroke.

Continuation of MDA Care Center grant from the Muscular Dystrophy Association.

Cure SMA grant for SMA patient database.

Improving Accurate Diagnosis & Treatment of Epilepsy: A Training for Pediatric Practice Teams; 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: Kalsner L. Neural synaptic and circuit dysfunction in the autism spectrum disorders. (In year 4.)

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-PI: Kalsner L. 7/1/16-6/30/19.

Multi-center clinical trial (funded by Novartis Pharmaceuticals Inc.): 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: DiMario F.

PUBLICATIONS

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Book Chapters

Ng E. Angelman syndrome. Attention-deficit hyperactivity disorder. Autism. Child neurology, history, and physical examination. Child neurology: summary of all guidelines. Chromosomal disorders. Degenerative diseases of childhood. Fontanel. Fragile X syndrome. Hypotonic infant/hypotonia in infancy/floppy infant.

Macrocephaly. Metabolic diseases of childhood. In: Zaidat OO, Lerner AJ, Miles JD, editors. The little black book of neurology. 6th ed. Philadelphia, PA: Elsevier, Inc.; 2019.

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Louisa Kalsner, MD
Jennifer Madan Cohen, MD
Elizabeth A. Ng, MD, FAAN
Mark Schomer, MD
William Yorns, DO
Richard Young, MD
Edwin Zalneraitis, MD
Constandina Conley, APRN





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*

DEPARTMENT MILESTONES

Our friend, mentor and colleague Dr. Paul Kanev, the founding member of the Division of Pediatric Neurosurgery, retired in May of 2019 after more than 12 years of service to the institution. He presided over the evolution of the practice from a single provider to a full complement of three surgeons with midlevel support. In honor of his efforts, Dr. Kanev was recognized by anonymous donors with the establishment of the Paul M. Kanev Chair of Pediatric Neurosurgery, which was bestowed on the current division head, Dr. Jonathan Martin, in March.

The year 2019 also brought the addition of a new provider. David Hersh, MD, joined the practice following completion of his fellowship in pediatric neurosurgery at St. Jude Children's Research Hospital in Memphis, TN. Dr. Hersh has subspecialty interests in neuro-oncology and epilepsy.

PATIENT SATISFACTION

The Division of Neurosurgery is committed to providing outstanding service to our referring providers and families. Pediatric Neurosurgery maintained its status as No. 1 among divisions at Connecticut Children's with the highest level of satisfaction among patients and families.

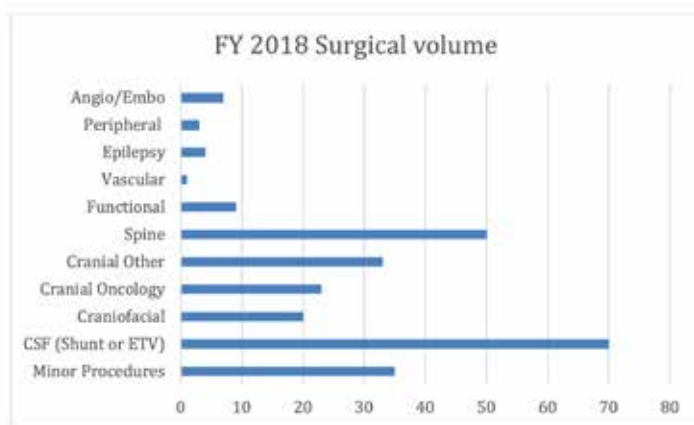
QUALITY IMPROVEMENT INITIATIVES

The Division of Pediatric Neurosurgery remains committed to patient quality and safety. In addition to participation in the American College of Surgeons' Pediatric National Surgical Quality Improvement Program (NSQIP), Connecticut Children's joined the Hydrocephalus Research Network quality program (HCRNq) and will be benchmarked against other North American pediatric

centers for performance on outcomes for shunt surgery. The division's internal quality program continues to benchmark our performance against existing national standards. Coupled with our ongoing development of clinical pathways, we strive to provide outstanding care to our patients, families, and referring providers.

SURGICAL VOLUME

The Division of Pediatric Neurosurgery continues to provide the full spectrum of surgical care to the children of Western New England. In 2019, more than 250 children were provided surgical care by our expert team of providers. Outcomes continue to meet or exceed established national quality standards.



QUALITY METRICS

	CT Children's	National Benchmarks
Shunt failure, 90 days	10%	11.5% (30-day data) ¹
Shunt infection	7%	6% ²
30-day readmission	10%	8.1% - 11.2% ^{3,4}

EDUCATION, LEADERSHIP, AND RESEARCH

Our division remains committed to the mission of education and research. In cooperation with the University of Connecticut School of Medicine and Hartford Hospital, Connecticut Children's succeeded in establishing a neurosurgical residency program in 2019. The program will select its first resident in 2020.

Connecticut Children's neurosurgical providers continue to make their mark nationally. Dr. Jonathan Martin was elected to the executive committee of the Section on Neurological Surgery of the American Academy of Pediatrics, and he began serving his term November 1, 2019. His duties include chair of the education, publication, and newsletter subcommittee. He also serves on the Committee for Quality, Safety, and Advocacy for the American Society of Pediatric Neurosurgeons.

Markus Bookland, MD, assumed the role of associate director of Research and Academic Affairs for the Department of Surgery and is making significant improvements to the research strategy and infrastructure. He has been working with Todd Jensen, Shefali Thaker, and Drs. Anand Sekaran and Courtney Rowe to create

standardized pathways for research faculty development in an effort to improve research productivity and enhance departmental visibility. Some of these projects include:

- Developing semi-automated reports for departmental research metrics
- Creating a revised pathway with novel content for on-boarding research faculty
- Gauging current research impact within media and improving research content visibility
- Redesigning PAT and academic merit databases to allow for cross-platform data sharing and generation of academic promotion application proponents and faculty performance metrics

At the research bench, Dr. Bookland has joined with Dr. Roel Verhaak at the Jackson Laboratory in Farmington, and is diversifying his oncology work to include ecDNA in medulloblastoma. He continues to partner with Dr. Tang-Schomer in the investigation of 3D brain tissue modeling, and he continues to publish and present on his work documenting miRNA changes in the bloodstream of pediatric brain tumor patients.

- ¹ Piatt JH. JNS Peds 14: 179-183, 2014.
- ² Kestle JRW et al. JNS Peds 17: 391-396, 2016.
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- ⁴ Sherrod et al. JNS Peds 13: 350-362, 2016.

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Helaine Bertsch, MD, Radiation Oncology

Minh Tang-Schomer, PhD, University of Connecticut

Roel Verhaak, PhD, Jackson Laboratories



THE PEDIATRIC OBESITY CENTER



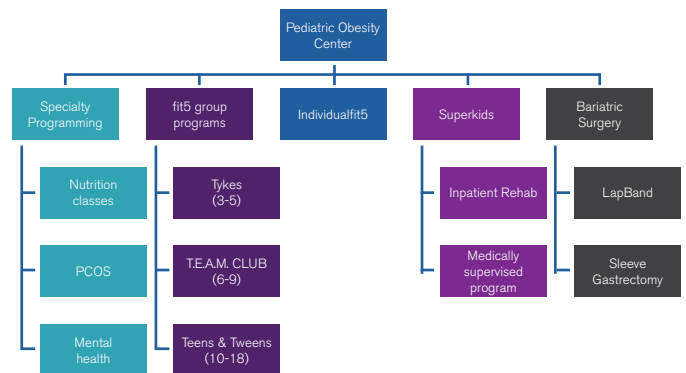
The mission of the Pediatric Obesity Center is to be at the forefront of the care of families with obesity by providing innovative clinical service, cutting-edge research initiatives, and tailored education of the next generation of providers.

CLINICAL GROWTH

The Pediatric Obesity Center has several arms of clinical care including our non-surgical “fit5” programs and our adolescent bariatric surgery programs. The year 2019 brought continued clinical growth for our center with a record number of referrals and patients accessing our care. To expand our reach in the state, we began providing services in the Connecticut Children’s satellite office in Fairfield. In conjunction with efforts made by our Clinical Nutrition department to increase awareness among patients on our inpatient floors, we began to offer preliminary inpatient consultations for obesity, an effort we plan to expand in 2020.

Highlighting our year was the addition of new faculty members James Healy, MD, and Nancy Trout, MD. Dr. Healy completed his residency at Yale University and his fellowship in pediatric surgery at Connecticut Children’s and UConn. He joins Dr. Christine Finck, Connecticut Children’s surgeon-in-chief and division head of Pediatric Surgery, in our Bariatric Surgery Program. Dr. Trout joins us from Connecticut Children’s Primary Care Center

and has a long history in the prevention and care of young children with obesity. She is co-chair of the Hartford Childhood Wellness Alliance. In addition to her community activities, she will be expanding our range of services for young children with obesity. The division also welcomed a new program dietitian, Haley Duscha, RD, who comes to us having completed her internship at Baylor University Medical Center in Dallas. Haley brings to our program years of experience in treating medically complex patients. Rachel Sadinsky, PT, DPT, and Adam Brown, PT, DPT, joined our program as physical therapists, and they bring years of experience helping kids maximize the full potential of their bodies.



CENTER OF EXCELLENCE

In August of 2019, we were notified by the Metabolic and Bariatric Surgery Accreditation and Quality Improvement Program (MBSAQIP) that our adolescent Bariatric Surgery Program had achieved national accreditation as a center of excellence. Our program is one of the few in the country to receive adolescent-specific accreditation. In the site surveyor's review of our facility, he commended the spirit and dedication of the staff at Connecticut Children's. Our accreditation puts us on equal footing with the accredited metabolic and bariatric surgery program at Hartford Healthcare, which serves patients ages 18 and up. The relationship between programs ensures patients receive the safest and most effective care at any age.



RESEARCH AND NATIONAL RECOGNITION

The Pediatric Obesity Center maintains 11 IRB-approved studies targeted at improving care for children and adolescents with obesity. Program head Melissa Santos, PhD, was awarded a grant from the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK)/the National Institutes of Health (NIH) to trial a cognitive behavioral intervention for youth with comorbid obesity and chronic pain. Dr. Trout received renewal of her grant from the Kohl's Cares foundation for her Start Childhood Off Right program, which aims to prevent early childhood obesity. The funds will enable her to expand her work in Hartford to children starting at birth to age 5. Drs. Healy and Santos were awarded innovation grants from Connecticut Children's Department of Surgery to use technology to improve health behaviors after bariatric surgery and to create a national registry of adolescent bariatric patients.

Our center was productive both regionally and nationally in showcasing our clinical programs and our research. Our clinical team presented grand rounds on adolescent bariatric surgery (Finck, Healy, Santos, and Priya Phulwani, MD) at Connecticut Children's, and on pediatric obesity treatment (Santos) at Day Kimball Healthcare. Program members presented 11 abstracts at Obesity Week and were invited to speak on the new guidelines for adolescent bariatric surgery (Santos), and the care of transgender youth seeking bariatric surgery (Finck and Santos). Dr. Santos presented two platform talks at the Society of Pediatric Psychology Annual Conference and two platform talks at the American Psychological Association Convention. Our clinical nutrition team reported on the results of their inpatient nutrition screening program at the Illuminations Patient Safety and Quality Conference. Dr. Trout presented on breastfeeding and obesity at the Connecticut Children's lactation committee's annual breastfeeding conference. Staff also presented on Type 2 diabetes and apps for health (Phulwani and Santos), and motivational interviewing (Santos) at Project ECHO.

We continue to place our center on the national level with ongoing collaborations and workgroups. Dr. Santos serves on the governance board of POWER (Pediatric Obesity Weight Evaluation Registry), the national registry for childhood obesity where

she chairs the communications committee and is co-leading the development of a Maintenance of Certification (MOC) project on mental health screening in weight management programs. Dr. Santos is leading the national workgroup that is writing guidelines for the psychological evaluation of adolescents undergoing bariatric surgery. Our staff has been asked to serve on data safety monitoring boards for large NIH studies (Finck and Santos) as well as on an NIH study section (Santos). Dr. Santos continues her work on the board of directors for the Society of Pediatric Psychology, and our clinical staff members serve as ad hoc reviewers for relevant journals.

EDUCATION

Our center continues its mission to train the new generation of obesity providers. Dr. Michael Reiss, PsyD, launched monthly meetings with medical students from Quinnipiac to review the impact of mental health on clinical care. Twelve students rotated through the Obesity program under Dr. Santos for various research and clinical experiences. Many of these activities ultimately lead to manuscript submissions and presentations at national conferences.

SUMMARY

We head into 2020 with excitement as we enter our tenth year of providing full spectrum care.

GRANTS

R21 NIDDK 4/1/19-3/30/21 (Santos)

PUBLICATIONS

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Nancy Trout, MD

Jessica Williams, MD

Haley Duscha, RD

Nicole Boone, PA

Miranda Lange, PA

Rachel Sadinsky, PT, DPT

Adam Brown, PT, DPT



The Office of Sponsored Programs (OSP) supports Connecticut Children's investigators and staff by applying for, procuring, and managing extramural funding, and ensures compliance with the policies and regulations of Connecticut Children's, its sponsors, and federal and state oversight agencies. In addition, the OSP Contracts Office negotiates and processes all agreements related to research and sponsored programs, and issues all contracts for research-related collaborations, material transfers, and data sharing.

The OSP experienced rapid growth in 2019 due to new research initiatives at Connecticut Children's. In 2019, the OSP managed over \$32 million in research-related funding, submitted 69 proposals, and processed 565 contracts. In addition, the OSP has invested in InfoEd, a grants management system that will help manage and streamline our growing research portfolio. InfoEd is an electronic research administration tool that will aid Connecticut Children's in realizing cost savings, improving data integrity, streamlining administrative processes, and enhancing compliance. InfoEd will allow the OSP to gain insights into new funding opportunities with the research funding database SPIN (Sponsored Programs Information Network), better manage proposal development and submissions with direct access www.grants.gov, and boost post-award management with direct financial feeds from a number of Connecticut Children's systems.

We are proud of the many accomplishments of our team over the past year. Laura Friedeberg, MS, received the 2019 Outstanding Volunteer Award at the National Council of University Research Administrators regional spring meeting held in Portland, ME. Connecticut Children's was well represented at the meeting as Kyle Lewis, BS, also received an honor, the 2019 Outstanding New Professional Award. OSP director Maria Soliman, BS, continues work with the Society of Research Administrators International by serving on the committees for translational research and financial management.

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Cristen Yakush, BA,
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The Division of Ophthalmology experienced tremendous growth in 2019. We greatly expanded our ability to address the needs of very complex ophthalmic patients who previously had to be sent outside of the Connecticut Children's network. At the same time, we continue to focus on our mission of providing patient-centered care with attention to safety, outcomes and patient experience.

The division opened two new Ophthalmic Diagnostic Centers, one in Farmington and the other in Glastonbury. We were pleased to add two new board-certified pediatric ophthalmologists and one ophthalmic physician's assistant (PA) to our team. Janine Collinge, MD, and Caroline DeBenedictis, MD, and Sona Hamelin, PA, are now providing basic and complex care of ophthalmic and vision conditions at the new Farmington and Glastonbury locations. With our new doctors, we are able to better meet the needs of our Connecticut and regional families and referring pediatricians.

With help from Connecticut Children's Foundation and our capital campaigns, the Ophthalmology division added many pieces of state-of-the-art diagnostic equipment. This investment in our patients reduces the need for a transfer out of network for care and enhances the ability of our physicians to diagnose and treat complex eye conditions. We now have:

- Pentacam AXL and Topcon Aladdin topography for corneal disease and intraocular lens implantation calculations
- RETeval electrophysiology system for hereditary retinal and visual pathway disorders
- Humphrey Field Analyzer3 Model 860 to monitor visual field status in glaucoma and neuro-ophthalmic disorders
- Topcon Triton Plus swept source Ocular Coherence Tomography to provide extremely detailed information about the structure and function of the eye

- Fluorescein Description Angiography for detailed diagnostic evaluation of the microvascular system of the eye
- Accutome® 4Sight® US Scan with A&B probes to allow imaging of the eye in cases where the view is occluded. It is also important for intraocular lens implantation calculations in pediatric cataract
- Updates of Wireless Indirect Ophthalmoscopes and iCare Tonometers. The latter has reduced the need for eye examinations under general anesthesia

CLINICAL INITIATIVES

An amblyopia patching program: We introduced a patching protocol to try to improve patient compliance with patching and improve outcomes for amblyopia. It is the most common cause of reversible vision loss in children.

Participation in the NIH-sponsored Pediatric Eye Disease Investigator Group (PEDIG), which is a platform for key controlled clinical trials focused on minimizing the impact of pediatric vision disorders.

Creation and implementation of a physician's assistant training program for pediatric ophthalmology.

SURGICAL SERVICES

The Ophthalmic Operating Suite underwent significant updates with the addition of state-of-the-art equipment and advanced training for staff members.

Previously patients with pediatric cataract, glaucoma and retinopathy of prematurity (ROP) were referred outside of the Connecticut Children's system.



We undertook a crucial update of ophthalmic microsurgical equipment and an advanced training program for ophthalmic nurses and surgical technicians. The following specific surgical areas were enhanced:

- Cataract surgery – Alcon Constellation microsurgical machine for pediatric cataract and retina
- Glaucoma surgery – Microsurgical drainage devices and optics allow these fragile patients to be treated at Connecticut Children's

CLINICAL COLLABORATIONS

The division is now offering several combined clinics for the convenience of patients and their families. Combined clinics offer patients the opportunity to see multiple experts from Connecticut Children's during one visit. This enhances collaboration, patient safety, education, and patient experience.

- Starting in December 2019, our pilot clinic was combined with the Pediatric Neurosurgery Clinic overseen by Dr. Jonathan Martin
- We collaborate with Endocrinology on diabetic retinopathy telemedicine readings
- Collaborations with Medical Genetics, Craniofacial Surgery, Rheumatology and Oncology are under development
- A retinoblastoma collaboration with Connecticut Children's divisions of Ophthalmology and Oncology, and with Dr. Efrén Gonzales, a pediatric retina and oncology expert. This collaboration will help us coordinate and streamline the care of children with complex retinal tumors, and will allow many of our patients to remain in the Connecticut Children's system during their journey. Previously, all of these children had to travel multiple times for initial and follow-up care

EDUCATION

We are in the process of developing a didactic and practical ophthalmic education series for Connecticut Children's pediatric residents and emergency medicine fellows, and for UConn Health emergency medicine fellows.

MEDIA

Majida Gaffar, MD, worked with Fox News live and online media on several pediatric ophthalmology pieces including the dangers of contact lens use for cosmetic purposes during Halloween, functional vision loss, and fireworks safety.

ON THE HORIZON

- Retinopathy of prematurity (ROP) telemedicine program
- Adult strabismus (eye misalignment) program. Most cases of eye misalignment in adults began when they were children. This leads to a pediatric ophthalmologist being the physician most experienced to care for cases of adult strabismus. In collaboration with UConn Health, we are developing a program to help adults suffering from debilitating double vision and eye misalignments

- The opening in early 2020 of a new, state-of-the-art specialty care center at 599 Farmington Ave., in Farmington. It will coincide with the ophthalmology-specific Epic Kaleidoscope Electronic Health Record
- Creation of two retinopathy of prematurity (ROP) informational videos for parents prior to the first exam and then prior to discharge. This project is designed to improve parent understanding of the disease and the importance of proper surveillance and follow-up. The goal is to reduce the chance of a child missing appointments and to improve patient satisfaction.

THE YEAR AHEAD

Division goals for the year 2020 include the introduction of Epic and the new specialty care center, both of which are scheduled to go live in February. We plan to expand ROP outpatient services in Danbury, continue the development of the adult strabismus program, and open a new optical shop to allow for expansion of glasses services to all of our patients as well as implement participation with vision plans and insurances.

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STAFF

Paul J. Rychwalski, MD, Division Chief

Janine Collinge, MD

Caroline DeBenedictis, MD

Majida Gaffar, MD

Sona Hamelin, PA



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

The Orthopaedic Surgery department has six fellowship-trained surgeons: division head Jeffrey Thomson, MD, Mark Lee, MD, Phil Mack, MD, Kristan Pierz, MD, Janet Zahradnik, MD, and Sonia Chaudhry, MD. Our orthopaedic surgeons work closely with UConn Health and Maimonides Medical Center Orthopaedic residents who receive clinical and surgical experience. Our ACGME-accredited pediatric orthopaedic fellowship continues to train the upcoming generation of pediatric orthopaedic surgeons. Our advanced practice providers, Amy Shannon, APRN, and Marta Jablonski, PA-C, were joined this year by Kevin Connolly, PA-C, and Sarah Florence, PA-C. The office staff and providers have worked hard to offer same-day and walk-in appointments for the timely evaluation of orthopaedic injuries. Among other highlights for the year, the Orthopaedic Surgery division is now on the fourth floor of the Bone & Joint Institute, which features the EOS® X-ray Image System providing high

quality, extremely detailed images at a significantly lower radiation dose compared to a typical radiographic X-ray. Dr. Chaudhry completed the prestigious ASSH/AFSH International Hand Fellowship at Ganga Hospital, Coimbatore, India, in April 2019, advancing our experience with complex nerve injuries such as those of the brachial plexus.

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

The Center for Motion Analysis, directed by Dr. Pierz and Sylvia Öunpuu, MSc, is fully certified by the Commission for Motion Laboratory Accreditation. The CMA provides a wide range of diagnostic services evaluating children with disorders that affect walking and that may require treatment including orthopedic surgical intervention. The Center for Motion Analysis also conducts research on disorders that impact gait such as Charcot-Marie-Tooth disease, cerebral palsy, and clubfoot, as well as sports injuries.

Our research efforts, led by Matthew Solomito, PhD, provide a robust program that this year resulted in 14 publications and 14 presentations.

PUBLICATIONS

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Book Chapters

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Fellow

Harshad Patel, MBBS, MD

OTOLARYNGOLOGY – HEAD AND NECK SURGERY

The Division of Otolaryngology – Head and Neck Surgery has grown to six physicians and four advanced practitioners. We continue to see patients in Hartford, Farmington and Glastonbury. In the past fiscal year, we evaluated 13,851 patients and performed 2,523 surgeries.

Christopher Grindle, MD, had a banner year of accomplishments. As future fellowship director, he completed the application, coordinated the site visit and obtained full ACGME accreditation. We anticipate recruiting for our first fellow in the spring 2020 to start in the summer of 2021. This is a huge step forward for our program. As a member of the American Society of Pediatric Otolaryngology (ASPO) Quality and Safety Committee, he developed a national standardized method for documenting tracheotomy procedures. He presented two posters at the annual ASPO meeting. Clinically, in collaboration with Courtney Ewell, AuD, from the Department of Audiology, the Vestibular and Balance Disorders Clinic increased new patient referrals by 125 percent. Moreover, our Cochlear Implant Program increased recipients by 150 percent this year including our first recipient with single-sided deafness. In addition, Dr. Grindle serves as the surgical director of Clinical Informatics at Connecticut Children's.

Katie Kavanagh, MD, has increased her national and international reputation in medical simulation for otolaryngology training. She was invited faculty at the 1st World Congress of Pediatric ENT in Buenos Aires, Argentina, where she spoke on communication and crisis resource management to improve patient safety, and incorporating a pediatric otolaryngology simulation curriculum into residency training. Dr. Kavanagh was also invited faculty in New Zealand for Airway Skills Boot Camp. She spoke on

medical simulation for positive educational, safety and culture change at the American Society of Pediatric Otolaryngology summer meeting and at the annual meeting of the American Academy of Otolaryngology – Head and Neck Surgery. Within our own residency program, she initiated Airway Boot Camp in collaboration with Michael Archambault, MD, from the Division of Anesthesiology. In this role, she has a new faculty appointment as associate professor of Anesthesiology at the University of Connecticut School of Medicine. Her latest venture is design of a wellness curriculum for the Otolaryngology residency program.

Nicole Murray, MD, continues to expand the collaborative Connecticut Children's Aerodigestive Team. She has been elected as ENT representative to the national Aerodigestive Society, serving a two-year term for curriculum development. She moderated a panel discussion on Otology at the American Society of Pediatric Otolaryngology and another panel on "How to Start an Aerodigestive Program at Your Hospital" at the 6th Annual Contemporary Management of Aerodigestive Diseases conference.

Division head Scott Schoem, MD, MBA, was selected as the new associate director for Surgical Clinical Affairs working closely with the surgeon-in-chief, Christine Finck, MD, on clinical operations, budgets, mentoring and marketing at Connecticut Children's. He was also elected as the vice president for the Connecticut State American Academy of Pediatrics (AAP) Chapter, the first surgical subspecialist in this role. He was invited faculty at the 1st World Congress of Pediatric Otolaryngology where he spoke on ENT manifestations of Down syndrome, pediatric otology, HPV vaccination, and congenital pyriform aperture stenosis. He continues as national chair of the Advocacy Committee for the



Section on Otolaryngology – Head and Neck Surgery within the AAP, advocating for children’s health-care issues. He is on the national board of directors for ENT PAC, the specialty’s non-partisan, issue-driven political action committee. As co-editor of *Pediatric Otolaryngology for Primary Care*, he is working diligently on the second edition of the AAP publication, which should be in print early in 2020. He spent one week in March 2019 teaching complex otology surgery to Nicaraguan otolaryngologists.

The Division of Otolaryngology is pleased and fortunate to have two new physicians, Nancy Grover, MD, and Amy Hughes, MD. Dr. Grover obtained her general otolaryngology training in India and the United Kingdom. She completed her fellowship training in pediatric otolaryngology at Rady Children’s Hospital in San Diego and worked as a hospital-employed physician prior to joining Connecticut Children’s in April 2019. Her specific area of interest is pediatric sleep apnea. She is working to establish a multidisciplinary sleep clinic for children with sleep apnea with a special focus on children with complex needs/persistence of sleep apnea after conventional surgical management. Dr. Hughes is a graduate of Boston College and Loyola University Chicago Stritch School of Medicine. She completed her otolaryngology residency at the University of Connecticut and did a fellowship in pediatric otolaryngology at Boston Children’s Hospital in 2014. She was a faculty member at Boston Children’s Hospital where she specialized in the management of salivary gland disorders and the management of drooling. She has participated in national and international training courses on sialendoscopy to examine the salivary ducts for blockages such as stones or strictures. She also has worked with an international team of practitioners to develop a care pathway for patients with cerebral palsy and drooling. She is excited to bring this expertise back home to Connecticut Children’s where she plans to grow a practice caring for patients with drooling, patients with salivary gland disorders, and pediatric patients with general ENT concerns.

Lauren Schmidtberg, PA-C, gave an oral podium presentation at the annual meeting of the American Academy of Otolaryngology – Head and Neck Surgery on “Female Senior Authorship in Otolaryngology: A Two Decade Comparison.”

AWARDS

Katie Kavanagh, MD, received the Best Poster in General Otolaryngology at the American Academy of Otolaryngology – Head and Neck Surgery annual meeting for “Beyond Yoga: What Do Otolaryngology Residents Need From a Wellness Curriculum?”

PUBLICATIONS

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STAFF

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Assistant Professor of Otolaryngology

Co-director, Cochlear Implant Program

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Assistant Professor of Otolaryngology

Amy Hughes, MD

Assistant Professor of Otolaryngology

Katie Kavanagh, MD

Associate Professor of Otolaryngology and Anesthesiology

Director of Research

Director, Medical Simulation

Nicole Murray, MD

Associate Professor of Otolaryngology

Site Director, Otolaryngology Residency Program Director

Director, Aerodigestive Team

Rebecca Strong, APRN

Christine Harrington, PA-C

Lauren Schmidtberg, PA-C

Morgan Denno, APRN

Elizabeth Oblon, APRN



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

Highlighting our year was the receipt of the Francine L. and Robert B. Goldfarb-William T. Zempsky, MD, Endowed Chair for Pain and Palliative Medicine. Dr. Zempsky will officially receive the chair in 2020.

We added two new members to our division, Kelly Maynes, PhD, and Mallory Fossa, APRN. Dr. Maynes, who did a fellowship in psychology at Connecticut Children's, joined us after working for a few years at Baystate Health in Springfield, MA. Ms. Fossa is originally from Connecticut and returns to the area after working on the palliative medicine service at Children's Hospital Los Angeles in California.

Other important highlights and milestones for the division in 2019 include:

The division created an online yoga curriculum for youth with chronic pain. It can be viewed at www.connecticutchildrens.org/yoga.

Division head William Zempsky, MD, MPH, gave invited plenary talks at the Society of Pediatric Pain Medicine, American Society

of Pediatric Hematology/Oncology, and the American Academy of Pediatrics.

Emily Wakefield, PsyD, gave oral presentations at the Society of Pediatric Psychology Conference and the Connecticut Psychological Association Convention. She was named the education chair for the American Psychological Association Division 54 Pain special interest group (SIG).

Ongoing Grants

NICHD IUG3HD102038-01 – Effectiveness of an mHealth psychosocial intervention to prevent transition from acute to chronic postsurgical pain in adolescents. PI: Rabbits/Palermo. 9/30/19–8/31/20. Dr. William T. Zempsky, co-investigator.

Department of Defense– ICANCOPE development in adults with neurofibromatosis. PI: Buono. 8/1/19–7/31/22. Dr. William T. Zempsky, co-investigator.

NIH/NIAMS R01 AR070474-01A1 – Kashikar-Zuck S. Multisite randomized clinical trial of FIT Teens for juvenile fibromyalgia. 06/21/17–05/30/22. Site PI: Dr. William Zempsky. Co-investigator, Dr. Emily Wakefield.

M1 Mentoring Program – Connecticut Institute for Clinical and Translational Science. 7/1/17–6/30/20. PI: Dr. William Zempsky.



NIH/NICHD R01HD086978-01A1– ICanCope with sickle cell disease. Co-investigator: Dr. William Zempsky.

NIH/NIDDK 1R21DK117221 – Pain and weight treatment: development and trial of PAW. Santos M. 4/01/19–3/31/21. Co-investigator: Dr. William Zempsky.

Mayday Fund – Initiative to create a pediatric pain fellowship for pediatricians. 1/01/19–12/31/20. PI: Dr. William Zempsky.

PUBLICATIONS

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STAFF

William T. Zempsky, MD, MPH, Division Head

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

Taryn Hamre, APRN, DNP
 Mallory Fossa, APRN



It was a busy and productive year for the Department of Pathology and Laboratory Medicine with increases in volume and staffing levels, and the introduction of several new programs. The laboratory had a gain of 26 percent for a total fiscal year 2019 volume of 3,962,470 tests (an increase of 818,648 tests over fiscal year 2018). The largest growth was in transfusion services, microbiology, and chemistry areas of the lab. Two new recruits in Anatomic Pathology joined our department in mid-year of 2019. Krzysztof Glomski, MD, PhD, completed a head and neck pathology fellowship at Mass General Hospital, and Ronald Araneta, MD, completed a genitourinary pathology fellowship at the University of Indiana. We continue to interview for a breast pathology fellowship-trained pathologist, but within our practice have hired Thomas Mezzetti, MD, a pathologist who completed a breast/gynecologic pathology fellowship. He will be practicing at one of the affiliate hospitals [Charlotte Hungerford Hospital in Torrington] but will also serve as a resource in breast pathology.

There continue to be increased numbers of markers being used in immunohistochemistry and molecular pathology. In response, we continue to expand the laboratory offerings in both diagnostic pathology and also markers that are used to initiate targeted therapies.

NEW PROGRAMS

In 2019, the department undertook an expansion in Molecular Pathology. Back in April 2017, a 50-gene panel was implemented for solid tumors. Subsequently the following expanded panels were launched in 2019:

A 99-gene DNA-based panel was custom designed and is in the final stages of clinical validation in the Molecular Laboratory. The panel was designed to identify variants, small deletions, duplications, and copy-number changes in 99 genes that are recurrently altered in multiple tumor types, including: lung, colon, brain, breast, prostate, ovary, and others. The panel includes known drivers of malignancy and biomarkers for targeted therapy and clinical trials. It was launched in June 2019.

An RNA-based fusion panel was custom designed and allows for the detection of previously published fusions/translocations involving 64 genes. The fusions detected are recurrent in multiple tumor types, including: lung, thyroid, brain, prostate, and others. Many of these fusions are key diagnostic markers, and/or permit targeted therapy. This panel launched in May 2019.

An RNA-based sarcoma panel that covers 27 recurrent gene fusions, which are important in diagnosis and patient management, was launched in April 2019.

In May 2017, the Molecular Lab implemented a 49-gene NGS panel including genes commonly altered in myeloid and lymphoid neoplasia. The lab has finalized the design of two expanded panels for hematolymphoid neoplasia, and both panels required the acquisition of NextSeq, a larger-capacity sequencing platform that was acquired this year by the department.

A 150-gene DNA-based panel includes variants recurrent in myeloid and/or lymphoid malignancies, many of which also serve as drug targets. The panel also can detect copy-number variation (i.e., deletions and copy-number gains) within the

covered regions. This panel is currently in clinical validation and is expected to launch early in 2020.

A 205-gene RNA-based translocation/fusion panel covers clinically relevant gene fusions in a number of leukemias and lymphomas. This panel will serve as a diagnostic tool, and will permit identification of targets for existing and newly emerging therapies and is expected to launch early in 2020.

INFORMATICS

A whole-slide scanner was installed at one of our affiliate hospitals, and the pathology staff at Hartford Hospital serves as consultants using telepathology for that site. This allows rapid consultations including intraoperative frozen section consults as well.

LABORATORY MEDICINE (CLINICAL PATHOLOGY)

The first major contract change that involved all of the HHC laboratories, administrative leadership, and medical directors was instituted seamlessly on February 1, 2019. Our blood supplier transitioned from the American Red Cross (ARC) to Rhode Island Blood Center (RIBC). The decision was based primarily on service excellence and fulfillment expectations, which had been a challenge for ARC. An unexpected benefit of selecting RIBC as primary vendor is a projected savings to the system of approximately \$1.8 million over three years.

Microbiology services for all hospitals with the exception of the Hospital of Central Connecticut have been centralized at the ancillary laboratory in Newington. The presence of all 11 blood culture machines, introduction of Sensititer[®] processing, and addition of a third MALDI-TOF have standardized and streamlined timely identification of positive blood cultures. Elimination of the plating step allows isolates to be reported 18 to 24 hours sooner.

Our program of training qualified employees to earn their categorical medical technology certification continues to provide opportunities for career advancement within the Hartford Hospital lab. The employees' cross-training in all major lab disciplines facilitates their versatility so they can readily "pitch-in" for any area where a surge in workload is experienced.

For fiscal year 2019, the lab revenues totaled \$314,147,260 over a budget of \$273,407,976. This reflects an increase of 14.90 percent.

DEPARTMENT GOALS

Long range plans: The planned consolidation of immunohistochemistry testing, which was implemented in 2018, has continued, and now all immunohistochemical testing from Backus Hospital in Norwich, Windham Hospital in Willimantic, Charlotte Hungerford Hospital in Torrington, and MidState Medical Center in Meriden, is performed at Hartford Hospital Laboratory.

A plan was put together for renovation of the frozen section room and an alternative/temporary space is being renovated as a space while the main frozen section room undergoes renovation. This is essential to meet demands.

A center of excellence for diagnostic microbiology operates 24/7 at our ancillary laboratory in Newington. With an objective of maximizing efficiency and the speed of local critical services, routine diagnostics for the system hospitals are being integrated there. In addition to Hartford Hospital's non-stat work, routine microbiology from MidState, Windham and Backus hospitals is now performed there exclusively. The work from Charlotte Hungerford Hospital will be added.

PROBLEM AREAS & TRENDS

For meaningful consolidation to happen in other areas of the laboratory, such as Anatomic Pathology, additional staffing (both new hiring and filling vacant positions) will be required.

The department has 201 FTEs in the clinical laboratories and 40 FTEs in Anatomic Pathology. There are 16 MDs and four PhDs providing services in the department.

STAFF CHANGES & PLANNED RECRUITMENT

Two new appointments included Margaret Assaad, MD, taking over as director of Surgical Pathology, and Fabiola Balarezo, MD, named residency program director. Drs. Glomski and Araneta joined the department as surgical pathologists. Drs. Andrew Ricci and Richard Muller retired from the department in the summer of 2019. Dr. Amity Roberts was recruited as director of Microbiology and will begin in early January 2020. We are currently looking to recruit another surgical pathologist.

PERTINENT SUB-SPECIALIZATION

There is a wide range of sub-specialization in the department broadly as Anatomic and Clinical Pathology. Within Anatomic Pathology there is subspecialization as follows: neuropathology (3), cytopathology (6), pediatric pathology (1), molecular pathology (1) and dermatopathology (1). Additional members within AP have specialty skills in organ systems for which there is no board certification. These include breast pathology, GI pathology, GU pathology, gynecologic pathology, pulmonary pathology, head and neck pathology, and soft tissue/ bone tumor pathology. Additionally, there are four members of the department board certified in hematopathology providing support in hematology and hematopathology.

In other areas of Clinical Pathology, two staff members provide support in transfusion medicine. One (Peter Shen, MD) is board certified in transfusion medicine, and also has specialty expertise in coagulation. There is one PhD board-certified member in each of the following disciplines: Microbiology (Dr. Amity Roberts, to join in January of 2020), Chemistry (Gregory Makowski, PhD, DABCC, FACB), Molecular Pathology/Cytogenetics (Dr. Laila Mnayer), and Immunopathology (Richard Cartun, MS, PhD).

PUBLICATIONS

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The mission of the Pediatric Surgery Division is to provide the highest quality family-centered surgical care. The Division of Pediatric Surgery offers a full range of clinical services for pediatric patients from newborns to young adults. This includes prenatal consultations, the treatment of congenital anomalies, head and neck surgery, surgery of the chest and abdomen, pediatric gynecology, non-reconstructive urology, surgical oncology, bariatric surgery, reconstruction of chest wall deformities, and trauma including burn care. Pediatric surgeons currently see patients in Farmington, Glastonbury, and Danbury, allowing an increase of patient access for the convenience of our patient families. Outpatient procedures are also performed at the Connecticut Children's Ambulatory Surgery Center in Farmington and at Danbury Hospital. Same-day outpatient visits are available at our Hartford office for urgent problems.

The year 2019 brought new members to the Division of Pediatric Surgery. Dr. James Healy completed his fellowship here in Pediatric Surgery and joined our group in August. We also welcomed Dr. J. Leslie Knod in September. She completed her pediatric surgery fellowship at University of Texas Southwestern Medical Center & Children's Health Dallas. In addition, two physician assistants, Miranda Lange and Nicole Dietzel, joined the Pediatric Surgery team in the fall. Attending Dr. Meghna Misra, former co-head of the Pectus Program, relocated to New Hampshire, and Dr. Ishna Sharma, who joined the division in July 2017 as the first Peter Decker Surgical Research Fellow in the lab, returned to the residency program.

Among the year's accomplishments, the division's Bariatric Surgical Program, under the leadership of division chief and Connecticut Children's Surgeon-in-Chief, Dr. Christine Finck, Melissa Santos, PhD, and Dr. Healy, was awarded national

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

Under the leadership of Dr. Brendan Campbell, the Donald W. Hight Endowed Chair, Connecticut Children's has been continuously verified by the American College of Surgeons as a Level I Pediatric Trauma Center since 2008.

Dr. Christine Rader continues as the surgical director of the Extracorporeal Membrane Oxygenation Program, which cares for critically ill patients with cardiac and respiratory failure. The Multidisciplinary Thyroid Group, led by Drs. Finck, Richard Weiss, and Rebecca Riba-Wolman, enables children with thyroid diseases to be rapidly and simultaneously evaluated by a surgeon and an endocrinologist. The Multidisciplinary Prenatal Evaluation Program continues to be co-directed by Dr. Weiss. This program is a joint effort with the divisions of Obstetrics and Maternal Fetal Medicine at Hartford Hospital, and multiple medical and surgical divisions at Connecticut Children's.

The Chest Wall Deformities Program, led by Dr. Rader, continues to evaluate and treat patients with pectus excavatum and

pectus carinatum. Dr. Rader provides surgical expertise to both the Short Gut and Aerodigestive programs.

Dr. Finck along with resident Ishna Sharma, MD, contributed research on intimate partner violence that is included in the Fundamentals of Surgery Curriculum for the American College of Surgeons.

Dr. Weiss continues as an ex officio member of the American Pediatric Surgical Association (APSA) Practice Committee, which monitors the practice of pediatric surgery in North America, reports trends in practice patterns, and offers guidance to APSA members for improvements and optimization of care delivery. He continues his role as an advisor for the American Pediatric Surgical Association to the AMA/Specialty RVS Update Committee (RUC).

ADVOCACY

Dr. Campbell, MD, MPH, FACS, was named Chief Surgical Quality Officer at Connecticut Children's, a role in which he oversees all surgical divisions at the medical center. Additionally, he continues to be involved regionally and nationally in advocating for the prevention of firearms injuries. He is the state chair for the American College of Surgeons Connecticut Committee on Trauma and serves as vice chair of the Injury Prevention and Control Committee for the Committee on Trauma nationally. Locally, Dr. Campbell leads efforts by the division and the hospital in the American College of Surgeons' Pediatric National Surgical Quality Improvement Program (NSQIP), which has been highly successful in improving the quality of children's surgical care. Additionally, he was awarded a \$5,000 seed grant for 2018 and 2019 as the principal investigator for a study of the evaluation of an Intimate Partner Violence Screening Intervention Model.

EDUCATION

One of the core missions of the division is to educate future physicians and surgeons. Surgical residents from the University of Connecticut Integrated Residency program have rotated on the Pediatric Surgery service since Connecticut Children's opened in 1996. A fellowship program in pediatric surgery has been offered at Connecticut Children's since 2012. Our new fellow, Katerina Dukleska, MD, started her training in August 2019 after completing her general surgery residency at Thomas Jefferson University in Philadelphia.

Dr. Rader serves as the site director for the University of Connecticut General Surgery Residency Program. Surgical residents from the University of Connecticut, Stamford Hospital, Waterbury Hospital, and Saint Mary's Hospital rotate through our service.

Drs. Weiss, Rader, and Campbell work in collaboration with local trauma care providers and teach an Advanced Trauma Life Support (ATLS) course to UConn community physicians and advanced practice providers twice a year.

The division staff contributed on a national level with presentations at several meetings including the American Pediatric Surgical

Association, the American College of Surgeons (ACS) Clinical Congress, the American Association for the Surgery of Trauma, the ACS Quality and Safety Conference, and the Connecticut Chapter of the ACS.

RESEARCH

Dr. Finck's laboratory work focuses on innovation and tissue engineering of organs including the lungs and the esophagus. Over the last year, the laboratory has engaged in pre-clinical trials around an implantable scaffold to repair the esophagus. The NIH awarded this project \$1.2 million to continue research in collaboration with a small company, Biostage, based out of Boston. In addition, the Finck laboratory was awarded a Department of Defense Grant this year in collaboration with the University of Vermont to evaluate an alginate sealant for tracheobronchial injuries.

The division is currently participating in three multicenter studies: to determine the optimal timing of inguinal hernia repair in premature infants; the best treatment for children who sustain blunt injury to their pancreas; and whether receiving firearm safety messaging during outpatient clinic visits improves safe firearm storage in the home. The division is active in other IRB-approved studies as well as health services research, injury prevention research under the leadership of Drs. Campbell and Knod, and basic science research from the lab of Dr. Finck.

DR. BOURQUE RETIRES

Our longtime colleague and 2018 Connecticut Children's Physician-of-the-Year, Dr. Michael Bourque, covered weekend pediatric surgery call through September 2019 when he covered his last weekend. His career spanned four decades positively impacting thousands of Connecticut families through his tireless work and dedication to patient care. We remain most grateful for his support.

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The year 2019 was a rewarding one for the Division of Plastic Surgery with multiple recruitments and achievements. In August 2019, Christopher Hughes, MD, MPH, began his practice at Connecticut Children's and Hartford Hospital after completing his craniofacial fellowship at Boston Children's Medical Center. In February, he and Drs. Alan Babigian and division head Charles Castiglione traveled to Coca, Ecuador, for a busy and successful medical mission trip. Three of the division's trainees were accepted into plastic surgery residency programs, and four more applied for next year. Dr. Castiglione was promoted to clinical professor of surgery at the University of Connecticut School of Medicine.

The Plastic Surgery Division provides clinical services at Connecticut Children's and at Hartford Hospital. Our surgical volume has remained stable, and it 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.

Dr. Hughes joined the team in summer. He is a graduate of Boston College with a medical degree from Loyola Medical School, and his master's in public health from Yale School of Public Health. He completed five years of general surgery training at the University of Connecticut, which was interrupted for two years by a global medicine research fellowship at Harvard University. He then completed three years of plastic surgery residency at Harvard, and a one-year craniofacial fellowship at Boston Children's. He is well trained in all areas of plastic surgery, especially in pediatric plastic surgery and craniofacial surgery.

The multidisciplinary craniofacial team at Connecticut Children's, directed by Dr. Castiglione, remains a center of excellence. Dr. Hughes joined the group in the summer. 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 Drs. Castiglione and Hughes, and by Drs. 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.

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

Plastic surgeons are very involved in volunteer activities, including surgical mission trips. As noted above, Drs. Babigian, Hughes, and Castiglione traveled to Ecuador and performed many surgeries, including burn reconstruction, hand surgery, ear reconstruction, and cleft lip/palate surgeries. Dr. Babigian is director and Dr. Hughes is an active member of Hartford Hospital's Global Health program.

Education is a large component of our division's activities. Residents from General Surgery, Orthopaedic Surgery, Urology, Otolaryngology, Oral and Maxillofacial Surgery, and Emergency Medicine rotate on the service. Medical students also elect rotations on Plastic Surgery. Active teaching occurs during daily patient rounds, in the clinic/office setting, the emergency room, the operating room, and during planned teaching conferences. Several residents and medical students have expressed interest in a career in plastic surgery, and three residents were matched at premier plastic surgery residency programs in the past year. This brings to 56 the number of our residents and students who have moved on to plastic surgery since 1988 when Dr. Castiglione first began practice at Connecticut Children's. Several residents and medical students are involved in research projects with Drs. Babigian, Hughes and Castiglione. In addition to publishing, Drs. Babigian, Hughes and Castiglione have presented papers locally and regionally. One poster was presented at the 2019 annual

meeting of the American Cleft Palate-Craniofacial Association. Dr. Castiglione gave two presentations at the Association of Plastic Surgeons of Lebanese Decent in Beirut, Lebanon, one of which reviewed his 30-year experience with cleft palate repair. Dr. Castiglione is the plastic surgery editor for *Connecticut Medicine: The Journal of the Connecticut State Medical Society*, and a reviewer for three journals: the *American Journal of Cosmetic Surgery*, *Craniomaxillofacial Trauma & Reconstruction*, and the *Journal of Oral and Maxillofacial Surgery*. Some department members are involved in local, regional and national professional societies. Drs. Babigian and Delucia are members of the executive council of the Connecticut Society of Plastic and Reconstructive Surgeons. Drs. Babigian and Castiglione are members of the executive council of the New England Society of Plastic and Reconstructive Surgery.

PUBLICATIONS

Book Chapter

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 Alex Cech, MD
 Orlando Delucia, MD
 Christopher Hughes, MD, MPH
 Steven Smith, MD
 Mindi Cieck, APRN
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Our mission is consistent with Connecticut Children's: to improve the physical and emotional health of children. Our primary model to improve clinical care is through embedding psychological treatment in the care provided by subspecialty divisions. Many children's hospitals use this approach to promote coping and positive outcomes for children with chronic illnesses. Integrating psychological treatment with medical care has been shown to produce positive outcomes.

The division continues to benefit from the addition last year of several psychologists to our group. The medical divisions in which they are embedded also benefit. The specialty of Pediatric Psychology is to focus on the integration of psychological treatments in the care of children with medical illness. Medical teams value the direct clinical services to their patients and increasingly utilize psychologists for consultation and quality improvement efforts.

All members of the Division of Pediatric Psychology are active in presenting posters and presentations at national clinical and research meetings. Some of these highlights, including other accomplishments, are the following:

- Lauren Ayr-Volta, PhD, was appointed to the Institutional Review Board (IRB).
- Bradley Jerson, PhD, was an invited speaker at the International Conference of Digestive Diseases.

- Melissa Santos, PhD, was promoted to associate professor. She received federal funding for an NIH R21 grant: The Creation of PAW (Pain and Weight) Treatment. She continues to be involved in multiple national workgroups and is member-at-large for diversity for Division 54 of the American Psychological Association.
- Lynelle Schneeberg, PsyD, published a book, "Become Your Child's Sleep Coach: The Bedtime Doctor's 5-Step Guide, Ages 3-10." She was invited to give the distinguished lecture at the annual meeting of the American Association of Sleep Technologists: "Helping Children Sleep Well at Home and in the Sleep Lab." She is very active in social media, and her expertise in children's sleep problems is shared frequently in podcasts.

Our commitment to training includes a fellowship in inpatient child psychiatry consultation/liaison. The fellow provides advanced clinical treatment and completes an empirical project of clinical relevance. We continue to train three psychology pre-doctoral interns each year in inpatient and outpatient settings through our collaboration with the Institute of Living's American Psychological Association-approved training programs. All psychologists in the Pediatric Psychology division provide teaching and supervision to these learners, as well as participating in continuing education for medical providers and learners.

Our division remains an additional collegial home for psychologists working in primary care in East and West Hartford offices. Their work is made possible by a grant shared by Connecticut Children's and the Village for Children and Families. Integrating behavioral health care in primary care settings is a growing trend across the country.

PUBLICATIONS

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Emily Wakefield, PsyD

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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 publication of a parent guide for sleep disorders by our clinical sleep psychologist, expansion of our multidisciplinary Aerodigestive Program, and collaboration with investigators at the Jackson Laboratory in Farmington, CT, that led to identification of a novel T lymphocyte involved in IgE-mediated anaphylactic responses.

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, exhaled nitric oxide measurement, body plethysmography, impulse oscillometry, methacholine challenge, cardiorespiratory adaptation, and exercise provocation testing in children. Simple spirometry, bronchodilator assessment, and nitric oxide measurements also are performed at our satellite clinics.

The Pediatric Sleep Center under the leadership of Jay Kenkare, MD, continues to perform nearly 2,000 studies annually done at three sites in Hartford, Farmington, and Glastonbury. Our

Behavioral Sleep Medicine program led by Lynelle Schneeberg, PsyD, continues to add tremendous value for our patient families and referring providers. This year, Dr. Schneeberg received national recognition for publication of a book entitled "Become Your Child's Sleep Coach: The Bedtime Doctor's 5-Step Guide, Ages 3-10." The Aerodigestive Program, a multi-specialty venture with Gastroenterology, Otolaryngology, and Speech Therapy, continues to grow with increased 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 Cystic Fibrosis (CF) program continues to be one of the best in the country based on clinical outcomes of lung function, nutrition, and adherence to CF guidelines. In addition, our CF Newborn Screening Program is the fastest in the country at screening, diagnosing, and then meeting with families to help provide the best care possible and to help during the difficult time of learning about their child's diagnosis.

Members of the division contribute to the education of medical students and residents, respiratory therapists, and nursing APRN students from Yale. Division head Craig Schramm, MD, is a member of the University Center for Excellence in Developmental Disabilities at the University of Connecticut Health Center. He also collaborated with researchers at the UConn Storrs campus in submission of a grant related to basic asthma mechanisms,

and with the Open Communities Alliance, a group committed to improving housing for children with asthma.

Tregony Simoneau, MD, director of our Severe Asthma Program, is principal investigator of a Patterson Trust Mentored Research Award for a collaborative research study with the Jackson Laboratory for Genomic Medicine in Farmington, CT, on the identification of long non-coding RNA biomarkers in allergic asthma. She was co-author of a *Science* paper reporting the discovery of a novel helper T cell that is required for production of high-affinity IgE and subsequent allergen-induced anaphylaxis. Blocking these cells may represent an alternative therapeutic target to ameliorate anaphylaxis. Dr. Simoneau directs a Cigna Foundation Grant to create electronic versions of the evidence-based Easy Breathing[®] and Easy Breathing for Schools programs in an effort to provide integrated care that is easier for clinicians to utilize. Dr. Simoneau is also site PI for two NIH-funded multicenter studies: Controlling and Preventing Asthma Progression and Severity in Kids (CASK), and Preventing Asthma in High-Risk Kids (PARK). Our Cystic Fibrosis Center director, Craig Lapin, MD, serves on the Cystic Fibrosis Foundation Partnership of Care Committee, and center co-director, Melanie Collins, MD, is the Connecticut representative to the Cystic Fibrosis Foundation Special Interest Group on newborn screening. Natalie Shilo, MD, led our initiative to join the National Registry for Childhood Interstitial and Diffuse Lung Diseases.

Additional clinical research projects conducted over the past year included participation in multicenter trials looking at GI complications in patients with cystic fibrosis, and post-marking analysis of the efficacy and safety of the new CF drug, Orkambi. Collaborative research projects focused on microbiological research in cystic fibrosis with Yale School of Medicine, and weaning of supplemental oxygen in infants with bronchopulmonary dysplasia with Boston Children's Hospital.

PUBLICATIONS

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Katarzyna Saar, DO



The Department of Radiology provides a full spectrum of imaging services as well as minimally invasive image-guided procedures to all clinical divisions at Connecticut Children's Medical Center. The department participates in the Image Gently Alliance, seeking to minimize radiation while utilizing best practice standards and ACR Appropriateness Criteria to provide optimal diagnostic imaging for children. In 2019, the Department of Radiology had a change in leadership with Timothy Brown, MD, stepping down as division head and Douglas Mootte, MD, assuming the role.

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. 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 a more seamless delivery of care in a pediatric friendly environment. Interventional radiologists perform diagnostic and therapeutic procedures to help some of our sickest patients. In conjunction with a multidisciplinary committee, they help with management of vascular anomalies in children using minimally invasive techniques. Musculoskeletal and interventional radiologists are also available for diagnostic and therapeutic procedures of the joints and spine including pain management. Jefferson Radiology performs these diagnostic and interventional services on a 24/7 basis, providing uninterrupted care to the children we treat.

The Department of Radiology has seen a major upgrade in our imaging equipment over the past several years. Routine imaging is performed with digital radiography, which allows for better plain film imaging with approximately 40 percent less radiation than conventional radiography. First in the state, our low-dose EOS Imaging System is located in our Orthopedics Department at the Bone and Joint Institute. This system provides ultra-low-dose, 3-D weight-bearing scans to clearly evaluate spinal and lower extremity alignment. This technology is helpful to reduce radiation dose for patients who may need to undergo repeated imaging tests. It also allows better ease and comfort in positioning patients who may have physical impairments.

The Ultrasound division now offers extended appointments at our Hartford campus on weekdays and on the weekends. Ultrasound has also been expanded to our Danbury facility, allowing the community greater access to expertly performed examinations by our subspecialty trained sonographers. State-of-the-art ultrasound equipment introduces advanced techniques to our pediatric patients. Shear-wave liver elastography can noninvasively screen for liver fibrosis. Contrast-enhanced ultrasound using microsphere bubbles assists our radiologists in the evaluation of vesicoureteral reflux or characterization of lesions in the liver without the need for radiation or sedation.

Fluoroscopy is performed at the Hartford campus using a Siemens flat-panel fluoroscopy unit with pulsed fluoroscopy, allowing for significant radiation dose reduction with improved image quality. This equipment is in alignment with our philosophy to “Image Gently and Step Lightly” to provide appropriate imaging while reducing as much as possible exposure to ionizing radiation. To increase the availability of services, we have added staff and are installing a second fluoroscopy unit. In 2020, our portable CT scanner will be upgraded to a 16-slice Omnitom to provide faster scan times, a smaller footprint and better maneuverability, and immediate access to image review, leading to faster results for critically ill patients. We continually monitor our CT scanning techniques to ensure dose optimization for children. When feasible, the techniques are modified to allow imaging without the need for sedation or general anesthesia. For more technically challenging or lengthy studies and procedures, the Sedation Service, Department of Anesthesia, and the Child Life Team offer outstanding resources to help our children undergo the examinations.

The MRI department has undergone a major technological and facilities renovation and now offers imaging with a 1.5T and a 3T field strength scanner at Connecticut Children’s Hartford campus. The installation of a new 3T MRI system expands our onsite imaging capabilities with the addition of advanced cardiac imaging and neuroimaging (functional imaging, diffusion tensor imaging, and perfusion imaging of the brain). We are also excited to offer Siemens LiverLab imaging (hepatic fat and iron quantification), MRI elastography, and improved dynamic contrast-enhanced body imaging with our new expansion. Advances in whole body imaging, vascular imaging, and faster scan times are also anticipated in the future. The MRI suite has been renovated for improvement in workflow and patient experiences. With over 175 child friendly movies as well as music selections, children can often undergo their MRI scan comfortably without sedation, and can also be accompanied by parents during the scan. We continue to work hard to improve scan times and decrease the need for sedation using a multidisciplinary approach.

Education is a major component of the activities of the Department of Pediatric Radiology. Residents from the Hartford Hospital, University of Connecticut, and St. Vincent’s Hospital Bridgeport radiology residency programs receive pediatric radiology training in our department. We also host elective rotations for UConn pediatric residents and pediatric subspecialty fellows as well as UConn and Quinnipiac University medical students. Additionally, the department engages in the education of sonography and radiography technology students. Didactic lectures and case presentations provide teaching to our residents, medical students, and radiology staff. Clinical care and teaching conferences are held in collaboration with the divisions of Pulmonary Medicine, Gastroenterology, Endocrinology, General Surgery, Hematology-Oncology, Orthopaedic Surgery, Rheumatology, Urology/Nephrology, and Critical Care. Through these activities, the Department of Radiology seeks to deliver optimized, patient- and family-centered care to the children we serve.

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Clinical Research's mission is to conduct and catalyze high impact, internationally recognized research and policy work that improves the health, health care, well-being, and population health of infants, children, adolescents, and communities.

This mission is accomplished through several mechanisms: **1**) conducting research on high-impact topics such as health services, cutting-edge treatment modalities, and translational research; **2**) providing a comprehensive research infrastructure, which includes support staff, a statistical core, and expert input on research operations and management, to support all Connecticut Children's investigators; **3**) mentoring early investigators, including high-school students, undergraduates, medical students, residents, fellows, and junior faculty; **4**) facilitating the development of innovative therapies and devices under the University of Connecticut Technology Incubator Program, and **5**) disseminating and publicizing the research findings of Connecticut Children's investigators. Clinical Research is staffed by more than 50 highly skilled professionals, including research managers, associates, and assistants, biostatisticians, and certified clinical trial study coordinators, and nurses. Connecticut Children's research portfolio is supported by grants from a variety of federal funders (the Department of Health and Human Services, the National Institutes of Health, the Centers for Disease Control and Prevention, and the National Science Foundation), 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, the Jackson Laboratory for Genomic Medicine, and the Children's Oncology Group.

There were several noteworthy accomplishments in Clinical Research this year. These include national awards, high-profile national and international keynote speeches and presentations, groundbreaking clinical trials, recruitments and promotions, research training programs, advances in translational research, and publication of 19 articles and book chapters.

We are proud to announce that chief research officer and associate chair of Research Glenn Flores, MD, FAAP, was the recipient of the 2019 American Public Health Association's (APHA) David P. Rall Award for Advocacy in Public Health. This award is given to an individual who has made an outstanding contribution to public health through science-based advocacy. In honoring Dr. Flores, the APHA leadership specifically noted, "APHA joins your colleagues in recognizing your contributions to the health of America's children through science-based advocacy. We're specifically impressed by your active involvement with policy leaders to produce effective public health policies and your research focusing on the unmet needs for translation and interpretation services for families with limited English proficiency as well as the impact of community health workers on the health care of underserved communities."

Dr. Flores demonstrated his continued dedication as a public policy advocate through his participation in several new initiatives this past year. At a national level, he was an invited speaker at the National Association of Latino Elected and Appointed Officials (NALEO) Legislative Summit in Las Vegas, NV. His speech, "Urgent Policy Priorities for Latino Children's Health and Healthcare," addressed key policy priorities for improving the health and health-care outcomes of Latino children. Sixty-six legislators from 21 states attended the summit, including Hilda Santiago (D-Meriden), Deputy Majority Leader of the Connecticut House of Representatives, and Matthew Lesser (D-Middletown), Deputy Majority Leader of the Connecticut State Senate. Dr. Flores also provided oral and written testimony in the Connecticut General Assembly on Senate Bill 859, which would require the establishment of a certification program for community health workers.

Dr. Flores was a member of the study section for the National Institute on Minority Health and Health Disparities (NIMHD) Loan Repayment Program. He also served as a member of the Diversity and Inclusion Steering Committee established under the Connecticut Children's/University of Connecticut's pediatric residency program.

Dr. Flores chaired a State of the Art Plenary session, "When Parental Deportation Orders Clash with the Health of American Children: How Children's Hospitals Can Partner with Legislators and Families to Advocate for Chronically Ill Children in Immigrant Families," at the Pediatric Academic Society Conference in Baltimore, MD. Presenters for the session included Connecticut Children's physician-in-chief Dr. Juan Salazar, Connecticut Children's CEO James Shmerling, and a patient and family from Connecticut Children's.

Katherine Herbst continued in her role as member of the European Society for Paediatric Urology's Research Committee. She presented two educational sessions at the society's 30th Congress held in Lyon, France: "Chance: The (Surprising) Secrets of Luck, Randomness and Probability," and "Everything You Should Know About Statistics in 45 Terrifying Minutes." She was also chair and moderator of the Clinical Research Prize Finalist section and an invited presenter for the *Journal of Pediatric Urology* educational series at the Societies for Pediatric Urology Fall Congress in Scottsdale, AZ.

Our Clinical Trials team supported several leading-edge studies, which resulted in or hold promise for new treatment options for our patients. These included:

Hendriana Nielson and James Santanelli coordinated two clinical trials for principal investigator and Connecticut Children's division head of Pediatric Neurology Gyula Acsadi, MD, PhD. The trials evaluated new therapies for the treatment spinal muscular atrophy (SMA), a genetic disorder characterized by muscle wasting and weakness. The first was a multi-centered trial

evaluating Spinraza®. Findings from this trial resulted in Spinraza becoming the first FDA-approved drug to treat SMA, a significant step forward in treatment. Dr. Acsadi and the clinical trial team are now participating in a follow-up trial to collect data on long-term outcomes for those treated with Spinraza. The second trial evaluated the use of Zolgensma®, and represents Connecticut Children's first gene therapy treatment trial. Dr. Acsadi was able to treat one of his patients with Zolgensma prior to FDA approval under an expanded access protocol. Zolgensma has recently received FDA approval, and is now considered standard-of-care at our institution. It is through the efforts of Dr. Acsadi, Ms. Nielson, Mr. Santanelli, and dedicated researchers like them that two treatment options now exist for children suffering from this debilitating condition.

Mr. Santanelli coordinated an international multi-centered trial for principal investigator Jennifer Madan Cohen, MD. It evaluated an oral cannabinoid, Epidiolex®, for the treatment of uncontrolled seizures associated with Lennox-Gastaut syndrome and Dravet syndrome. Lennox-Gastaut syndrome is a severe form of epilepsy and Dravet syndrome is a rare genetic dysfunction of the brain that can cause seizures. The trial, the largest placebo-controlled study in Lennox-Gastaut and Dravet to date, included patients whose seizures were uncontrolled despite multiple seizure medicines. Results from the trial established the therapy's safety and showed significant improvement in seizures for both syndromes. This resulted in Epidiolex being the first FDA drug approved for the treatment of Lennox-Gastaut and Dravet.

Julieta Bonvin Sallago, under the direction of principal investigator David Weinstein, MD, MMSc, is lead site coordinator of the world's first U.S. Food and Drug Administration-approved gene therapy clinical trial for glycogen storage disease (GSD) hosted at Connecticut Children's and UConn Health. Glycogen storage disease is a rare genetic childhood disorder that impacts the liver's storage and release of sugar, which can lead to seizure or even death. Currently, there are no approved pharmacological therapies for this condition. Eight centers across four countries are actively recruiting for the study, and four patients have been enrolled, with Phase I results expected in the fall of 2020. This trial provides hope to patients with this devastating illness, and has the potential to profoundly affect their quality of life.

Clinical Research substantially strengthened our support infrastructure with the recruitment of five new team members and the promotion of a research scientist. We are pleased to announce the appointment of Alison Oville as director of Clinical Trials. Ms. Oville was internally recruited from the Department of Corporate Compliance, where she was research compliance manager for over four years. She brought to her new role more than 20 years of experience in research coordination and leadership for federal, state, and pharmaceutical-funded studies. She is an active member of Public Responsibility in Medicine and Research (PRIM-R), and the National Research Compliance Network, and is a member of and has certifications with the Association of Clinical Research Professionals and the Health Care Compliance Association. Under

her leadership, Clinical Trials staff supported and managed more than 200 clinical trials across 19 divisions over the past year.

We are also excited to announce the successful recruitment of a senior biostatistician, Michael Brimacombe, PhD. Dr. Brimacombe obtained master's degrees in both economics and statistics and his PhD in statistics from the University of Toronto. He was most recently at the University of Kansas Medical Center, where he played a key role in the design and development of translational, scientific, medical, and public-health research projects. Dr. Brimacombe has published 104 peer-reviewed papers, authored four books, including, "A Tutorial Guide to Basic and Advanced Statistics," and been successful in obtaining grants on the local and federal levels. He is a seasoned educator who has received several teaching awards, and his knowledge and experience substantially strengthen our biostatistical core.

In addition, we welcomed two new research associates, Lauren Tosi and Mabeline Velez. Ms. Tosi is a recent graduate of Benedictine University in Lisle, IL, where she received her master's in public health, and is supporting the Department of Neonatology. Ms. Velez received her masters of science degree from the University of Massachusetts, has over four years of research experience, and was most recently at Baystate Health in Springfield, MA. She is supporting the departments of Neurosurgery, General Surgery, and Otolaryngology. Finally, we congratulate Dr. Ji Hyun Lee on her promotion to assistant professor in the Department of Pediatrics. Dr. Lee has supported the Division of Cardiology's research for the past three years, and is an important contributor to their continued success.

Clinical Research celebrated its second year of collaboration with two area pipeline programs, the Partnership for Innovation and Education (PIE), and the Sports and Medical Sciences Academy (SMSA). Both are managed by Willie Frazier and Danielle Chénard, and overseen by Stephanie Johnson, director of research operations and Connecticut Children's PIE site director. PIE is a consortium of seven Connecticut universities and colleges that share the state's goals to build and retain Connecticut's 21st-century health and technology workforce, and to promote technology as an economic engine. This summer, we welcomed five fellowship students to the program, who were supported by seven faculty mentors. The Sports and Medical Sciences Academy (SMSA), a Hartford magnet high school, participated in a second summer internship program with Connecticut Children's, with two new and three returning students. Together, students from both programs collaborated on six research projects, which were presented at the second annual PIE Innovation Research Day held at the University of Connecticut Health Center in Farmington, CT, and at the second annual Young Investigator Symposium hosted by Connecticut Children's. This year, one of our SMSA summer interns, Christian Harrington, presented his findings at the 2019 annual meeting of the American Public Health Association in Philadelphia, PA, as a poster presentation entitled, "Screening Children for Mental Health Issues in the Pediatric Emergency Department: Who Is at Highest Risk for Not Being Screened?"

Connecticut Children's Technology Incubation Program continued to make progress in developing a new medical device for treating children who have undergone esophageal surgery due to injury or congenital defects. Connecticut Children's surgeon-in-chief Dr. Christine Finck's research group, consisting of Todd Jensen, MHS, Liisa Kuhn, PhD, Kelly Burke, PhD, and rotating undergraduate biomedical engineering students, developed a prototype and conducted initial laboratory testing on the device. As testing results demonstrated that the device functioned as designed, a full patent application was submitted within the one-year provisional period. In addition, Dr. Kuhn received a \$10,000 internal stimulus grant at the University of Connecticut to help pay for translational studies in animals to test this prototype. Those studies are planned to begin in early 2020.

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In 2019, the Division of Rheumatology experienced growth by increasing the number of satellite offices and the number of physicians in our division as well as adding a psychologist to our team. We are currently the largest division of Pediatric Rheumatology in the state with four board-certified/board-eligible pediatric rheumatologists. We staff satellite specialty care centers in six locations throughout Connecticut: Danbury, Shelton, Stamford, Farmington, Glastonbury, and Hartford, and this year, we opened a new one in South Hadley, MA. The addition of a psychologist to our team has created a new dimension, enabling us to address the biopsychosocial factors affecting our patients. This is particularly important given the fact that many have long-term chronic conditions. We have two nurses on our team who provide outstanding clinical care and participate in research through the Rheumatology Nursing Society.

The division remains clinically busy. We had 2,962 outpatient visits this year including 978 new patients. We cared for 77 complex inpatients and performed 63 joint injections.

The division underwent a change in leadership. Barbara Edelheit, MD, is now serving as division head, a post vacated by Lawrence Zemel, MD, who remains in the division. Each of the division's physicians has particular areas of expertise and focus, which forms the basis of a robust team.

Dr. Edelheit has focused on education, and through her mentorship, has continued to encourage University of Connecticut residents to enter the underserved field of Rheumatology. We currently have former UConn residents doing their second and first years of pediatric rheumatology fellowships at Emory

University School of Medicine in Atlanta, GA, and the Hospital for Special Surgery in New York, respectively. We have two current UConn pediatric residents planning to do fellowship training in rheumatology. This remains a source of strength for our division during a time when pediatric rheumatology is suffering from a workforce shortage.

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

Dr. Zemel continues his focus on Lyme disease and remains head of the Lyme program at Connecticut Children's. He has written a chapter on Lyme disease, which is to be published in 2020 in the "Textbook of Pediatric Rheumatology, 8th edition."

The newest member of our division is Blaine Lapin, MD, who joins us following his fellowship at Baylor College of Medicine, Texas Children's Hospital. His area of interest is advocacy, and he is already active on a national level. Dr. Lapin is serving on the American College of Rheumatology Special Committee on Pediatric Rheumatology for a three-year term (2019-2022). He was invited to give an oral presentation, "School Nurse Education for Juvenile Idiopathic Arthritis," at the national American College of Rheumatology meeting in Atlanta, GA, in November.

The division of Rheumatology remains committed to collaborative care at Connecticut Children's, and Dr. Edelheit together with Sherene Mason, MD, FAAP, MBA, in the division of Nephrology will be opening a combined lupus clinic to provide continued state-of-the-art care for children and young adults with systemic lupus erythematosus in a multidisciplinary setting. This will involve collaboration between the divisions of Rheumatology, Nephrology, Psychology and Adolescent Medicine.

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

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PEDIATRIC SEDATION



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. The Sedation Service provides comprehensive high-quality care with a focus on the patient and family experience. 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 have expanded to four physicians, nine full-time nurses with credentialing in sedation, one medical assistant, and a full-time child life specialist. In 2019, we provided care for over 1,500 patients requiring sedation for procedures outside of the operating room.

The Sedation division works with nearly all subspecialties within Connecticut Children's to provide sedation for painful procedures outside of the operating room including: bone marrow aspiration/biopsy in Oncology patients, kidney biopsies for Nephrology, imaging for Radiology, catheter placement and minor surgical procedures for Urology and Surgery, central line placement for the PICC line service, and vaccination/lab draws for patients with developmental delays and autism spectrum disorders. Our service utilizes a mixture of intravenous, oral, and inhaled sedative agents to provide mild to deep sedation, scaled to meet the developmental and procedural needs of each patient.

We are humbled by our high commendations from patients and families, a testament to our continued efforts to develop a family centered approach to care delivery. To that end, associate medical director Kalyani Raghavan, MBBS, MD, DCH, continues to develop strategies to serve the needs of our patients with

autism spectrum disorders. Working with colleagues in Developmental Pediatrics at Connecticut Children's and with state and national experts, Dr. Raghavan has developed social stories to help prepare patients and families for their procedural sedation. These social stories are available online and can be viewed by families to prepare their child for the visit to Sedation. Dr. Raghavan has received grant funding from Autism Speaks® and other outside foundations to continue her very important work. Further developing her expertise in alternative approaches to management of pain and anxiety, Dr. Raghavan is initiating a program to offer options for aromatherapy for patients' hospital-wide. To help families prepare for a visit, our child life specialist is available to call them in advance to help develop individualized approaches with the family's input.

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

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

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

PUBLICATIONS

Malia L, **Sturm JJ**, Smith SR, Brown RT, Campbell B, Chicaiza H. Predictors for acute appendicitis in children. *Pediatr Emerg Care*. 2019 May 24. doi: 10.1097/PEC.0000000000001840. [Epub ahead of print]

Sneller H, Carroll C, Welch K, **Sturm JJ**. Differentiating non-responders from responders in children with moderate and severe asthma exacerbations. *J Asthma*. 2019 Feb 22:1-5. doi: 10.1080/02770903.2019.1579343. [Epub ahead of print]

STAFF

Jesse Sturm, MD, MPH, Division Director

Kalyani Raghavan, MBBS, MD, DCH

Kathy Kalkbrenner, MD

Leonard Comeau, MD



In 2019, the Division of Renal Transplant at Connecticut Children's enjoyed continued excellence. Working closely with the divisions of Pediatric Surgery and Nephrology, the pediatric kidney transplant program saw stellar clinical outcomes. The division members work primarily with Oscar Serrano, MD, main transplant surgeon for pediatric renal cases.

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, two patients underwent a steroid-free protocol, which was created in 2018 and is the cutting edge therapy offered to children in the country.

STAFF

Patricia Sheiner, MD, FACS, Division Director

Carolyn Rochon, MD

Oscar Serrano, MD

Brian Shames, MD



In 2019, U.S. News & World Report ranked Connecticut Children's Pediatric Urology division as one of the top 20 pediatric urology programs in the country for 2019-2020. This represents a big jump in our status from the previous year. Division head Carlos Medina, MD, was again voted a Castle Connolly "Top Doc" in pediatric urology in the region.

The Pediatric Urology division provides comprehensive urologic care. In 2019, the service remained busy with 6,812 visits and 925 operative cases. The division continues to provide interdisciplinary specialty clinics with Pediatric Nephrology and Endocrinology. These include: GUPPE Clinic for patients with disorders of sexual development, ROCKS Clinic for patients with kidney stones, Prenatal Clinic for patients noted to have urologic conditions on prenatal ultrasound, and PUV Clinic for patients with posterior urethral valves. We also offer a Voiding and Bladder Dysfunction Clinic for the management of neurogenic bladders and non-neurogenic voiding issues. We are in the process of developing a Spinal

Defects Clinic for patients with congenital as well as acquired spinal disorders. Anne Dudley, MD, continues to build her practice and has been a productive academician. She also has developed a curriculum and resident guide for the rotation in pediatric urology. Courtney Rowe, MD, has been a wonderful addition to our staff and has already proven herself to be a productive academician as can be seen by our publications. As a junior attending, Dr. Rowe distinguished herself on a national level by moderating a session at the Society for Fetal Urology annual conference in Scottsdale, AZ. Our research coordinator Katherine Herbst, MSc, continues to be a nationally recognized figure in the pediatric urology community and has had a very productive academic year. Looking ahead, we are seeking to establish a relationship with one of our local urologists so we can start a transition of care clinic for our teenage female patients. Finally, one of our residents, Dr. Alex Hennessey, wrote a quality improvement (QI) project on penile tourniquet time that was accepted by the hospital and led to a change in practice.



DIVISION CHANGES

The year 2019 was a time of growth in the Division of Urology. We began expanding our outreach throughout the region and are making an impact on the quality of care for the pediatric patients of Connecticut.

PUBLICATIONS

Truong H, Salib A, **Rowe CK**. The use of social media in pediatric urology – forging new paths or crossing boundaries? *Curr Urol Rep*. 2019; 20(11):72.

Rowe CK, Adam MP, Ahn JJ, Merguerian PA, Shnorhavorian M. Yield of modern genetic evaluation for patients with proximal hypospadias and descended gonads. *J Pediatr Urol*. 2019 Jul 27. doi: 10.1016/j.jpuro.2019.07.017. [Epub ahead of print]

Fossum M, **Herbst KW**, Kaefer M, Harper L, Castagnetti M, Beckers G, Kalfa N, Bagli D; ESPU Research Committee. Evidence-based medicine V: how to use in clinical practice. *J Pediatr Urol*. 2019 Aug 9. doi: 10.1016/j.jpuro.2019.07.025. [Epub ahead of print]

Beckers GMA, **Herbst K**, Kaefer M, Harper L, Castagnetti M, Bagli D, Kalfa N, Fossum M; ESPU Research Committee. Evidence-based medicine IV: how to find an evidence-based answer to a clinical question? Make a critically appraised topic! *J Pediatr Urol*. 2019 May 14. doi: 10.1016/j.jpuro.2019.05.009. [Epub ahead of print]

Kaefer M, Castagnetti M, **Herbst K**, Bagli D, Beckers GMA, Harper L, Kalfa N, Fossum M; ESPU research committee. Evidence-based medicine III: level of evidence. *J Pediatr Urol*. 2019 Apr 24. doi: 10.1016/j.jpuro.2019.04.012. [Epub ahead of print]

Castagnetti M, **Herbst KW**, Bagli D, Beckers GMA, Harper L, Kaefer M, Kalfa N, Fossum M; ESPU research committee. EBM II: How to perform a literature search. *J Pediatr Urol*. 2019; 15(3):268-269. doi: 10.1016/j.jpuro.2019.03.006. [Epub ahead of print]

Castagnetti M, **Herbst KW**, Esposito C. Current treatment of pediatric bladder and prostate rhabdomyosarcoma (bladder preserving vs. radical cystectomy). *Curr Opin Urol*. 2019 Jun 10. doi: 10.1097/MOU.0000000000000651. [Epub ahead of print]

STAFF

Carlos Medina, MD, Division Head

Jill Bernstein MD, FAAP
 Anne Dudley, MD
 Adam Hittelman, MD
 Howard Hochman, MD
 Courtney Rowe, MD
 Katherine Herbst, MSc

PEDIATRIC RESIDENCY PROGRAM



The Pediatric Residency Program continued with its uninterrupted record of full, continuing accreditation, with no areas of concern or citations from the Pediatric Review Committee of the Accreditation Council for Graduate Medical Education (ACGME).

The program continued to successfully recruit high-quality residents. Entering residents were once again highly qualified and included those with whom we very much hoped to match. Graduates were, once again, placed in competitive fellowship programs and outstanding practices. The program first-attempt pass rate on the American Board of Pediatrics certifying examination increased once again, tied at 91 percent with Vanderbilt, Stanford and Boston Children's, comfortably meeting the required pass rate for accreditation. ACGME surveys and program surveys of faculty and residents were notably positive, but they also identified areas of focus for program development.

Program improvements that were planned and implemented during the year:

In response to the desire to have a faculty database of research opportunities for residents, an iterative process was developed in an up-to-date and pragmatic format. The process for replacing the existing faculty research database, which residents identified as difficult to use, was begun by Sharon Smith, MD.

The new resource under development will provide access to a list of potential faculty research mentors and their areas of investigative interest. It will provide an inclusive, easy-to-use and accurate data set that is populated and updated continuously by the faculty interested in mentoring resident research efforts. This iterative process is continuing, guided by a work group of residents and faculty.

In the continuing quest for resident wellness and resilience, the Back to Bedside bundle developed by residents through their ACGME funding was implanted as elements of the bundle were created. The program is improving resident well-being by highlighting the meaning of their work. This is being accomplished by changes designed to improve communication among inter-professional care team providers and with patients and families. It is further anticipated that the enhanced communication will result in greater efficiency, effectiveness and satisfaction with care provided, while it creates a more coherently functioning care team and provides more meaningful relationships with patients and their families through increased time at the bedside.

Elements of the bundle initiated include: Voalte two-way secure text messaging between residents, fellows, faculty, nurses and other interprofessional care team providers; development of text paging etiquette, a new progress note that links to the

electronic handover document, to reduce duplicate data entry; updating of Epic to allow for medical student documentation of daily progress notes with resident co-signature; establishment of a “final call” time for clarifications between resident and staff prior to each handoff; and identification of patients in need of “extra time in care” by arranging for meetings among staff and with patients and their families to address unresolved issues.

Aims for the program were implemented and reviewed for the accreditation process and to allow for coordination of the program aims with the Department of Pediatrics strategic plan:

The Pediatric Residency Program will be able to offer participants experiences that can prepare them well for any of the career possibilities in Pediatrics. Many programs are conducted in ways that emphasize and prepare their graduates for one or two outcomes rather than other possibilities. The University of Connecticut Pediatric Residency Program will continue to strive to provide the broadest possible spectrum of core and discretionary activities to allow its graduates to take advantage of any opportunities they might choose. Its graduates’ career choices historically have reflected this intent, and it is the aim of the program to sustain its “pluripotential” educational experience as the landscape of Pediatrics evolves.

The Pediatric Residency Program will offer a resident learning environment that promotes wellness and reduces burnout to sustain wellness and meaning in residents’ professional and personal lives throughout their careers. The Pediatric Residency Program will embrace the challenge of creating a learning environment that promotes wellness through proper self-care, connectedness, and meaning in work. Residents will learn to maintain their health and well-being and to renew themselves in the face of the challenges their profession brings them. They will experience and learn the value of connectedness with their fellow pediatricians, interprofessional team members, and others in their personal lives. They will learn to bring meaning to their professional and personal lives through thoughtful and innovative changes in the conduct of their activities.

The Pediatric Residency Program graduates will be able to advocate effectively for their patients and families, and for the populations they serve during their residency experience and throughout their careers. Pediatric residents will be educated in a way that increases their chances of accepting responsibility and acting in ways that reach beyond the provision of care, to address the social determinants of health for the individual patients and families served and for the populations they serve as a whole. The program will create this expectation for all residents through the core community longitudinal experience, and it will promote those whose career focus is advocacy for the highest possible level of community and child health through the continued advancement of the advocacy pathway.

Graduates of the program will acquire advanced skills and ability in quality improvement and safety activities. The Pediatric Residency Program will continue to develop and promote a strong resident commitment to reduce error and harm, and to promote the highest quality of care possible. Residents will continue demonstrating the acquisition of knowledge in these areas as reflected on their standard examinations, but more importantly, they will actively identify safety opportunities and participate in addressing them.

An additional aim under development addresses the need for greater diversity and inclusiveness in residents, faculty and staff. This effort is being coordinated with the efforts by Connecticut Children’s.

Pediatric Residents by Level, 2018-19

PL1

- Margret Blondal, MD
- Brooke Bohn, MD
- Rachel Buck, DO
- Gabriella Chibbaro, DO
- Lenora Codrington, DO
- Mark Coelho, MD
- Aseel Dabbagh, DO
- Matthew Eremita, MD



Xenia Fernandez, MD
Divya Harpalani, DO
Gabriella Izzo, MD
Stella Kim, DO
Jing Marrero, MD
Matthew Mason, DO
Shelby Mast, DO
Nicholas Robles, DO
Allison Sadowski, MD
Jenna Scermerhorn, DO
Kerry Smallacombe, DO
Elaine Wang, MD

PL-2

Eliyahu Akerman, MD
Lauren Boudreau, DO
Nayla Boulad, DO
Alexa Goldfarb, DO
Jessica Gordon, MD
Daniel Gustkey, DO
Lauren Iacono, DO
Solborg Ingvarsdottir, MD

Sarah Mackey, DO
Amy Miller, MD
Andres Moreno, MD
Erin Pastor, DO, MS
Amritha Patel, MD
Shaheen Rangwalla, DO
Carolyn Ranten, DO
Esther Son, DO
John Sooy, MD
Paul Tomlinson, DO
Scott Treece, MD
Jonathan Uhl, MD
Divya Vangala, MD, MA

PL-3

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 Lepus, DO
Catherine Paczek, DO
Usha Prasad, DO
Katarzyna Saar, DO
Jessica Sanchez, MD
Chelsea Wells, DO

Chief Residents

Jonah Mandell, DO
Justine Mrosak, MD
Emily Sampino, MD



PEDIATRIC SURGICAL & SUBSPECIALTY FELLOWSHIP PROGRAMS



The University of Connecticut School of Medicine-sponsored graduate medical education (fellowship) programs at Connecticut Children's Medical Center continue to graduate exceptionally trained specialty physicians who enter practice throughout the country. Our fellows continue to be awarded funding for exciting research projects with numerous accepted presentations at national scientific meetings in addition to travel grants and awards. The success of our fellowship programs would not be possible without the dedication and efforts of our administrative fellowship team; Marianne Custer, manager; Amanda Ross, Kierstyn Callahan and Alivia Rhault, coordinators.

PEDIATRIC ANESTHESIOLOGY

Led by Michael Archambault, MD, the Pediatric Anesthesiology Fellowship Program entered its fourth year of accreditation in 2019. Despite best efforts to continue a quality fellowship program, after careful consideration, we made the difficult decision to close the program in June 2019 due to a downward trend of applicants interested in moving to Connecticut and the downward trend in Pediatric Anesthesiology interest nationally.

PEDIATRIC EMERGENCY MEDICINE

Led by Matt Laurich, MD, the Pediatric Emergency Medicine Fellowship is in its 20th year. It is a three-year fellowship with two fellows per year.

Tasha Desai, DO, graduated from the fellowship in June 2019 and accepted a pediatric emergency medicine attending position at Lehigh Valley Reilly Children's Hospital in Allentown, PA. Dr. Desai joined our fellowship in July 2016, arriving from the Children's Hospital at Lehigh Valley Health Network in Allentown. Dr. Desai's research, "Narcotic Prescribing and Prescription Fill Rates in Pediatric Patients with Acute Long Bone Fractures," was presented as a platform presentation at the Eastern Society of Pediatric Research in Philadelphia, PA, in March 2019, and at the New England Regional Pediatric Emergency Medicine Fellows' Conference in New Haven, CT, in March 2019, and as a poster at the Pediatric Academic Societies meeting in Baltimore, MD, in April 2019.

Noah Jablow, MD, graduated from the fellowship in June 2019 and accepted a faculty appointment as a pediatric emergency medicine attending here at Connecticut Children's. Dr. Jablow joined the program in July 2016 from Stony Brook Children's Hospital in Stony Brook, NY. His research, "Point-of-Care vs. Microscopic Urinalysis for Diagnosis of UTI," was presented at the Eastern Society of Pediatric Research.

Jacob Greenberg, MD, currently a third year fellow, presented several of his research projects regionally and nationally: "Emergency Department Resource Utilization in the Management of Croup," "Improving the Nutrition of Infants with Bronchiolitis

Admitted to the Hospital," "Does Crisis Prevention Training Impact the Use of Seclusion and Restraint for Pediatric Emergency Department Behavioral Health Patients?" and "Can Point-of-Care Ultrasound Be Used to Confirm Nasogastric Tube Position?" were each presented as platform presentations at the Eastern Society of Pediatric Research and as posters at the Pediatric Academic Societies meeting.

Prina Patel, MD, currently a third year fellow, presented her research "Point of Care Influenza Testing in the ED," as a platform presentation at the Eastern Society of Pediatric Research, and as a poster at the Pediatric Academic Societies meeting.

Ruchika Jones, MD, currently a second year fellow, is working on a simulation-based study on utilization of novel techniques and mental models to teach pediatric resuscitation skills.

Rahul Shah, MD, currently a second year fellow, is working on studies involving patient and family knowledge and attitudes regarding firearms safety, and faculty and resident knowledge and utilization of free open-access medical education (FOAM).

The fellowship program welcomed two excellent new fellows in July 2019. Candice Jersey, DO, completed the pediatric residency program at Westchester Medical Center in Valhalla, NY. Owen Kahn, MD, completed his pediatric residency at the University of Connecticut Pediatric Residency Program at Connecticut Children's.

In December 2019, the program successfully matched two fellows who will start in July 2020. Shaheen Andreas, DO, will join the program after completing the University of Connecticut pediatric residency program at Connecticut Children's. Kathryn Schissler, DO, will join us following completion of the pediatric residency program at Nicklaus Children's Hospital in Miami, FL.

FELLOW PUBLICATIONS

Sneller H, Carroll CL, Welch K, Sturm J. Differentiating non-responders from responders in children with moderate and severe asthma exacerbations. *J Asthma*. 2019; 22:1-5.

Malia L, Sturm JJ, Smith SR, Brown RT, Campbell B, Chicaiza H. Predictors for acute appendicitis in children. *Pediatr Emerg Care*. 2019. [Epub ahead of print]

Kasmire KE, Hoppa EC, Patel PP, Boch KN, Sacco T, Waynik IY. Reducing invasive care for low-risk febrile infants through implementation of a clinical pathway. *Pediatrics*. 2019 Mar; 143(3). PMID: 30728272.

PEDIATRIC GASTROENTEROLOGY

Led by Bella Zeisler, MD, and associate program director Melissa Fernandes, MD, the fellowship program in Pediatric Gastroenterology is in its eighth year.

We continue to be successful in recruiting excellent fellows to our program. Our faculty has grown in size over the past eight years and our practice now includes a number of subspecialties within GI, which only continues to expand the educational opportunities for our fellows. Jeffrey Hyams, MD, an internationally known and respected researcher in inflammatory bowel disease (IBD), continues to act as a research mentor to many of our fellows and graduates. Our fellows are also supported by a number of faculty members with strong backgrounds in research. Our fellows have continued to receive awards for their research at international and national meetings. We continue to help our fellows transition into faculty positions or independent practice.

The program graduated its sixth fellow, Temara Hajjat, MBBS, in June 2019. She accepted a position as a pediatric



gastroenterologist at Cincinnati Children's in Cincinnati, OH. During the 2019 academic year, Dr. Hajjat completed a number of clinical research projects about pediatric inflammatory bowel disease. Her project, "Vedolizumab Experience in Pediatric Patients with Inflammatory Bowel Disease: A Multicenter Observational Study," was presented at Digestive Disease Week® (DDW) and was awarded a "Poster of Distinction." She has two manuscripts ready for submission for publication, one of which is under review.

Our third year fellow, Andrew Fondell, MD, is working with Dr. Hyams on the economic impact of a new diagnosis of inflammatory bowel disease on our patients as well as the health care system. He presented an abstract at Digestive Disease Week in the spring of 2019 and at the annual NASPGHAN conference in October 2019. His manuscript was accepted for publication in *Inflammatory Bowel Diseases*® (IBD Journal) in August 2019. He continues to work directly with newly diagnosed patients to assess the out-of-pocket costs associated with their new diagnosis. This project will be completed in spring 2020, and he plans to have an abstract to present at NASPGHAN 2020.

Teaming up with four other national pediatric IBD centers, Dr. Fondell is leading a research project investigating the long-term outcomes of pediatric patients that present with perforating Crohn's disease. This project will help describe current treatment patterns in this specific population and help to identify key factors that may lead to surgical intervention, which will help to educate providers and families. The plan is to present the project as an abstract at DDW 2020 and prepare it as a manuscript for publication.

Our second year fellow, Joelynn Dailey Fitz, DO, started her research experience in the fall of 2019, and her primary research mentor is Dr. Hyams. Dr. Fitz's work centers on pain sensitivity testing in children with inflammatory bowel disease and irritable bowel syndrome/functional abdominal pain. She will be performing sensory testing on these children to determine if intestinal inflammation plays a role in pain sensitivity and if the pain sensitivity changes over time in these two different disease states. She is collaborating with a research team from the UConn Storrs campus.

Chelsea Lepus, DO, joined the program in July 2018. She completed her residency at the University of Connecticut at Connecticut Children's. She began her first research rotation in November 2019 during which she met with GI faculty to help determine her research goals and opportunities at UConn and Connecticut Children's. She is currently determining the focus of her project and will have a second research month in February 2020 to help her finalize her project and establish goals and a timeline for her months as a primary research fellow.

In December 2019, the program successfully matched Mariyam Hashmi, MD, who will join the program in July 2020 after completing the pediatric residency program at Charleston Area Medical Center, West Virginia University in Charleston, WV. She completed her medical school education at Dow International Medical College in Pakistan.

FELLOW PUBLICATIONS

Fondell AW, Mosha MH, Frank CR, Brangi JM, Hyams JS. Health care cost for children newly diagnosed with inflammatory bowel disease. *Inflamm Bowel Dis*. 2019 Aug 24; izz183. <https://doi.org.online.uchc.edu/10.1093/ibd/izz183>.

PEDIATRIC ENDOCRINOLOGY

Led by Rebecca Riba-Wolman, MD, and associate program director Christine Trapp, MD, the Pediatric Endocrinology Fellowship is now in its 22nd year. In 2019, the program received ACGME approval for a temporary complement increase from three fellows per three years to four fellows per three years, through June 2022.

We continue to be successful in recruiting excellent fellows in an environment of decreasing applications to the subspecialty. Our fellows are engaged in meaningful research experiences mentored by well-published, NIH-funded investigators in basic and translational research, and they continue to publish in peer-reviewed journals, and receive awards and travel grants to attend national meetings to present their work. We continue to place fellows in academic positions upon graduation, and graduates of our fellowship program have had a 100 percent pass rate on first attempt on the pediatric endocrinology boards.

Massiel Sarmiento Mojica, MD, graduated from the program in September 2019 and accepted a position as a pediatrician at Ocean Medical Center, Patient Care Pediatrics, in Brick, NJ.

Whei Ying Lim, MD, is currently in her third year of training. Her area of interest is type 1 diabetes mellitus, and she continues her work on the role of the stool microbiome on the development of type 1 diabetes in pediatric patients. Her work is under the mentorship of Cem Demirci, MD, (Connecticut Children's), and Derya Unutmaz, MD, (the Jackson Laboratory for Genomic Medicine in Farmington, CT). She has received two highly sought-after awards through the national organizations of the Pediatric Endocrine Society and the Endocrine Society. She also was invited to present at the third annual European Professional Association for Transgender Health (EPATH) meeting where her poster on "The Use of GnRH Agonists for Gender Dysphoria Is Rising at Exponentially Higher Rates Compared to Precocious Puberty" was nominated for a prize. She presented a poster at the Pediatric Academic Society/Pediatric Endocrine Society National Meeting in 2019, looking at the IV formulation of desmopressin delivered via oral and gastrostomy tube routes for treatment of central DI in infants. A manuscript detailing these findings was accepted for publication in *Clinical Endocrinology* (see below). She presented a poster at the American Society for Bone and Mineral Research (ASBMR) Annual Meeting in September 2019, regarding "An Unusual Case of Legg-Calve-Perthes Disease in an 8-Year-Old Girl With Acrodysostosis 1 Treated With Growth Hormone." In October 2019, she gave an invited oral presentation regarding a patient with "Psychosocial Dwarfism: A Case of Nurture Impacting Nature" at the American Academy of Child and Adolescent Psychiatry's 66th annual meeting.



Komalben Parmar, MD, joined us in July 2018 from Hurley Medical Center in Michigan. Her area of interest is glucose homeostasis. Her work is under the mentorship of David Weinstein, MD, head of the Glycogen Storage Disease Program, and Dr. Riba-Wolman. Dr. Parmar is working to define fasting ketone levels in children without diabetes to further the ability of the field to screen for underlying metabolic disorders in fasting patients. Her research protocol is “Evaluating Fasting Beta-Hydroxybutyrate (BHB) Measurement in Children Undergoing Elective Outpatient Procedures.” She presented posters on “Episodic Hypertension – A Pediatric Case of a Cortisol and DOC-producing Adrenal Adenoma” at both the Pediatric Academic Society/Pediatric Endocrine Society national meeting and the Eastern Society for Pediatric Research (ESPR) scientific meeting, both in 2019.

Neetu Krishnan, DO, joined us in July 2019 after completing the University of Connecticut pediatric residency program at Connecticut Children’s. She is working on a project looking at DXA screening practices in a tertiary care environment. She began the project during her residency under the mentorship of Nancy Dunbar, MD. She is currently working to identify her primary focus of research.

Laura Forero, MD, joined us in July 2019 after completing the University of Connecticut pediatric residency program at Connecticut Children’s. She is continuing work that started during residency under the mentorship of Dr. Weinstein. She is

looking at associations between vitamin E treatment and immune function in a cohort of patients with GSD1b. She attended an international GSD conference in October 2019, along with the GSD team from Connecticut Children’s.

In December 2019, the program accepted Ana Menendez, MD, who joins us from the pediatric residency program at Flushing Hospital Medical Center in Queens, NY. She completed her medical school at the Universidad Dr. José Matías Delgado Escuela de Medicina in El Salvador. Dr. Menendez will join the program in July 2020.

MEDICAL GENETICS

Led by Joseph Tucker, MD, and associate program director Brittany Gancarz, CGC, the Medical Genetics and Genomics Fellowship Training Program has been educating clinical medical geneticists since the program was first accredited in 1997. Future development of the program involves plans to expand through the hire of two additional clinical geneticists, the development of an undiagnosed diseases program in collaboration with the Jackson Laboratory in Farmington, CT, and recruitment of a new division chief.

Jaclyn Beirne, MD, graduated in July 2019 and accepted a faculty position as a medical geneticist at UConn Health and Connecticut Children’s. Her research poster, “A *de novo* KIF11 Pathogenic Variant in a Patient with Microcephaly and Failure

to Thrive,” was presented at the American College of Medical Genetics and Genomics (ACMG) Annual Clinical Medical Genetics Meeting in April 2019.

PEDIATRIC INFECTIOUS DISEASES

The Pediatric Infectious Diseases Fellowship Program is undergoing a leadership change and comprehensive restructure. Until a new division chief is chosen, the fellowship program is being led by Juan C. Salazar, MD, MPH, professor and chair of Pediatrics. 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. Infectious diseases research is one of the pillars of the Department of Pediatrics research strategic plan. Greater emphasis on global health and vaccine development research will be part of our future in the division and our training program. Two new faculty members have been recruited and will be starting in early 2020. A national search for a new division chief is underway. In late October, Jonathan Schreiber, MD, MPH, joined the Infectious Disease team as interim division head.

Due to the changes mentioned above, the program did not participate in recruitment for the 2020-2021 academic year and will resume recruitment for a 2021 fellow in the fall of 2020.

PEDIATRIC HEMATOLOGY-ONCOLOGY

The Pediatric Hematology-Oncology Fellowship Program is led by Andrea Orsey, MD, MSCE, and is entering its third year as a newly accredited program. Dr. Orsey completed the Harvard Macy Institute Program for Health Professionals in 2019. Through the program, she will be improving the quality of the Pediatric Hematology-Oncology Fellowship Program education. The program successfully completed its initial site visit in October 2019 and is awaiting the final report findings.

John Norko, MD, joined the program in July 2018 after completing both his pediatric residency and medical school education at the University of Connecticut and at Connecticut Children's. Dr. Norko is currently working on a novel therapeutic project at the Jackson Laboratory for Genomic Medicine in Farmington for the treatment of craniopharyngioma under the mentorship of Hematology-Oncology division head Ching Lau, MD, PhD. Dr. Norko presented a case report at the Hematologic Malignancies Symposium in Hartford, CT, and has been accepted to present at the American Society of Pediatric Hematology and Oncology (ASPHO) in 2020.

Tatiana Lara-Ospina, MD, joined the program in July 2019 after completing her residency at Lincoln Medical and Mental Health Center in Bronx, NY. Dr. Lara-Ospina is interested in acute myeloid leukemia (AML). She is exploring her research opportunities and will finalize her research project by June 2020.

In December 2019, the program successfully matched Diana Hardatt, MD, who will join the program in July 2020 after

completing her pediatric residency and year as chief resident at New York Presbyterian Brooklyn Methodist Hospital in Brooklyn, NY. Her medical school education was completed at Ross University School of Medicine in Dominica.

NEONATAL-PERINATAL MEDICINE

Led by Jennifer Trzaski, MD, the fellowship program in Neonatal-Perinatal Medicine continued its outstanding record of academic accomplishment and scholarly productivity. In the 46 years since accreditation, 68 fellows have graduated from the program.

Jennifer Caldwell, MD, MS, completed the fellowship in June 2019 and accepted a neonatology attending position at Memorial Hospital in Gulfport, MS. Prior to graduating in June 2019, she presented her research on H-antigen as a marker for preterm birth at the BYCONN conference in Mystic, CT.

Third-year fellow Betté Ford, MD, is working with mentors Jennifer Trzaski, MD, and James Hagadorn, MD, both in the Division of Neonatology, on neonatal resuscitation. She presented her quality initiative on improving resident performance in the delivery room by implementing neonatal simulations research at the Envision Neonatal Fellows Conference in Sonoma, CA.

Third-year fellow Rachel Koski, MD, is completing her research in the lab of Dr. Holly Fitch Stephen Crocker at UConn Health, Storrs. She presented her research on neuroscience focusing on globoid cell leukodystrophy (Krabbe's disease) quality initiative on antibiotic stewardship to the Vermont Oxford Quality Congress in Chicago, IL, and at the Envision Neonatal Fellows Conference in Sonoma, CA.

Second-year fellow Dr. Aditya Chhikara is pursuing his research interest with Shabnam Lainwala, MD, in the Division of Neonatology on the impact of reading on progression of oral feeding in premature infants.

Second-year fellow Mishika Malik, MD, is working in the lab of Adam Matson, MD, pursuing a research project on the effect of *Klebsiella oxytoca* on the metabolism of human milk or formula and its impact on the development of NEC. She presented her quality initiative on transitions of care at the Vermont Oxford Quality Congress.

Poonam Thakore, MD, joined us in July 2019 after completing her residency at Tulane University Health Sciences Center in New Orleans, LA. Her research interest is in quality improvement, specifically neonatal hypoglycemia and also improving BPD rates and respiratory outcomes in preterm infants. She will be working with Annmarie Golioto, MD, in the Division of Neonatology at Connecticut Children's.

Usha Prasad, DO, will join the program in July 2020 as a second year fellow after transferring from the Neonatal-Perinatal Medicine Fellowship Program at Nemours/Alfred DuPont Hospital for Children and Thomas Jefferson University in Philadelphia, PA. Dr. Prasad completed her residency at UConn School of Medicine

at Connecticut Children's in Hartford, CT, and her medical school education at Philadelphia College of Osteopathic Medicine in Philadelphia, PA.

In December 2019, the program successfully matched Hala Saneh, MD, who will join the program in July 2020 after completing her pediatric residency at Lincoln Medical and Mental Health Center in New York City, NY. Dr. Saneh completed her medical school education at Lebanese University Faculty of Medical Sciences in Lebanon.

PEDIATRIC ORTHOPAEDIC SURGERY

Led by Mark Lee, MD, the Pediatric Orthopaedic Surgery Fellowship is entering its sixth year of formal ACGME accreditation. The program has thus far graduated three fellows who are currently in independent practice.

Harshad Patel, MBBS, MD, joined the program in August 2019 upon completing a pediatric orthopaedic fellowship at Duke University in North Carolina. He is currently actively investigating the pain control profile for patients undergoing surgery for adolescent idiopathic scoliosis. He also has an interest in the delivery of orthopaedic care to underserved countries and has applied for a global outreach grant from the American Academy of Pediatrics.

The Pediatric Orthopaedic Fellowship accepted a new fellow for the 2020-2021 year. We look forward to working with Hady Eltayeby, MBBS, beginning August 2020 following his completion of a pediatric orthopaedic fellowship at Duke University in 2019-2020. He has a keen interest in limb deformity, and he completed a clinical fellowship at the International Center for Limb Lengthening at the Rubin Institute in Baltimore, MD.

PEDIATRIC OTOLARYNGOLOGY

The Pediatric Otolaryngology Fellowship Program, led by Christopher Grindle, MD, was newly accredited in April 2019. Division members look forward to starting recruitment in April 2020 and matching a first fellow, who will join the program in July 2021.

PEDIATRIC PULMONOLOGY

Led by Craig Schramm, MD, the Pediatric Pulmonology Fellowship is in its 29th year. Because the program is relatively small, division members are able to provide individualized training for our fellows. Each of our graduated fellows has a career in academic pediatric pulmonary medicine. In 2019, the program received ACGME approval for a temporary complement increase from one fellow per three years to two fellows per three years, through June 2022.

The research of Jamie Harris, MD, is focused on cystic fibrosis. Under the mentorship of Thomas Murray, MD, PhD, at Yale University, Dr. Harris is investigating bacterial colonization of nebulizers used for aerosolized breathing treatments in patients with cystic fibrosis, as well as the effects of sterilization methods on nebulizer function and the potential to aerosolize colonizing bacteria from

nebulizers to the lung. He submitted an abstract pertaining to this work to the 2020 North America Cystic Fibrosis Conference.

Katarzyna Saar, DO, joined the program in September 2019 after completing her pediatric residency at the University of Connecticut at Connecticut Children's. Dr. Saar is particularly interested in asthma. She has been working with Jessica Hollenbach, PhD, and Tregony Simoneau, MD, on asthma health literacy and will be presenting an abstract at the Pediatric Academic Societies' meeting in May 2020. Dr. Saar will have her first research rotation in January 2020 and will begin working on a specific project in July 2020.

PEDIATRIC SURGERY

Led by Connecticut Children's surgeon-in-chief and program director Christine Finck, MD, and associate program director Richard Weiss, MD, the fellowship in Pediatric Surgery is in its eighth year. To date, four fellows have graduated from the program and have gone on to successful practices in Eugene, OR, Hershey, PA, Chicago, IL, and Hartford, CT.

James Healy, MD, graduated from the program in July 2019 and accepted a position to remain on the faculty at Connecticut Children's as a pediatric surgery attending. During the 2019 academic year, Dr. Healy presented at the CT Trauma conference and had four publications (listed below). He has an academic interest in pediatric endocrine/metabolic and bariatric surgery and is a member of both the vascular malformations and critical airway committees.

The program's newest fellow, Katerina Dukleska, MD, joined the program in August 2019 after completing her residency and year as chief resident at Thomas Jefferson University Hospitals in Philadelphia, PA. Dr. Dukleska has a background in outcomes research and has an interest in both patient outcomes and process improvement projects. Her interests also extend to resident and medical student education. Dr. Dukleska presented her research at the American College of Surgeons Clinical Congress in October 2019.

FELLOW PUBLICATIONS

Nicolson NG, **Healy JM**, Korah R, Carling T. Whole-exome sequencing of syndromic adrenocortical carcinoma reveals distinct mutational profile from sporadic ACC. *J Endocr Soc.* 2019 Oct 1. PMID: 31555752.

Murtha TD, Kunstman JW, **Healy JM**, Yoo PS, Salem RR. A critical appraisal of the July effect: evaluating complications following pancreaticoduodenectomy. *J Gastrointest Surg.* 2019 Aug 16. PMID: 31420859.

Akello VV, Cheung M, Kurigamba G, Semakula D, **Healy JM**, Grabski D, Kakembo N, Ozgediz D, Sekabira J. Pediatric intussusception in Uganda: differences in management and outcomes with high-income countries. *J Pediatr Surg.* 2019 July 15. PMID: 31351705.



Yap A, Cheung M, Muzira A, **Healy J**, Kakembo N, Kisa P, Cunningham D, Youngson G, Sekabira J, Yaesoubi R, Ozgediz D. Best buy in public health or luxury expense? The cost-effectiveness of a pediatric operating room in Uganda from the societal perspective. *Ann Surg*. 2019 Mar 19. PMID: 30907755.

FELLOWSHIP PROGRAMS STAFF

Program Leadership

Marianne Custer, BS, C-TAGME
Fellowship Program Manager

Program Coordinators

Amanda Ross
*Anesthesiology, Endocrinology,
Neonatal-Perinatal Medicine, Orthopaedic Surgery*

Kierstyn Callahan
*Hematology-Oncology, Gastroenterology,
Medical Genetics*

Alivia Rhault
*Emergency Medicine, Infectious Diseases,
Pulmonology, General Surgery*

Pediatric Anesthesiology

Michael Archambault, MD, *Program Director*

Pediatric Emergency Medicine

V. Matt Laurich, MD, *Program Director*

Noah Jablow, MD
Tasha Desai, DO
Prina Patel, MD
Ruchika Jones, MD
Rahul Shah, MD
Candice Jersey, DO
Owen Kahn, MD

Pediatric Endocrinology

Rebecca Riba-Wolman, MD, *Program Director*
Christine Trapp, MD, *Associate Program Director*

Massiel Sarmiento Mojica, MD
Whei Ying Lim, MD
Komalben Parmar, MD
Neetu Krishnan, MD
Laura Forero, MD

Pediatric Gastroenterology

Bella Zeisler, MD, *Program Director*

Melissa Fernandes, MD, *Associate Program Director*

Temara Hajjat, MBBS

Andrew Fondell, DO

Joelynn Dailey Fitz, DO

Chelsea Lepus, DO

Medical Genetics

Joseph Tucker, MD, *Program Director*

Brittany Gancarz, CGC, *Associate Program Director*

Jaclyn Beirne, MD

Pediatric Hematology/Oncology

Andrea Orsey, MD, *Program Director*

John Norko, MD

Tatiana Lara-Ospina, MD

Pediatric Infectious Diseases

Juan Salazar, MD, MPH, FAAP, *Program Director*

Pediatric Pulmonology

Craig Schramm, MD, *Program Director*

Jamie Harris, MD

Katarzyna Saar, DO

Neonatal-Perinatal Medicine

Jennifer Trzaski, MD, *Program Director*

Jennifer Caldwell, MD, PhD

Betté Ford, MD

Rachel Koski, MD

Mishika Malik, MD

Aditya Chhikara, MD

Poonam Thakore, MD

Pediatric Orthopaedic Surgery

Mark Lee, MD, *Program Director*

Fred Xavier, MD, PhD

Harshad Patel, MBBS

Pediatric Surgery

Christine Finck, MD, *Program Director*

Richard Weiss, MD, *Associate Program Director*

James Healy, MD

Katerina Dukleska, DO



PRINCIPAL INVESTIGATOR	AWARD/STUDY TITLE	FUNDING SOURCE PRIMARY/(SECONDARY)	AWARD AMOUNT RECEIVED THROUGH 12/31/19	AWARD START DATE	AWARD END DATE	ACTIVITY #
Acsadi, Gyula	Eval Eteplirsen in Duchenne Muscular Dystrophy	Sarepta Therapeutics, Inc	\$26,752	10/24/14		180833
Acsadi, Gyula	ISIS 396443	Biogen Idec MA, Inc	\$122,540	9/1/15		180840
Acsadi, Gyula	Care Center Grant	Muscular Dystrophy Association	\$70,000	1/1/17	6/30/20	
Acsadi, Gyula	Sarepta 4045-301	Sarepta Therapeutics, Inc	\$16,900	10/18/17		180862
Acsadi, Gyula	Italfarmaco DSC/14/2357/48	Italfarmaco S.P.A.	\$25,300	9/15/17		180865
Acsadi, Gyula	SHINE - ISIS 396443	Biogen Idec MA, Inc	\$11,299	7/5/18		180870
Bookland, Marcus	CT Brain Tumor Alliance	CCMC-MOU	\$39,782	10/1/16	N/A	
Boruchov, Donna	Community Counts	CDC / Boston Children's Hospital	\$45,782	9/30/17	9/29/19	
Boruchov, Donna	Sickle Cell Disease 2018-2019	CT / DPH (Hospital for Special Care)	\$19,097	7/1/18	6/30/20	
Boruchov, Donna	ATHN - My Life Our Future	ATHN	\$2,450	1/1/14		
Boruchov, Donna	Health for Sickle Cell Disease	The Children's Hospital of Philadelphia	\$114,447	3/1/18	2/28/19	
Boruchov, Donna	We Care	Boston Medical Center	\$189,366	5/16/19	2/28/23	
Boruchov, Donna	ATHN Data Quality Counts Round 10	ATHN	\$20,000	7/1/18	8/31/20	
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	\$57,750	11/22/13		180819
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	\$11,250	10/27/14		180832
Carroll, Christopher	Translational Center for Child Maltreatment Studies	DHHS/NIH (Penn State)	\$10,125	4/20/17	3/31/19	
Carroll, Christopher	Decreasing Antibiotic Exposure in Infants With Suspected Ventilator-Associated Infection	Gerber Foundation / VCU	\$7,250	3/1/17	6/30/19	
Carroll, Christopher	Defining Sociomes in Pulmonary	UConn Storrs	\$13,800	7/1/18	6/30/20	
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	\$64,921	5/8/15		180836
Davey, Brooke	T-Cell Receptor Excision Circles: A Novel Approach to Identify Immunodeficiency in Newborns With Congenital Heart Disease	NE Congenital Cardiology Research Foundation	\$25,000	7/1/15		
Demirci, Cem	Type 1 Diabetes TrialNet	DHHS/NIH/NIDDK (Univ South Florida)	\$2,065	9/30/10		
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	\$65,402	1/27/17		180814
DuMont-Mathieu, Thyde	Early Detection of Autism	DHHS/NIH (Drexel Univ)	\$90,913	3/1/15	5/31/20	
DuMont-Mathieu, Thyde	Connecting the Dots: An RCT-Relating Standardized ASD Screening, Intervention Access, and Long-term Outcomes	DHHS/NIH (Drexel Univ)	\$40,028	9/7/17	5/31/22	
DuMont-Mathieu, Thyde	Bridging the Gap: Early Intervention for Underserved Children Within the Medical Home	Connecticut Health Foundation	\$35,000	10/1/17	9/30/20	
Dunbar, Nancy	An Observational, Longitudinal, Prospective, Long-term Registry of Patients With Hypophosphatasia	Alexion Pharmaceuticals, Inc.	\$18,886	12/8/16		180850
Dworkin, Paul	Care Coordination Collaborative	DHHS / HRSA (CT / DPH)	\$2,007,110	7/1/14	6/30/20	
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 Foundation for Public Giving	\$300,000	4/1/17	3/31/20	
Dworkin, Paul	Pediatrics Supporting Parents	Silicon Valley Community Foundation	\$205,000	5/1/19	10/31/19	
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	\$96,888	10/1/10		180780
Finck, Christine	Immune Evasion in Embryonic Stem Cell-based Tissue Repair and Transplantation	DHHS / NIH (UCHC)	\$69,957	5/15/15	3/31/19	

PRINCIPAL INVESTIGATOR	AWARD/STUDY TITLE	FUNDING SOURCE PRIMARY/(SECONDARY)	AWARD AMOUNT RECEIVED THROUGH 12/31/19	AWARD START DATE	AWARD END DATE	ACTIVITY #
Finck, Christine	Biostage SBIR	DHHS / NIH / Biostage	\$78,326	4/1/18	9/30/19	
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)	\$750,000	1/1/15	6/30/19	
Finck, Christine	A Retrievable Autologous Bioengineered Esophageal Implant as a Novel Treatment for Long-gap Esophageal Atresia	SBIR/Biostage	\$789,287	4/1/18	9/30/20	
Finck, Christine	Biostage Supply Funds	CCMC-MOU	\$462,560	8/1/18	9/30/20	
Finck, Christine	Nixon Family Fund	CCMC-MOU	\$32,700	10/1/16	N/A	
Finck, Christine	Boyer Family Fund	CCMC-MOU	\$10,000	10/1/17	N/A	
Finck, Christine	Glenn Greenberg Fund	CCMC-MOU	\$30,000	1/1/19	N/A	
Finck, Christine	Clinical Development of a Novel Pleural and Tracheal Sealant	Department of Defense/University of Vermont	\$289,237	7/1/19	6/30/22	
Flores, Glenn	APA Research in Peds (RAPID)	DHHS / NIH / (APA)	\$64,673	7/1/18	4/30/19	
Frederick, Natasha	Oncology Program	St. Baldrick's Foundation	\$50,000	1/1/19	12/31/19	
Germain-Lee, Emily	The Role of G Protein-coupled Signaling in Neurocognitive and Psychosocial Abnormalities	NIH / NICHD / (UCHC)	\$38,503	3/1/17	2/28/20	
Germain-Lee, Emily	Evolocumab 20120123	Amgen Inc.	\$29,550	2/1/18		180872
Germain-Lee, Emily	TGF-beta Family Members and Their Binding Proteins in Aging Skeletal Muscle	DHHS / NIH / NIA / (UCHC)	\$187,000	9/15/17	2/28/20	
Germain-Lee, Emily	Bed to Bench	UConn / Office of VP for Research	\$20,000	9/1/19	2/28/20	
Germain-Lee, Emily	Hormonal Abnormalities in Sturge Weber Syndrome	Kennedy Krieger Institute	\$8,168	10/28/16	2/28/19	
Haile, Jennifer	Lead Clinic 2018-19	CT / DPH	\$134,229	7/1/18	6/30/19	
Hallett, K. Brooke	CATCH Grant	American Academy of Pediatrics	\$2,000	9/1/17	3/31/19	
Hollenbach, Jessica	Interrogating the Placental Microbiome Among Pregnant Women with Asthma	Patterson Trust	\$4,400	7/1/18	6/30/20	
Hussain, Naveed	SHAPE Grant	Janssen Research & Development LLC	\$2,500	5/12/16		180343
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.	\$28,750	5/27/16		180846
Hyams, Jeffrey	Pathogenic Heterogeneity	University of Texas Health Science Center	\$92,690	8/10/18	6/30/23	
Hyams, Jeffrey	Anti-TNF Therapy for Refractory Colitis in Hospitalized Children ("ARCH")	CCFA (CCHMC)	\$12,750	11/1/15	3/31/19	180332
Hyams, Jeffrey	Development and Evaluation of the TUMMY CD-index: A Patient-reported Signs and Symptoms Index for Pediatric Crohn's Disease	Izaak Walton Killam Health Centre	\$4,851	10/27/16		180361
Hyams, Jeffrey	A Multicenter, Prospective, Long-term, Observational Registry of Pediatric Patients With Inflammatory Bowel Disease	Janssen Services, LLC	\$122,050	10/1/10		
Hyams, Jeffrey	Risk Stratification and Identification of Immunogenetic and Microbial Markers of Rapid Disease Progression in Children with Crohn's Disease	CCFA (Emory U)	\$109,102	10/1/10		180756
Hyams, Jeffrey	A Multidisciplinary Human Study on the Genetic, Environmental, and Microbial Interactions That Cause IBD	CCFC (Mt. Sinai Hosp)	\$3,642	9/30/10	12/31/19	
Hyams, Jeffrey	The ImageKids Study	Shaare Zekeq Medical Ctr	\$20,000	2/21/13	2/20/20	180808
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	\$96,619	8/18/15		180839
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.	\$57,817	9/22/17		180859
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.	\$64,921	10/3/17		180836

PRINCIPAL INVESTIGATOR	AWARD/STUDY TITLE	FUNDING SOURCE PRIMARY/(SECONDARY)	AWARD AMOUNT RECEIVED THROUGH 12/31/19	AWARD START DATE	AWARD END DATE	ACTIVITY #
Hyams, Jeffrey	CA40192	Genentech Inc.	\$21,825	8/3/18		180869
Isakoff, Michael	National Clinical Trials Network Grant	"DHHS / NIH / NCI / COG (CHOP)"		3/1/14	2/28/20	
Isakoff, Michael	Children's Oncology Group Federally Sponsored Studies - Per Case Reimbursement	"DHHS / NIH / NCI / COG (CHOP)"		3/1/14	2/28/20	
Isakoff, Michael	Study Chair National Clinical Trials Network Grant	"DHHS / NIH / NCI / COG (CHOP)"		5/2/18	8/31/20	
Isakoff, Michael	Children's Oncology Group Industry Sponsored Studies - Per Case Reimbursement	COG (CHOP)		3/1/12		
Isakoff, Michael	Moffitt Institute Sponsored Studies - Per Case Reimbursement	H. Lee Moffitt Cancer Center and Research Institute Hospital, Inc		5/24/13		
Isakoff, Michael	Project Everychild	COG Foundation (CHOP)	\$11,250	2/22/17		180832
Kahn, Owen	Back-to-Bedside	ACGME	\$5,000	1/1/18	12/31/19	
Kalsner, Louisa T	SC2 Variants Without Clinical Findings of Tuberos Sclerosis Complex as a Risk Factor for Idiopathic Autism Spectrum Disorder	UCONN Storrs	\$37,118	7/1/16	6/30/19	
Lainwala, Shabnam	Multi-omics Analysis of Pain/Stress Impact on Neurodevelopment in Preterm Infants	DHHS / NIH / NINR (UConn Storrs)	\$206,853	9/14/17	7/31/21	
Lapin, Craig	Care Center Award	Cystic Fibrosis Foundation	\$68,660	7/1/17	6/30/20	
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)	\$12,960	7/1/16		180399
Lapin, Craig	Mental Health Coordinator	Cystic Fibrosis Foundation	\$63,542	1/1/18	12/31/19	180415
Lapin, Craig	Therapeutics Development Center	Cystic Fibrosis Foundation	\$64,951	1/1/18	12/31/20	
Lapin, Craig	CF Nurse & Nutrition	Cystic Fibrosis Foundation	\$65,425	7/1/18	6/30/19	
Lapin, Craig	Controlled Trial of Two Adherence Promotion Interventions for Cystic Fibrosis, [I Change Adherence and Raise Expectations (ICARE)]	Novartis Pharmaceuticals Corp / Univ of Miami	\$3,750	10/1/10	12/31/19	180770
Lapin, Craig	A Long-term Prospective Observational Safety Study of the Incidence of and Risk Factors for Fibrosing Colopathy in US Patients With Cystic Fibrosis Treated With Pancreatic Enzyme Replacement Therapy	Seattle Children's Hosp	\$33,497	10/8/12		180801
Lapin, Craig	VX16-809-120	Vertex Pharmaceuticals	\$3,178	11/9/18		180873
Lee, Youngmok	Comparison of Vectors and Optimization of Dosages for Renal Vein Injection Method in GSD-1a Mice	Dimension Therapeutics, Inc.	\$500,000	5/1/17	10/31/19	
Lee, Youngmok	Exosome Marker Development for Hepatocellular Adenoma in Human GSD-1a	The Children's Fund for Glycogen Storage Disease Research	\$37,039	9/1/18	8/30/19	
Lee, Youngmok	Research Development to Improve Efficacy of AAV-Mediated Gene Therapy in GSD-1a Mouse Model	The Children's Fund for Glycogen Storage Disease Research	\$642,493	8/1/18	12/31/20	
Lee, Youngmok	Evaluation of the Efficacy of Gene Therapy to Arrest or Abrogate Preexisting HCA/HCC in Glycogen Storage Disease Type 1a	The Children's Fund for Glycogen Storage Disease Research	\$352,067	12/1/18	12/31/20	
Lee, Youngmok	Testing GeneRide Vector and Evaluation of Biochemical and Phenotypical Correction in a Mouse Model of GSD-1a	LogicBio	\$99,492	6/1/19	12/31/19	
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	\$61,305	11/3/15		180842
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	\$210,581	12/11/15		180844
Mason, Sherene	Maintenance Therapy Withdrawal of Mycophenolate Mofetil in Pediatric Proliferative Lupus Nephritis: A Multicentered Retrospective Cohort Study	CARRA	\$13,800	4/21/17	3/8/19	
Matson, Adam	Multi-Omics Analysis of Pain/Stress Impact on Neurodevelopment in Preterm Infants	NIH/Storrs	\$316,448	9/14/17	7/31/21	
Matson, Adam	Neonatal Microbiome Project	Stevenson Fund (CCMC-MOU)	\$235,000	12/31/19	12/31/22	
Ohannessian, Christine	Treatment of Co-occurring Alcohol Use Disorders and Depression/Anxiety Disorders	DHHS / NIH (UCHC)	\$32,823	8/1/14	1/1/19	

PRINCIPAL INVESTIGATOR	AWARD/STUDY TITLE	FUNDING SOURCE PRIMARY/(SECONDARY)	AWARD AMOUNT RECEIVED THROUGH 12/31/19	AWARD START DATE	AWARD END DATE	ACTIVITY #
Ohanessian, Christine	Bidirectional Effects Between Parental Work-Family Conflict and Adolescent Psychosocial Adjustment	DHHS / NSF	\$231,071	12/1/15	11/30/19	
Orsey, Andrea	Thrombotic Thrombocytopenic Purpura (TTP) Registry	Baxalta (Univ Hosp of Bern)	\$2,100	3/19/16	3/18/22	
Orsey, Andrea	A Validity Study of Integrated Care Delivery Guidelines for AIC	St. Baldrick's Foundation	\$50,000	7/1/17	6/30/19	
Rogers, Steven	Mental Health Care Pediatric	CT / DCF	\$150,000	2/23/18	12/31/19	
Rubin, Karen	Telehealth Network Grant Program	DHHS / HRSA (Community Health Center, Inc)	\$90,000	9/1/16	8/31/20	
Rubin, Karen	Connecticut Newborn Screening	CT / DPH	\$1,797,530	7/1/18	6/30/21	
Rubin, Karen	Short Stature Study	Eli Lilly	\$15,728	10/1/10		180631
Salazar, Juan	Registry of Patients With Primary Immune Deficiency Disorders	United States Immunodeficiency Network	\$700	9/30/14		179372
Salazar, Juan	Pharmacokinetics of a Single-dose of Dalbavancin in Preterm Neonates to Infants Ages 3 Months With Suspected or Confirmed Bacterial Infection	Allergan Sales, LLC	\$35,660	9/6/16		180849
Salazar, Juan	Expanded Access IND Program (EAP) to Provide Stamaril Vaccine to Persons in the United States for Vaccination Against Yellow Fever	Sanofi Pasteur	\$33,870	6/15/17		180855
Salazar, Juan	Baxalta HYQVIA 161503	Baxalta	\$54,193	12/7/17		180866
Salazar, Juan	Ryan White A	DHHS / HRSA (City of Hartford)	\$90,929	3/1/18	2/29/20	
Salazar, Juan	Ryan White B	DPH	\$97,607	4/1/17	3/31/19	
Salazar, Juan	Ryan White D	DHHS / HRSA	\$77,122	8/1/18	7/31/20	
Salazar, Juan	Global Syphilis Vaccine Targeting Outer Membrane Proteins of Treponema pallidum	NIH/NIAID (UCHC)	\$134,376	5/1/19	4/30/20	
Salazar, Juan	DPH HIV Prevention	DHHS/CDC / CT/DPH	\$300,000	1/1/19	12/31/21	
Salazar, Juan	Hartford Teen Pregnancy Prevention Initiative	City of Hartford	\$65,242	7/1/19	6/30/20	
Santos, Melissa	Development and Trial of PAW	DHHS/NIH/NIDDK	\$463,879	4/1/19	3/31/21	
Silva, Cynthia	NephCure Kidney Foundation - CureGN	NephCure Kidney Fdn (Nationwide Children's Hospital)	\$69,815	1/21/15	12/31/19	179375
Silva, Cynthia	Practice Pattern Outcomes in Acthar Use in Children With Nephrotic Syndrome	North American Pediatric Renal Transplant Cooperative Study	\$6,750	11/9/17	11/8/20	180412
Lapin, Craig	CASK - Controlling and Preventing Asthma Progression and Severity in Kids	NIH/National Institute of Allergy and Infectious Diseases / Boston Children's Hospital	\$100,000	5/1/18	6/30/19	179487
Lapin, Craig	Identifying Biomarkers of Allergic Asthma	Patterson Trust	\$95,000	1/1/18	12/31/19	
Lapin, Craig	Creating an Asthma Network	Cigna Foundation	\$227,972	8/27/18	8/26/20	
Tory, Heather	Efficacy, Safety and Tolerability of Tofacitinib for Treatment of Polyarticular Course Juvenile Idiopathic Arthritis (JIA) in Children and Adolescent Subjects	Pfizer, Inc	\$110,337	5/1/16		180845
Tory, Heather	A Long-term, Open-label Follow-up Study of CP-690,550 for Treatment of Juvenile Idiopathic Arthritis (JIA)	Pfizer, Inc	\$59,354	1/24/17		180853
Trout, Nancy	Childhood Obesity EPIC Modules	CHDI of CT Inc.	\$23,750	1/1/18	12/31/19	
Waynik, Ilana	Airway Microbiome and Age 6y Asthma Phenotypes in 2 Diverse Multicenter Cohorts	DHHS / NIH / Mass General	\$16,512	9/21/16	8/31/19	179379
Waynik, Ilana	Nasal MicroRNA During Bronchiolitis and Age 6y Asthma phenotypes: MARC-35 Cohort	DHHS / NIH / Mass General	\$3,052	12/6/16	11/30/19	179439
Waynik, Ilana	Infant Specific IgE, Rhinovirus C Bronchiolitis, and Incident Asthma in MARC-35	DHHS / NIH / Mass General	\$18,518	12/1/14	11/30/19	179440
Weinstein, David	A Comparison of Glycosade® and Uncooked Cornstarch (UCCS) for the Dietary Management of Hepatic Glycogen Storage Diseases (GSD), Glyde Trial	Nestle Health Science Co.	\$483,056	12/29/16		180852
Weinstein, David	A Long-term Follow-up Study to Evaluate the Safety and Efficacy of Adeno-Associated Virus (AAV) Serotype 8 (AAV8)-Mediated Gene Transfer of Glucose-6-Phosphatase (G6Pase) in Adults with Glycogen Storage Disease Type Ia (GSDIa)	Ultragenyx Pharmaceuticals, Inc.	\$1,242,235	7/15/19	11/30/24	
Weinstein, David	Whole Exome/Genome Sequencing for the Assessment of Unclassified Glycogen Storage Diseases and Disorders of Energy Metabolism	Jewish Community Foundation	\$82,850	9/1/19	8/31/20	

PRINCIPAL INVESTIGATOR	AWARD/STUDY TITLE	FUNDING SOURCE PRIMARY/(SECONDARY)	AWARD AMOUNT RECEIVED THROUGH 12/31/19	AWARD START DATE	AWARD END DATE	ACTIVITY #
Weinstein, David	Global Center Glycogen Storage Disease Fund	Foundation	\$80,000			
Weinstein, David	The Catherine McMillan Fund for Glycogen Storage 1B Disease Research Fund	Foundation	\$1,466			
Weinstein, David	Glycogen Storage 1B Disease Research Fund	Foundation	\$13,150			
Weinstein, David	Glycogen Storage Disease Type 6	Foundation	\$120	3/1/17	N/A	
Weinstein, David	The Jamie Konieczka Fund for Glycogen Storage Disease Type 1B Research	Foundation	\$1,850	9/1/17	N/A	
Weinstein, David	The Jonah Pournazarian Fund for Glycogen Storage Disease Type 1b Research	Foundation	\$80,645	12/1/16	N/A	
Weinstein, David	Adeline Liem Fund for GSD Type 1A Research	Foundation	\$1,470	10/15/17	N/A	
Weinstein, David	Nina Contreras D'Agosto Fund	Foundation	\$28,711	8/27/18	N/A	
Weinstein, David	Glycogen Storage Disease Program Fund	Foundation	\$45,650	11/1/16	N/A	
Wiley, Catherine	Two-Generation Pediatrics Project	United Health Fdn (The Village for Families & Children, Inc.)	\$627,296	1/1/17	12/31/19	
Wiley, Catherine	Rx for Success	Grossman Family Fund / Reach Out and Read	\$65,359	3/1/18	6/30/19	
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	\$49,922	10/18/17		180861
Zemel, Lawrence	Observational Study of Pediatric Rheumatic Diseases: The CARRA Registry	CARRA (Duke Univ)	\$26,728	11/18/15		180323
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-Meyers Squibb	\$52,886	9/2/13		180813
Zempky, William	I Can Cope With Sickle Cell Disease	DHHS/NIH/NICHD (Seattle Children's Research Institute)	\$147,751	9/1/16	8/31/19	179434
Zempky, William	Multi-site Randomized Clinical Trial of FIT Teens for Juvenile Fibromyalgia	DHHS/NIH/NIAMS (CCHMC)	\$139,232	6/21/17	5/31/19	
Zempky, William	M1 Mentoring Program	Connecticut Institute for Clinical & Translational Science (CiCATS)	\$80,000	7/1/17	6/30/20	
Zempky, William	Innovation in the Treatment of Persistent Pain in Adults with NF1: Implementation of the ICanCope Mobile Application	Department of Defense / Yale University	\$102,145	8/1/19	7/31/20	
Zempky, William	Pediatric Pain Specialists	The Mayday Fund	\$66,000	1/1/19	12/31/20	