

Larner College of Medicine Department of Pediatrics  
The University of Vermont Children's Hospital



**2021 Annual Report**

# It gives me great pleasure to introduce this year's annual report for the Department of Pediatrics at the UVM Larner College of Medicine and the University of Vermont Children's Hospital.



Lewis First, M.D.

**IF SOMEONE HAD TOLD ME IN** early 2020 that we would be experiencing the challenges of the pandemic two years later despite the preventive steps that have been taken to reduce the spread as much as possible, I probably would have said they were too pessimistic and we'd be fine once the vaccines arrived on the scene.

Yet, here we are two years later still facing challenges, but finding innovative and creative ways to advance the clinical, research, educational, and advocacy missions of our department.

This year's report describes in some detail how we have met those challenges and how we have advanced our mission. The commitment, dedication, and ongoing collaboration demonstrated by our faculty, staff, and trainees shines through on every page. Our ongoing strategy to make sure that we are making a difference locally in ways that can be disseminated statewide, nationally, and internationally is also self-evident in this report. Special emphasis has been placed in key areas including how we address issues of systemic racism and narrow disparities in some of the social determinants of health through an ongoing focus on diversity, equity, and inclusion.

We also are now embedding principles of quality improvement science in all our programs and services, and have made substantive improvements as an example in how we better integrate mental health into our inpatient and outpatient offices and inpatient facilities. Our ongoing focus incorporates more and more of what we do into upstream programs to keep populations healthy while helping individual children with their downstream health needs. And of course, our scientific discoveries through clinical, translational and health services research, as well as our ongoing engagement in advancing life-long learning through our educational efforts across the continuum are covered.

Our department has grown over the past few years. We now have more than 75 faculty on campus in our department, with dozens more in other departments (e.g. pediatric surgery, neurology, anesthesia, emergency medicine) and in the communities that surround us. As we've grown it has been terrific to also add three vice-chair positions—clinical care (Tom Lahiri, M.D.), quality improvement, safety, and population health (Keith Robinson), and education (Molly Rideout, M.D.)—with a fourth vice-chair for research to be named

this year. I want to thank them and in turn everyone who works with these individuals and with me to contribute and enhance our clinical and academic successes. Special thanks as well to Sue Victory, who has been our senior administrative coordinator for our children's hospital who has retired but still gives us some of her time to work on projects such as this annual report.

I want to close by expressing my appreciative gratitude to all of our faculty, staff, and trainees who exemplify what a culture of "wellness and resilience" are all about. As I move through my 28th year as department chair and children's hospital chief, I continue to be honored to serve as a member of our remarkable team.

**LEWIS FIRST, M.D.**

The University of Vermont  
Department of Pediatrics,  
Chairman and Professor  
The University of Vermont  
Children's Hospital,  
Chief of Pediatrics  
Children's Health Care Service,  
The University of Vermont  
Children's Hospital,  
Physician Leader

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On the cover: Neonatologist Leslie Young, M.D., and pediatric pulmonologist Kelly Cowan, M.D., leaders of a new NIH-supported project to address disparities in pediatric research and build pediatric research capacity in smaller states, such as Vermont. See story on page 7.

Photography by David Seaver

All masking and social distancing guidelines have been followed in capturing images for this report. Some photography pre-dates the COVID-19 pandemic.



# Celebrating 2021 Emeriti Faculty

The UVM Children's Hospital honors the faculty members who have spent years serving patients and families in Vermont and Upstate New York. The following faculty have recently earned emeriti status in recognition of their dedication to patient care, research and teaching.



**Alan Homans, M.D.**  
Hematology/Oncology  
1992 to 2021



**James Hudziak, M.D.**  
Psychiatry  
1993 to 2022



**Judith Shaw, Ed.D., M.P.H., R.N.**  
Vermont Child Health  
Improvement Program  
2000 to 2021



**Robert Williams, M.D.**  
Anesthesiology  
1991 to 2021



**Scott Yeager, M.D.**  
Cardiology  
1985 to 2021



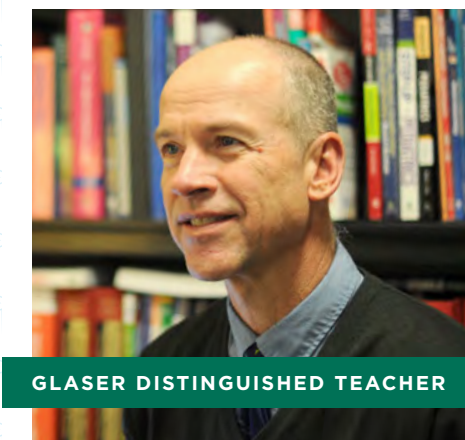
LUCEY PRIZE WINNERS

The three awardees of the 2021 Jerold & Ingela Lucey Early Career Investigator Prizes are (left to right) Assistant Professor of Pediatrics Jonathan Flyer, M.D., medical student Jennifer Holland, Class of 2022, and Assistant Professor of Pediatrics and Biochemistry Jessica Heath, M.D.

Jerold Lucey, M.D., was a pioneer in pediatrics who championed innovations that improved the survival and health of preterm babies. These prizes, instituted in 2020, honor Dr. Lucey's legacy in his field and at the University of Vermont and serve as sources of inspiration for others to follow in his footsteps.

Professor of Pediatrics William Raszka, M.D., received the prestigious 2021 Alpha Omega Alpha (AOA) Honor Medical Society's Robert J. Glaser Distinguished Teacher Award, which recognizes outstanding achievement in medical education by four faculty members from the nation's medical schools—two from basic science/pre-clinical departments and two from clinical disciplines. The award is part of the Association of American Medical Colleges (AAMC) annual slate of honors.

Glaser awardees each receive a \$10,000 prize. The College also received a \$2,500 teaching activities grant, and the Lerner AOA Medical Honor Society chapter received a \$1,000 grant.



GLASER DISTINGUISHED TEACHER

## A Victory Lap for Sue

In 1977, during one of four interview rounds for her first Department of Pediatrics position, Sue Victory was asked if she could commit to staying for at least two years—now, “here I am, going on 44 years this November,” she said with a laugh when interviewed in 2021.

Now as she moves into retirement, Victory can look back on many changes, most notably the significant expansion of the department, the transition of the Medical Center Hospital of Vermont to Fletcher Allen Health Care in 1995, and branding of

Vermont Children's Hospital (now UVM Children's Hospital) in 2002.

In the late 1980s/early 1990s, a departmental growth spurt required more coordination, so she took on a “big picture” role, serving as administrative manager for both the clinical and academic sides of the department, in addition to her University Pediatrics duties. It was that change that brought her into the College of Medicine community.

“There is no job Sue will not take on if asked—and that is more appreciated than words can describe,” says Chair of



Sue Victory

Pediatrics Dr. Lewis First. “We would not be the Children's Hospital we are without Sue Victory's myriad contributions, contributions that will sustain and be carried forward by all of us now that she is retiring.”

## FACTS & FIGURES

**29,000**  
Patient visits to the  
Children's Specialty  
Center in 2021

**Over 2,100**  
Babies born at UVM  
Children's Hospital  
in 2021

**20**  
Pediatric Specialty  
Programs offered  
at the Children's  
Specialty Center

**325**  
Admissions to the  
Pediatric Intensive  
Care Unit per year

**150**  
Number of caregivers  
it takes to run 24/7  
NICU care

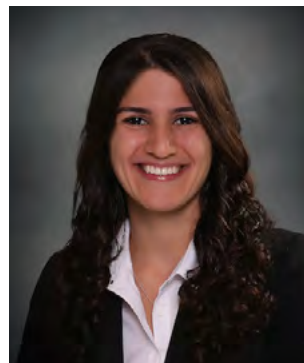
**97**  
Peer-reviewed  
publications by  
pediatric faculty



# Global Service

## A SHARED PASSION FOR

Global Health unites the physicians currently enrolled in the UVM Neonatal-Perinatal Medicine Fellowship program. “These amazing fellows have the desire to help infants survive and thrive locally here in Vermont but also around the globe,” says Program Director Deirdre O’Reilly, M.D.



Esther King, M.D.

### Esther King, M.D., Second-Year Fellow

#### **What attracted you to the Fellowship at the UVM Medical Center?**

I was really interested in continuing to pursue a path in global health and was drawn to the work of Danielle Ehret, M.D., M.P.H., who is the inaugural director of Global Health for Vermont Oxford Network. [Dr. Ehret’s research

focus is bringing data-driven improvement to resource-limited neonatal settings globally, with the aim of reducing preventable newborn morbidities and mortality]. And it’s also homey and small, and I liked the idea of working in an intimate, supportive environment.

#### **Your research involves a systematic analysis of the studies that have been done regarding pharmacological treatments for GERD in neonates. Why is this important?**

It’s been very controversial about whether to use PPIs and H2 Blockers for Gastroesophageal reflux disease, or GERD, in preterm

babies. We’re evaluating whether there are real benefits of using these medications for GERD in neonates – whether it alleviates symptoms and helps them get home faster, and if those benefits outweigh the risks of infection that accompanies this intervention. It’s a big project, but it’s nice to be able to work with Roger Soll, M.D., the H. Wallace Professor of Neonatology, who is also the president of the Vermont Oxford Network and director of Network Clinical Trials and Follow-up.

#### **What drew you to pediatrics with a specialization in NICU?**

I love working with children and this is my favorite age—when they’re little and trying to bridge that big gap going from in utero to the outside world.

### Amara Heard, M.D., Second-Year Fellow

#### **Your primary research project will be conducted in Ethiopia and involves newborn resuscitation.**

#### **Can you share more about it?**

We know there is a decline over time in the skills learned during training to help babies restart their breathing. We received permission to use a video that was produced through the Global Health Media Project, and the idea is that letting trainees actually see babies being resuscitated while going over some of the key points might improve their retention. We will initially start with midwives and if we see an improvement then



Amara Heard, M.D.

we will plan to implement it with residents and medical students.

#### **You are also beginning work on another Quality Improvement project for residents rotating through the NICU. What will it involve?**

We will focus on creating a checklist for the residents that they can complete when they attend deliveries. We’ll start with a “preparation checklist” to make sure they know the questions to ask the OB team, how to set up the bed and where to find additional resources. After that we will plan to work on clinical skills that we would expect them to take away from their rotation. It will be particularly helpful for the residents who will go on to primary care and would be some of the initial providers attending deliveries at some of the smaller tertiary sites.

#### **What have you learned about yourself and your career path during this fellowship?**

I know that I truly enjoy research that involves quality improvement and medical education. I do foresee myself continuing on with academic medicine and helping other trainees.

### William Chotas, M.D., First-Year Fellow

#### **Your Fellowship research project involves a Cochrane Review of the literature concerning platelet transfusion thresholds in neonates. Can you explain why this work is important?**

Babies born at younger gestational ages are at greater risk for having a lower platelet count, and when platelets are very low there is a theoretical risk of hemorrhaging or bleeding. However, there has lately been some research linking platelet transfusion to infant mortality. This review will seek to determine what platelet count number should spark the decision to transfuse, and how much, especially in the case of babies who appear otherwise well.

#### **How do you think your research will impact the health of babies born at UVM Medical Center?**

I’m excited about this review because there are a few new studies just coming out, and I think the project results will inform future guidelines for our own NICU. I also expect it to become a Quality Improvement project here, and could also inform practices in global health.

#### **What are your plans following completion of your fellowship?**

I hope to be in a position where I can have an impact improving neonatal care on a global scale, perhaps working on a systems-based level. ■



William Chotas, M.D.

## Medical Student Education

Molly Rideout, M.D., the newly appointed Vice Chair for Education, notes that pediatric faculty, residents, and fellows play an active role in student education and are integrated into their curriculum as course directors, small group leaders, active learning facilitators, and clinical teaching faculty starting on the first day of medical school all the way through to graduation. Faculty teach students not only in Vermont but at the Larner branch campus in Connecticut. Prior to medical school, many undergraduate and post-baccalaureate students from backgrounds under-represented in medicine (URIM) are matched with pediatric faculty members for a year-long mentorship program called Pathways in Pediatric Education (PIPE), created by Dr. LE Faricy, one demonstration of the department’s ongoing commitment to equity, diversity and inclusion (EDI). Another innovative program is a special course on fundamentals of teaching, designed and taught by Dr. Deirdre O’Reilly, aimed at fellows, residents and students across all specialties. Success in undergraduate medical education is evident in very high student ratings for courses plus many accolades and teaching awards for residents and faculty, including the highest national educator award from the Association of American Medical Colleges for Dr. Bill Raszka in 2021. In addition, our department was a finalist for clinical department of the year, and the number of fourth year students applying into pediatric residency is high, above the

national average. The fourth year pediatric students participate in a year-long Pediatric Concentration program culminating in a boot camp prior to graduation that utilizes the teaching talents of our faculty and residents who are instrumental to its success. Of particular note: over one-third of the pediatric faculty have been inducted into the Larner Teaching Academy.

## Pediatric Residency Program Increases Advocacy

This year, the Pediatric Residency Program’s advocacy curriculum was revamped to encourage residents to actively support patients in new ways during the pandemic. These include research on immunizing 5-11 years against COVID-19, continued improvements in school based health, and mental health education in local high schools. Quality improvement is in full force with residents, attendings and staff at UVM Pediatric primary Care in Burlington and Williston working together to improve resident continuity with patients and move toward a culture that embraces residents acting as the primary medical home clinician for their patients. The pediatric resident and Child and Adolescent Psychiatry fellow collaboration continued in 2021 with the “Mind Body Buddy” program designed to enhance the care of patients in both clinical settings. For the second year, the program includes patient and family advisors in recruitment interviews of new pediatric residents, and this continues to be a highlight for applicants.



# Improving Access to Pediatric Clinical Trials

## INFANTS AND CHILDREN

living in rural states are less likely than those living in other states to have a chance to enroll in clinical research, especially clinical trials. Underserved and minority children are particularly underrepresented. The University of Vermont is one of 18 sites in a state-of-the-art pediatric clinical research network to improve access to clinical trials for children in rural and underserved areas. Together, the sites constitute the Environmental Influences on Child Health Outcomes (ECHO) Institutional Development Awards (IDeA) States Pediatric Clinical Trials Network (ISPCTN).

Supported by funds from the National Institutes of Health (NIH), the project aims to address disparities in pediatric research and build pediatric research capacity in states where success rates for research grant applications is historically low. ISPCTN research focuses on ECHO's five areas of child health: airways, obesity, neuro-development, pre-, peri- and post-natal outcomes and overall child health.

Pediatric pulmonologist Kelly Cowan, M.D., and neonatologist Leslie Young, M.D., lead the project at UVM. Both Drs. Cowan and Young are UVM Class of 2007 medical alumnae, and both completed their residencies at UVM Children's Hospital.

Dr. Young is a lead investigator for the Advancing Clinical Trials in Neonatal Opioid Withdrawal Syndrome (ACT NOW) Collaborative, a collaboration between the ISPCTN and the neonatal research network (NRN). As part of the ACT NOW Collaborative, Dr. Young is principal investigator for a recently completed network study examining current practices in caring for infants who have neonatal opioid withdrawal syndrome (NOWS). The study, ACT NOW- Current Experience (ACT NOW-CE), included more than 1300 infants at 30 sites across the U.S. The analysis generated an enormous data set that describes how the care of these children varies across sites and how this knowledge can inform clinical trials to improve outcomes for these infants.

The findings from ACT NOW-CE

informed the design of two new clinical trials to improve the care and outcomes for infants with NOWS. Young leads one of these trials: Eating, Sleeping, Consoling for Neonatal Opioid Withdrawal (ESC-NOW). This project compares the new ESC care approach, used by an increasing number of hospital nurseries to care for infants with NOWS, to the usual care for these infants. With ESC care, parents hold, swaddle, and rock their babies in quiet, low-light rooms. This approach can reduce the need for medications including morphine and methadone, which clinicians often prescribe to calm babies with NOWS. In this trial, infants receive non-pharmacologic ESC care as the initial treatment and care teams assess the infant's withdrawal based on the infant's ability to eat, sleep and be consoled. The trial will include up to 1500 infants and their primary caregivers from 26 nurseries across 18 states.

In another completed network study, Lauren (L.E.) Faricy, M.D., and Cowan were investigators looking at vitamin D supplementation for children with asthma and elevated body mass index. This study assessed the pharmacokinetics of Vitamin D supplementation in children who have asthma and are overweight or obese.

Cowan is preparing new research to investigate recovery of infants hospitalized with bronchiolitis. This is one of several new pediatric clinical trials that will commence in 2022. "We have a good pipeline of studies



*Leslie Young, M.D., (left) and Kelly Cowan, M.D., pose for a photo in the corridor outside of Dana Medical Library.*

coming through, at various stages, preparing for launch," she said.

To expand local expertise and capacity to conduct pediatric clinical trials, UVM offers professional development resources, trainings

and mentoring opportunities.

"Our curriculum helps new and experienced investigators learn clinical trial skills and allows experienced people to provide mentoring," said Cowan.

"It provides opportunities for pediatricians and faculty investigators to be well-supported to become primary investigators, under the umbrella of working on these trials." ■

## "All Teach, All Learn" Approach Improves Care

More than 45,000 pediatric patients in the U.S. and Europe participate in ImproveCareNow, a network of people collaborating to achieve more reliable, proactive inflammatory bowel disease (IBD) care for youth. Established in 2007 by Richard Colletti, M.D., professor emeritus of pediatrics and pediatric gastroenterologist at UVM Children's Hospital, ImproveCareNow engages clinicians, researchers, patients and parents in providing real-time quality improvement, research and community-building. Dr. Colletti envisioned an "all teach, all learn" collaborative approach to medicine, allowing innovations and best practices to penetrate care delivery faster.

Today, 110 pediatric gastroenterology care centers use ImproveCareNow, and Colletti serves as President and Executive Director. Jillian Sullivan, M.D., associate professor of pediatrics and a pediatric gastroenterologist, leads ImproveCareNow at UVM Children's Hospital. A UVM undergraduate and



medical alumna, Dr. Sullivan participated in clinical rotations with Dr. Colletti as a student. She affirms that, by standardizing care, sharing tips and resources with patient families, and providing access to population management and pre-visit tools, ImproveCareNow is transforming health, care and costs for children with IBD.

"We have an 85% remission rate for patients with Crohn's disease and ulcerative colitis. I'm proud of that," Sullivan said. "This is without changing medications; it's by making educational tools available to patients and using population management and pre-visit planning."

Clinicians can easily see patients' most recent lab results, nutritional status, medications and assessment narratives and can check on patients from afar to ensure no one falls through the cracks. "We have accurate information at our fingertips," Sullivan said. "I can look at my patient population and intervene before a problem occurs."



# Integrating Mental Health into Primary Care

## WHEN SHE JOINED UVM

Children's Hospital Pediatric Primary Care practice in the 1990s, Catherine Rude, M.D., struggled to support her patients with mental health concerns. The practice did not include psychologists, psychiatrists and social workers, and connecting children to off-site specialists took great effort, Dr. Rude said.

"It was challenging to get psychiatric care for children. Wait times were extremely long and the paperwork hurdles that patients had to go through to see a mental health clinician were insurmountable for many families," said Dr. Rude, clinical associate professor of pediatrics and primary care pediatrician.

UVM Pediatric Primary Care is removing barriers to mental health care with an evidence-based Primary Care Mental Health Integration program, piloted with support from the UVM Health Network. Stan Weinberger, M.D., associate professor of pediatrics and pediatric primary care division chief, Dr. Rude, Michelle Streeter, RN, and Logan Hegg, PsyD, clinical assistant professor of pediatrics and psychiatry lead the effort in partnership with Maureen Leahy, M.Ed., director of psychiatry and neurology health-care services, UVM Medical Group, Sara Pawlowski, M.D. primary care

mental health integration division chief and assistant professor of psychiatry, Clara Keegan, M.D., associate professor of family medicine, and Kerry Stanley, LICSW, lead behavioral health care manager.

This team-based approach amplifies UVM Children's Hospital's comprehensive mental health services by integrating psychology, social work and psychiatry with primary care. Within this model, primary care clinicians and mental health specialists coordinate each patient's care with in-person huddles, information-sharing and collaborative care that responds to individual patient preferences.

"The goal is to increase access in a timely and thoughtful process, providing seamless whole-person care as a team," said Dr. Hegg. "By integrating mental and behavioral health providers with complementary skills, we are building support for kids, families and pediatric clinician colleagues."

The primary care setting can make a large impact in detecting and managing mental health issues, especially among underserved populations, Hegg said. Opportunities for routine mental health screening, assessment and preventative intervention give entrée to people who traditionally lack access, including families with lower socio-economic

means, New Americans and gender expansive youth. Providing youth with a place to work on mental health concerns builds on their longitudinal relationship with a primary care clinician.

Integrating mental health and primary care meets patients and providers where they are, the same day a patient presents in clinic. Struggling patients and families receive care in the exam rooms along with wellness check-ups and immunizations, decreasing stigma and disparities. Providers appreciate the responsive support.

"It's been so helpful to have a comprehensive mental health team integrated into primary care. Now these specialists are on staff in the practice and patients can make an appointment with them in the office," said Dr. Rude.

Added Hegg, "If we can get ahead of the curve, we won't be scrambling as much with emergency department visits and crisis evaluations. It's been a real game-changer for the 7,500 kids and families who entrust us for their primary care."

The primary care mental health integration team supports training multidisciplinary providers to implement and expand this model of care, developing clinicians who appreciate medical-psychiatric



(Left to right) Stan Weinberger, M.D., Logan Hegg, PsyD, and Catherine Rude, M.D., in an exam room at the pediatric primary care clinic in Burlington.

comorbidity and the importance of team-based care in a primary care medical home. While the pilot rolled out in a few primary care clinics, increased mental health

care staffing will spread across all 37 UVM Medical Center primary care sites over the next few years. "Our plan is to bring this model to all UVM Health Network primary

care clinics," said Hegg. "We want this to be the standard to how primary care is delivered in our region." ■

## VT LEND awarded funding for five years of Leadership Training in Neurodevelopmental Disabilities

Since 1995, the Vermont Leadership Education on Neurodevelopmental Disabilities (VT LEND) program trains 12 individuals annually in their nine month, 300-hour program. The goal is to train culturally responsive health professionals prepared to improve healthcare systems for children with autism spectrum disorder and developmental disabilities. With Program Director, Dr. Mercedes



Avila's leadership, VT LEND has received state and national recognition, as one of the most diverse LEND programs in the country and as a leading program advancing culturally responsive practice and education. In 2021, VT LEND trainees represented 55% racial/ethnic diversity with trainees from Connecticut,

Louisiana, Ohio and the U.S. Virgin Islands. VT LEND faculty/staff are from Vermont, New Mexico, New York and the US Virgin Islands (59% racial ethnic diversity). In the past year, VT LEND faculty and staff conducted 110 continuing education and community education trainings, technical assistance sessions, and related activities. In June 2021, VT LEND was awarded \$535,583.00 funding for an additional 5 years of training from Health Resources and Service's Administration's (HRSA) Maternal and Child Health Bureau (MCHB).



# Learning to Discuss What Matters Most

*TalkVermont director Stephen Berns, M.D., and TalkVermont Senior Facilitator and Assistant Professor of Pediatrics Iris Toedt-Pingel.*

**WHEN FACED WITH SERIOUS** illness, most patients and families want to talk with their clinicians about what matters most to them about their health and care. When these conversations occur, patients more likely receive treatments matching their goals, and clinicians feel better connected to their patients and provide higher quality care.

For pediatric clinicians, these conversations present nuanced complexities. How can pediatricians, nurses or social workers explain a complex medical condition to a child or their parent? What skills can help elicit a young person’s or caregiver’s goals, nurture connections, bring calm and develop a plan of care based on a family’s priorities?

TalkVermont, a multi-component intervention focused on improving conversations between clinicians and seriously ill patients across the

UVM Health Network, launched TalkVermont Pediatrics to address the unique needs of pediatric patients and families. The goals are to improve outcomes for seriously ill infants, children and adolescents and increase providers’ confidence and well-being.

Directed by Stephen Berns, M.D., FAAHPM, palliative care physician and associate professor of family medicine, TalkVermont uses evidence-based methods to train clinicians in serious illness communication. Training emphasizes interprofessional, active learning through case studies, patient simulation and conversation mapping.

Adapting TalkVermont for pediatrics sprang from the work of Iris Toedt-Pingel, M.D., pediatric critical care physician and assistant professor of pediatrics and a senior facilitator for TalkVermont. Through her interactions in the pediatric

intensive care unit, she saw a need for advanced conversation skills training with a pediatric lens.

“Dealing with very sick kids, death and dying, end-of-life care has always been a part of my work and a special interest of mine,” said Dr. Toedt-Pingel. “When I trained [as a pediatrician], no one taught me how to sit down with a family of a child who had a terrible accident and won’t recover, how to deliver this terrible news, what to do if someone gets angry. To feel better prepared for those difficult conversations I educated myself... and that really empowered me.”

From 2019-2021, Toedt-Pingel was principal investigator on a \$25,000 grant from the Frymoyer Scholars Program to create the pediatric curriculum, along with Dr. Berns and Kaitlin Ostrander, M.D., pediatric hospitalist and clinical instructor in pediatrics.

The trainings are interprofessional, with pediatricians training alongside nurses from Baird 5, pediatric and neonatal intensive care, advanced practice providers, child-life specialists and social workers. Case studies represent diverse patient ages and situations, including a newborn with severe brain injury, nine-year-old cancer patient and an adolescent with cystic fibrosis. “The heart of these pediatric courses is to do justice to different developmental ages and parental involvement versus child involvement,” Toedt-Pingel said.

Initial and three-month follow-up surveys showed the course advanced learners’ skills and confidence around goals of care discussions. After the course, all

participants reported increased confidence in responding to emotion, sharing serious news, asking about a patient’s values and making a recommendation to a patient or family member.

Dr. Ostrander presented these results at the American Academy of Pediatrics national conference last fall, earning a blue ribbon for the TalkVermont Pediatrics team.

“There is a lot of interest in our work, particularly around the inter-professional piece,” said Toedt-Pingel. “This multi-disciplinary version is a novelty. Nurses or social workers might not see it as their role to deliver serious illness news or to have these conversations. Our teaching makes people aware that everyone has a seat at the table in

these discussions.

Toedt-Pingel and Berns notice UVM Children’s Hospital clinicians using skills learned from TalkVermont Pediatrics. “Instead of giving patients whole paragraphs of information about what’s wrong—the trees—they give them the forest,” Berns said. “One graduate relayed that using these skills encouraged a patient to open up and share their experience and knowledge of their condition. It was a real game-changer in how she was able to care for this patient. Our task is to get the entire Children’s Hospital trained in these skills.” Future plans include expansion to clinicians in the community. ■

## Outreach to New American Communities

Throughout 2021, the members of the Pediatric New American Program supported efforts to disseminate information about COVID and COVID vaccines to immigrant families. Their efforts include language-specific forums, Multilingual Coronavirus Task Force videos and COVID vaccine clinics for those with limited English proficiency. This work took place in partnership with community groups including the association of Africans Living in Vermont, the U.S. Committee for Refugees and Immigrants—Vermont, and local schools. Current work, according to program director Andrea Green, M.D. includes assisting resettled refugees from Afghanistan, Democratic Republic of the Congo, and Sudan. In addition, the Building Strong Families clinic, a community embedded, group well child clinic, which shut down in 2020 due to the pandemic, has functioned since then by conducting individual visits.

## Patient and Family Centered Care Program

Ensuring that the Patient and Family-centered Care Program comprises voices from all facets of

the community is central to its work. In 2021, in partnership with the Vermont Family Network, the Vermont Department of Health, and the Vermont Developmental Disabilities Council, the UVM Children’s Hospital Empower Team supported the development, training, and roll-out of “Confident Care for Kids,” a program that promotes empowering vaccine experiences for children with developmental disabilities and delays across Vermont. In September, the UVMCH Patient and Family Advisory Council was re-launched. This multidisciplinary team meets monthly and is actively engaged in improving patient, family, and staff experience across the children’s hospital. To continue work toward creating a liberation-focused healthcare environment for all, program members are committed to holding psychologically safe spaces to listen and learn from BIPOC patients and families. In alignment with the efforts of UVMHC’s Vice President of Diversity, Equity, and Inclusion, the DEI committee from Pediatric Primary Care planned and hosted listening and learning sessions for BIPOC parents and caregivers. The themes gained from these sessions will inform all levels of practice.



# Stepping Up for UVM Children's Hospital

Despite the limitations imposed by the second year of the COVID-19 pandemic, which continued to upend many traditional in-person events, community members throughout the region stepped forward to support the work of the clinicians and staff of the UVM Children's Hospital.

## A Year of Support

### Extra Life Gaming Marathon

187 PARTICIPANTS, **\$76,591.65** RAISED

### RALLYTHON, UVM's Miracle Network Dance Marathon

690 PARTICIPANTS, **\$125,929.35** RAISED

### Big Change Roundup for Kids

A Radiothon planned in partnership with 98.9 WOKO  
158 PARTICIPANTS, 1,022 GIFTS, **\$218,882** RAISED

Key sponsors in 2021 included New England Federal Credit Union and Med Associates, Inc. Other top supporters included Maplefields, Polar Bear Plunge posse and Ticonderoga Walmart. In addition, Clark's Truck Center served as a drive-through collection host in Plattsburgh and the University Mall hosted a drive-through collection in South Burlington.

### UVM Children's Hospital Golf Classic

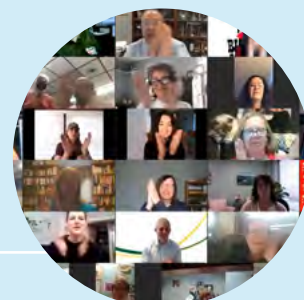
44 TEAMS, **\$161,695.93** RAISED

### CMN Hospitals Corporate Partners

LOCAL PARTNERS RAISED **\$300,278.11**

#### Top Partners

- Walmart/Sams Club **\$86,030.58**
- Costco **\$51,704.55**
- Kinney Drugs **\$47,792.55**
- Credit Unions for Kids **\$38,439.64**
- Rite Aid **\$30,707.62**
- Ace Hardware **\$20,317.15**
- Other Corporate Partners
- Spirit Halloween Spirit of Children Campaign **\$27,365**
- Dunkin' Iced Coffee Day **\$15,636**



"Every dime, quarter and dollar raised will make a difference for the thousands of children and families in our region served each and every day by our UVM Children's Hospital. Thank you to all who contributed."

- LEWIS FIRST, M.D.



Some of the participants in the 2021 Rallython.

## Building Resilience

### ATTENDING TO THE MENTAL

health needs of young people has never been more challenging, or more necessary. The COVID-19 pandemic has turned a steady rise in demand into an explosion, thrusting more young people than ever into feelings of desperation and crisis.

The UVM Children's Hospital's Pediatric Psychological Services Department has for years been broadening its hospital-based support, whether in service to patients with mental health challenges, those struggling emotionally with a medical diagnosis or ones simply having difficulty being in a hospital. The team has also expanded its reach into primary care and specialty care sites and schools

and communities, with the hope of meeting young people everywhere they enter the system.

"From everything I know about trauma," says Marlene Maron, Ph.D., chief psychologist in the Department of Psychological Services and clinical associate professor at the UVM Larner College of Medicine, "whether it's medical, sexual or developmental, treatment can work. If we can help young people process and metabolize difficult experiences—loss, trauma, extraordinary terror—they have a better chance of recovering and living healthy lives."

The Department has long operated in the red, having to absorb unbillable services, teaching and

training costs, and senior staff time to help ensure patients have access to psychological services. Philanthropic support has been a lifeline, and more is needed.

"Philanthropy helps us expand our ability to help young people navigate hard times and challenges," says Dr. Maron.

Committed to connecting youth with the treatment she knows to be effective, Dr. Maron and her team are stretching their 2021 grant support from the CMN Hospitals Fund at the UVM Children's Hospital further than ever and expanding their presence in adolescent medicine, inpatient units, the Transgender Youth Program, anxiety and depression screening, pediatric endocrinology, workforce development and referrals (eating disorders, cystic fibrosis, cancer, etc.).

"Everybody struggles one way or another," says Dr. Maron. "It's impossible to be human and not have pain or loss. Young people depend on families and community to help them develop, build resilience and thrive. In the best circumstances, they grow to live, love and connect with others in healthy ways. When that is not possible, we are grateful for the opportunity to help." ■



UVM Children's Hospital Chief Psychologist Marlene Maron, Ph.D.

For more information about supporting children's health needs, contact Yael Friedman at [yael.friedman@uvmhealth.org](mailto:yael.friedman@uvmhealth.org)

## GENERAL PEDIATRICS DIVISIONS AND PROGRAMS

# Pediatric Primary Care

**PRIMARY CARE  
DIVISION CHIEF  
STANLEY  
WEINBERGER, M.D.**

Pediatric Primary Care is a comprehensive, family-centered medical home for a diverse population of children and adolescents. Through the pandemic, our faculty of 14 across two sites in Burlington and Williston continued to provide care, in person or via telehealth, including COVID-19 testing in collaboration with schools. With the arrival of the COVID-19 vaccine for children and adolescents, we increased access to vaccines in our clinics and supported families in their decision-making. Multiple faculty hosted information sessions on vaccination for COVID-19. In particular, we partnered with Association of Africans Living in Vermont, U.S. Committee for Refugees and Immigrants-Vermont, and local schools to provide outreach to immigrant families and those with limited English proficiency.

Pediatric primary care strives to remove barriers to meeting the increasing mental health care needs of patients and families with our Primary Care Mental Health Integration Program, in collaboration with the UVM Health Network. This team-based approach integrates psychology, social work and psychiatry with primary care.



The School-Based Health Centers in Winooski and Burlington, led by Heather Link, M.D., and Elizabeth McDonald, PNP, provide timely, efficient, and effective care for students across a broad range of health needs. This year, the team launched a group mental health intervention through Burlington High School in collaboration with our clinical psychologist, Rebecca Ruid, Ph.D. We are piloting and expanding our telehealth capabilities across additional schools. These innovations are supported through a partnership with Downs Rachlin Martin, PLLC.

Our Pediatric New American Program, directed by Andrea Green, M.D., welcomed refugees again this year in partnership with USCRIVT and AALV. New arrivals came primarily from the Democratic Republic of Congo, Sudan and Afghanistan. Dr. Green continues to provide equity-oriented, culturally sensitive care at the Building Strong Families Clinic, where parents and children of immigrant families find a safe space to be their authentic selves with health care providers.

Pediatric Primary Care remains the hub of ambulatory pediatric education at the UVM Larner College of Medicine with multiple faculty in leadership roles. Lori Racha, M.D., and Matt Saia, M.D., are the co-directors of pediatric primary education and work with residents to improve resident continuity in clinic. Hillary Anderson, M.D., became the 4th year director for the Department of Pediatrics and Andrea Green, M.D., directs Global Pediatrics.

### Quality Initiatives

- Heather Link, M.D. “A new way to vaccinate: Flu vaccine for Vermont school-based health centers during a pandemic.” Virtual Poster Presentation. American Public Health Association Annual Conference, October 2021.
- Stanley Weinberger, M.D., is the faculty lead for year 2 of Vermont Child Health Improvement Program (VCHIP) Child Health Advances Measured in Practice project on “Strengthening Vermont’s System of High Performing Medical Homes.”
- Michelle Shepard, M.D., is faculty lead for VCHIP’s Improving Care for Opioid-exposed Newborns project.
- Matt Saia, M.D., is faculty lead for “Improving Blood Lead Screening” with VCHIP and Vermont Department of Health.

# Adolescent Medicine

**DIVISION CHIEF  
ERICA GIBSON,  
M.D.**

The Division of Adolescent Medicine continues to expand under the leadership of Dr. Erica Gibson, securing hospital and grant funding to meet increasing demands for adolescent-specific medical care. A sharp rise in young people being referred to The Adolescent Eating Disorder Consult Clinic (EDCC) led the EDCC team to provide additional services and resources to primary care providers, mental health providers, state agencies and families throughout the region. Dr. Aubrey Carpenter, Ph.D. Psychology now works full time in the EDCC; Britt Richardson, R.D., and Amy Kiviranna, LICSW, joined the EDCC team this year. The Transgender Youth Program (TYP) endeavors to meet the growing need for gender care among young people and families. Elizabeth McDonald APRN, Dr. Kimberlee Roy Ph.D., and Dr. Marlene Maron Ph.D., provide care in the TYP following the standards of care for gender diverse youth recommended by the Endocrine Society and the American Academy of Pediatrics. Joshua Shamoon, MSW, joined the TYP team this summer. The Adolescent Sexual and Reproductive Health Clinic serves the needs of young people throughout Vermont and upstate NY. Wendy Bliss, RN, provides adolescent-specific nursing support across all clinics in the division.

Dr. Gibson works with VCHIP, Vermont Department of Health, and the American Academy of Pediatrics Vermont Chapter (AAPVT) on adolescent health issues specific to Vermont. She also serves as an executive board member of the national AAP Council on School Health. Dr. Gibson continues to provide an adolescent medicine rotation experience for all pediatric interns and routinely collaborates with medical students and residents on adolescent medicine projects.

### Highlights:

- As the NCE Program Chair for the AAP Council on School Health Executive Committee Dr. Gibson organized and moderated the AAP NCE Council on School Health program, “COVID-19 and School Health: Lessons learned so far.”
- As part of the Vermont Sexual Health Education Stakeholders Group, Dr. Gibson contributed to the publication “Essential Topics in Sexual Health Education,” released in August 2021, and led two workshops at the annual Society of Health and Physical Educators of Vermont meeting.
- Dr. Gibson continues as faculty lead for the VCHIP Youth Health Initiative. In 2021, the initiative focused on youth development and youth voice and pediatric to adult primary care transition.

# Cardiology

DIVISION CHIEF  
SCOTT YEAGER,  
M.D.

The Division of Pediatric Cardiology provided a wide range of cardiovascular services while expanding quality initiatives, implementing telemedicine, addressing teaching responsibilities, and pursuing clinical research. In collaboration with UVM Children's Hospital Quality Improvement, the division received a Children's Miracle Network grant to launch point-of-care lipid testing in the pediatric cardiology clinic, aiming to increase compliance with current AHA/AAP screening recommendations. Nancy Drucker, M.D., collaborates with the Vermont Child Health Improvement Program to improve transition of care for adolescents from pediatric to adult cardiology. Niels Giddins, M.D., works with a regional group to support a New England-wide pacemaker registry and monitoring service. Jonathan Flyer, M.D., co-chairs the New England bicuspid aortopathy registry, and was an early career faculty recipient of *The Lucey Prize* for innovative aortopathy medical prophylaxis research. Caitlin Haxel, M.D., serves as the site investigator for the NIH-funded international study, Surveillance and Treatment to Prevent Fetal Atrioventricular Block Likely to Occur Quickly (STOP BLOQ), to identify and intervene in fetuses at high risk for congenital complete heart block. Scott Yeager, M.D., serves as president of the New England Congenital Cardiology Research Foundation, and recently transitioned his leadership as Division Chief to Dr. Flyer, after more than three decades of department service.



NANCY DRUCKER, M.D.

Selected Publications

- Villafane J, Miller J, Glickstein J, Johnson J, Wagner J, Snyder CS, Filina T, Pomeroy S, Sexson-Tejtel K, Haxel C, Gottlieb J, Egthesady P, Chowdhury D. Loss of Consciousness in the Young Child. *Pediatr Cardiol.* 2021 Feb;42(2):234-254. doi: 10.1007/s00246-020-02498-6.
- Flyer JN, Sleeper LA, Colan SD, Singh MN, Lacro RV. Effect of Losartan or Atenolol on Children and Young Adults with Bicuspid Aortic Valve and Dilated Aorta. *The American Journal of Cardiology.* 2021 April 1; 144:111-117.
- Mughal A, Wahlberg KJ, Li Zhaojin, Flyer JN, Olson N, Cushman M. Impact of an institutional grant award on early career investigator applicants and peer reviewers. *Research and Practice in Thrombosis and Haemostasis.* 2021; 5:e12555.
- Runte KE, Flyer JN, Edwards E, Soll R, Horbar JD, Yeager SB. Variation of ductus arteriosus treatment in very low birth weight infants. *Pediatrics* 10.1542/peds.2021-052874

Selected Presentations

- Hsu JJ, Flyer JN, Flink K, AE Levy. House of Cards: Effective Translation of a Formal Peer Mentorship System into Multiple Adult Cardiology Fellowship Programs. American College of Cardiology, Training & Lifelong Learning Section, Atlanta, GA. May 2021 – Moderated poster presentation.
- Wahlberg KJ, Mughal A, Li Z, Cipolla MJ, Cushman M, Flyer JN. The Impact of a Preclinical Medical Student Mentored Summer Research Experience in Cardiovascular Disease on Scholarship and Career Trajectory. American College of Cardiology, Training & Lifelong Learning Section, Atlanta, GA. May 2021
- Evans P, O'Reilly D, Flyer JN, Soll R, Mitra S. Indomethacin for symptomatic patent ductus arteriosus in preterm infants. Pediatric Academic Societies, Neonatal-Perinatal Health Care Delivery: Epidemiology/HSR: e-Poster-Clinical Epidemiology. May 2021
- Zuckerman A, Robinson KJ, Twichell S, Moore M, Bonenfant N, Runte KE, Couser S, First L, Flyer JN. Updating Pediatric Morning Report: Increasing Educational Quality and Satisfaction among Residents and Faculty. Pediatric Academic Societies, Quality Improvement/Patient Safety: Hospital-based QI: Platform presentation. May 3, 2021

# Child Developmental Evaluation Program

DIVISION CHIEF  
ELIZABETH  
FORBES, M.D.

This program offers diagnostic evaluations for children with a chief concern of developmental delay, autism spectrum disorder and/or intellectual disability. Two UVMCH clinical services collaborate to provide this care: Developmental Behavioral Pediatrics and the Vermont Center for Children, Youth and Families Autism Assessment Clinic. We maintained in-person clinical operations during the COVID-19 pandemic, observing guidelines to keep everyone safe. Our team also focused on medical training, community outreach, and local and statewide advocacy with a shared goal of improving systems of care for children with developmental disabilities.

# Child Safe Program

DIVISION CHIEF  
JAMES METZ, M.D.,  
M.P.H., FAAP

The Child Safe Program is committed to improving the health and well-being of children by addressing all forms of child maltreatment. The COVID-19 pandemic puts enormous stress on families, and children are at higher risk for maltreatment during these difficult times. The Child Protection Team includes board-certified child abuse pediatrician James Metz, M.D., M.P.H., FAAP; board-certified pediatric forensic nurse examiner Tracey Wagner, R.N., SANE-P; and Mary-Ellen Longworth, MSW, a social worker with expertise in child abuse and neglect. In the past year, we continued our efforts to standardize the workup and treatment of child maltreatment at UVM Medical Center and Vermont statewide. Transparency and standardization in our work helps decrease bias when caring for children who have experienced maltreatment. We train health care providers, law enforcement personnel, child welfare workers, judges, educators and community members to recognize child maltreatment. Members of the Child Protection Team serve on the Vermont Citizen's Advisory Board, Vermont Sexual Assault Nurse Examiner (SANE) advisory board, Child Fatality Review Committee, Prevent Child Abuse Vermont board, the Pediatric Trauma Council, Kidsnet Committee and the Human Trafficking Task Force.

Publications

- Metz JB, Otjen JP, Perez FA, Done SL, et. al. Fracture associated bruising and soft tissue swelling in young children with skull fractures, how sensitive are they to fracture presence? *Pediatr Emer Care.* 2020;37(12);e1392-e1396
- Brown JC, Metz JB. Pinna Bruising in Children. *Pediatr Emer Care.* 2021;37(12);e1729-e1730
- Metz, JB, Otjen JP, Perez FA, Done SL, Brown ECB, Wiester RT, et al. Delays in care seeking for young children with accidental skull fractures are common. *Acta Ped.* 2021;110;1890-1894

# Endocrinology

**DIVISION CHIEF**  
**PAUL ZIMAKAS,**  
**M.D.**

The Division of Pediatric Endocrinology provides ambulatory and inpatient care for patients with a variety of complex endocrine disorders. Using a family-centered approach, patients and their families receive care from a multidisciplinary team consisting of two physicians, three certified diabetes educators, an endocrine nurse, pediatric dietitian, social worker, and pediatric psychologist. The division successfully implemented telehealth services to connect with families during the pandemic. We discovered that telehealth provides an effective and convenient modality to ensure necessary follow-up of our patients, particularly those who otherwise travel great distances for care. As a result, telehealth follow-up of appropriate cases is incorporated into our routine care delivery going forward.

The American Diabetes Association recognizes the Pediatric Diabetes Clinic as a center of diabetes education. The division collaborates with VCHIP on quality improvement projects to ensure safe, appropriate transition of care from pediatric specialty care to adult primary or specialty care. Jennifer Todd, M.D., serves as co-medical director at the Barton Center for Diabetes Education, overseeing diabetes summer camp programs in Vermont and Massachusetts. P.J. Zimakas, M.D., serves as the pediatric endocrine consultant to the Vermont Department of Health Newborn Screening Advisory Committee, assisting with development of guidelines for screening of congenital endocrine disorders. The division provides clinical educational experiences for medical students, pediatric residents, and adult endocrinology fellows. Drs. Todd and Zimakas lecture in several courses in the Vermont Integrated Curriculum.



PAUL ZIMAKAS, M.D.

### Publications

- Todd JN, Kleinberger JW, Zhang H, Srinivasan S, Tollefsen SE, Levitsky LL, Levitt Katz LE, Tryggstad JB, Bacha F, Imperatore G, Lawrence JM, Pihoker C, Divers J, Flannick J, Dabelea D, Florez JC, Pollin TI. Monogenic Diabetes in Youth With Presumed Type 2 Diabetes: Results From the Progress in Diabetes Genetics in Youth (ProDiGY) Collaboration. *Diabetes Care*. 2021 Aug 6;dc210491. doi: 10.2337/dc21-0491. Epub ahead of print. PMID: 34362814.
- Santoro N, Chen L, Todd J, Divers J, Shah AS, Gidding SS, Burke B, Haymond M, Lange L, Marcovina S, Flannick J, Caprio S, Florez JC, Srinivasan S. Genome-wide Association Study of Lipid Traits in Youth With Type 2 Diabetes. *J Endocr Soc*. 2021 Aug 18;5(11):bvab139. doi: 10.1210/jendso/bvab139. PMID: 34568709; PMCID: PMC8459445.

# Gastroenterology, Hepatology and Nutrition

**DIVISION CHIEF**  
**MICHAEL D'AMICO,**  
**M.D.**

The Division of Pediatric Gastroenterology, Hepatology and Nutrition provides care to children and adolescents for disorders of the gastrointestinal tract, liver and pancreas, as well as problems with feeding, nutrition and growth, obesity, and lipid disorders. Michael D'Amico, M.D., heads the Healthy Living Program, a weight management clinic for overweight children and adolescents. He co-directs the Pediatric AeroDigestive Program and works with the Pediatric Spina Bifida Program. Jill Sullivan, M.D., combines clinical practice with research in pediatric cystic fibrosis and inflammatory bowel disease. She co-directs the Pediatric Cystic Fibrosis Program and is site leader for ImproveCareNow, an international, multi-centered, collaborative chronic care network for Crohn's disease and ulcerative colitis in children and adolescents. This award-winning program, founded and directed by Richard Colletti, M.D., is considered one of the premier quality improvement initiatives nationally. Nina Gluchowski, M.D., heads the division's educational endeavors and provides excellent clinical talent and research expertise in congenital diarrhea. Our exemplary nursing staff remains involved in high quality clinical care and nursing education, particularly with the Vermont School Nurses Association.

# Clinical Genetics and Metabolics

**DIVISION CHIEF**  
**KATHERINE**  
**ANDERSON, M.D.**

The Clinical Genetics Program provides genetic and metabolic services to children and adults in Vermont and upstate New York. While telemedicine was used prior to COVID-19, genetic counseling visits via this modality increased significantly and will likely continue. The Division includes two clinical geneticists, Katherine (Kati) Anderson, M.D. and Robert Wildin, M.D., and two genetic counselors, M. Denise Bonyun, M.S., CGC, and Christine Giummo, M.S., CGC. Dr. Anderson became Division Chief upon the retirement of Leah Burke, M.D. Dr. Burke continues as professor emeritus and chair of the Council on Genetics for the American Academy of Pediatrics.

Dr. Anderson is the designated metabolic specialist for the Vermont State Newborn Screening Program, helping providers across the region navigate abnormal screening results. She works with the VCHIP-Child Chronic Care Initiative to improve quality and health equity in pediatric patients with chronic illness. Dr. Wildin is a member of the Advocacy and Government Affairs Committee of the American College of Medical Genetics and the multi-national NIH Family Health History group.

Dr. Wildin works with the Genomic Medicine Laboratory developing diagnostic sequencing capabilities and utilizing genomic screening as a preventative health measure. Dr. Anderson works with the Vermont Oxford Rady Children's Genomic Network and Division of Neonatology on a collaborative effort in genome sequencing for critically ill neonates. This program aims to provide rapid genetic diagnosis and increase understanding of genomic and precision medicine.

### Publications

- YA, Uehara T, Abe K, Oginuma M, Harako S, Ishitani S, Lehesjoki AE, Bierhals T, Kloth K, Ehmke N, Horn D, Holtgrewe M, Anderson K, Viskochil D, Edgar-Zarate CL, Sacoto MJG, Schnur RE, Morrow MM, Sanchez-Valle A, Pappas J, Rabin R, Muona M, Anttonen AK, Platzer K, Luppe J, Gburek-Augustat J, Kaname T, Okamoto N, Mizuno S, Kaido Y, Ohkuma Y, Hirose Y, Ishitani T, Kosaki K. CDK19-related disorder results from both loss-of-function and gain-of-function de novo missense variants. *Genet Med*. 2021 Jan 25.
- Wildin RS, Messersmith DJ, Houwink EJF. Modernizing family health history: achievable strategies to reduce implementation gaps. *J Community Genet*. 2021 Jul;12(3):493-496.
- Taylor DL, Wildin RS, Morley KW. Novel neonatal presentation of megalencephaly-polymicrogyria-pigmentary mosaicism syndrome (MPPM) related to MTOR mutation: Report of a case. *Pediatr Dermatol*. 2021 Mar;38(2):536-537.
- Pahl A, Wildin R, Wills M, Barkhuff W. Case 1: A 31-week Fetus with Intestinal Atresia and Sudden Fetal Hemorrhage. *Neoreviews*. 2020 Nov;21(11):e761-e764.

**DIVISION CHIEF  
HEATHER  
BRADEEN, M.D.**

# Hematology/Oncology

The Division of Pediatric Hematology/Oncology provides specialized care for children and adolescents with a wide range of blood disorders and cancers. The division is an active member of Children’s Oncology Group, an international research consortium supported by the National Cancer Institute. With this collaboration, we can offer the latest national clinical trials to patients locally. Our team includes dedicated staff providers and senior-level certified oncology nurses, nurse practitioners, a social worker, child life specialists and psychologists. We take pride in being able to focus on each individual child and family.

**Highlights**

- We celebrated Dr. Alan Homans for his 29 years’ of service to the Department of Pediatrics and Pediatric Hematology Oncology. Dr. Homans continues as professor emeritus.
- We welcomed Dr. Matthew Shiel from UPMC Children’s Hospital of Pittsburgh as full-time clinical pediatric hematologist oncologist. Dr. Shiel focuses on coagulation and thrombosis and will lead the regional Pediatric Hemophilia Program.
- Dr. Caroline Hesko will share her Population Health work addressing food insecurity at the Institute for Healthcare Improvement (IHI) annual meeting.
- As part of Dr. Hesko’s role in Patient Safety, the division participates in a pioneer cohort though Solutions for Patient Safety (SPS) looking at ways to decrease central line blood stream infections in pediatric oncology patients.
- Dr. Jessica Heath received the Jerold and Ingela Lucey Early Career Investigator Prize for Innovations in Infant or Child Health and the NIH Loan Repayment Award for Pediatric Research.
- Tania Storms RN and Patti Haider RN presented “Process Implementation to Ensure Successful Completion Times for 24-Hour High Dose Methotrexate Infusions” at the annual APHON conference in Chicago.

**Publications**

- Aumann WK, Heath JL, Conway AE, Sze SK, Gupta VK, Kazi RR, Tope DR, Wechsler DS, Lavau CP. Fusion of the CRM1 nuclear export receptor to AF10 causes leukemia and transcriptional activation of HOXA genes. *Leukemia*. 2021 Mar;35(3):876-880.
- Rodriguez PD, Paculova H, Kogut S, Heath JL, Schjerven H, Fietze SE. Non-Coding RNA Signatures of B-Cell Acute Lymphoblastic Leukemia. *Int. J. Mol. Sci.* 2021, 22(5), 2683.
- Alsaadi N, Srinivasan AJ, Seshadri A, Shiel M, Neal MD, Scott MJ. The emerging therapeutic potential of extracellular vesicles in trauma. *J Leukoc Biol.* 2021 Sep 17
- Goldenberg M, Shiel M, Subramanian S, Kalpatthi R, Reyes-Múgica M, Nolfi-Donagan D. Splenic kaposiform hemangioendothelioma presenting as insidious consumptive coagulopathy. *Am J Hematol.* 2021 Oct 8.
- Chonat S, Eber SW, Holzhauer S, Kollmar N, Morton DH, Glader B, Neufeld EJ, Yaish HM, Rothman JA, Sharma M, Ravindranath Y, Wang H, Breakey VR, Sheth S, Bradeen HA, Al-Sayegh H, London WB, Grace RF. Pyruvate kinase deficiency in children. *Pediatr Blood Cancer.* 2021 Sep;68(9)
- Elizabeth Friesen NP, Tania Storms RN, and Patti Haider RN published “Fever and Neutropenia in Pediatric Oncology Patients in the Rural Setting” in the Association of Pediatric Hematology/Oncology (APHON) publication, *APHON Counts*.

# Infectious Disease

The Division of Pediatric Infectious Disease provides inpatient, outpatient, telephone, telehealth and travel medicine consultation services for acute and chronic infectious disease issues. The division participates in establishing and monitoring infection control policies, antibiotic stewardship programs, and clinical pathways across the UVM Health Network. The service provides advice and content expertise on various topics, including

**DIVISION CHIEF  
WILLIAM RASZKA,  
M.D.**

COVID-19, to VCHIP, Vermont Department of Health, Agency of Education, and Agency of Commerce and Community Development, and to scientific advisory committees for the governor and health commissioner. Division members are active at all levels of undergraduate and graduate medical education. William Raszka, M.D., serves on governance committees for the Larner College of Medicine and UVM Health Network. Benjamin Lee, M.D., conducts vaccine research with the UVM Vaccine Testing Center and Translational Global Infectious Diseases Research Center, supporting an active research program investigating enteric viral infections. Dr. Lee’s work is supported by the Barbara Bailey Heinz and Gayl Bailey Heinz Fund, Children’s Miracle Network Hospitals Fund, and National Institutes of Health.

# Pediatric Critical Care Medicine

The Pediatric Critical Care Medicine Division, staffed by five board-certified pediatric intensivists, provides care for children with life-threatening illnesses or injuries 24 hours a day. Division members participate in multi-center research projects and medical student and resident education. Elizabeth Ulano, M.D., is site leader for The Virtual PICU Systems, LLC database, which continues to demonstrate that our PICU consistently takes excellent care of very ill children with a mortality rate lower than expected. Dr. Kristin Crosby will resume community outreach with transport conferences, and Dr. Hopkins is the associate program director for the pediatric residency program. Dr. Toedt-Pingel continues offering a pediatric advanced communications course, TalkVermontPEDS, along with her work with Pediatric Acute Lung Injury and Sepsis Investigators (PALISI). Rebecca Bell, M.D., M.P.H. continues to take statewide, regional, and national leadership in advocacy as president for the Vermont chapter of the American Academy of Pediatrics.

# Pediatric Hospital Medicine

The Pediatric Hospitalist Program provides expert hospital-based care, around the clock, for pediatric inpatients and newborns at UVM Children’s Hospital and Champlain Valley Physician’s Hospital in Plattsburgh, N.Y. During the past year, we added five new Pediatric Hospitalists who bring a wealth of diverse experience and interests to our group, including expertise in complex care, global health, and value-based care.

Our team continues to collaborate closely with the UVM Health Network team to improve care for newborns and hospitalized children. We work closely with the neonatology group and other network pediatricians to expand the use of a standardized neonatal sepsis calculator in newborn nurseries across our network sites, with a goal to decrease unnecessary use of antibiotics. With our network partners, we developed standardized protocol for the management of neonatal hypoglycemia that will avoid NICU transfers and allow more infants to remain at their community hospitals.

At UVM Children’s Hospital, in partnership with our nursing colleagues, we continued ongoing quality improvement efforts. We collaborated with a large multidisciplinary team to develop an updated pathway for medical stabilization of pediatric patients with eating disorders. In response to the growing number of children in mental health crisis, we partnered with our inpatient pediatric psychiatric team to develop a pilot program allowing children to board on our pediatric floor, rather than the emergency room, while awaiting an inpatient psychiatric placement. We are developing improved processes for pediatric discharges to make discharges more efficient, timely, and patient- and family-centered.

The accomplishments of two members of the division deserve note: The local and national work of Molly Rideout, M.D., on Diversity, Equity and Inclusion, and multiple publications by Leigh-Anne Cioffredi, M.D., exploring the significant impacts of COVID-19 on children.

**DIVISION CHIEF  
AMELIA HOPKINS,  
M.D.**

**DIVISION CHIEF  
KAREN LEONARD,  
M.D.**

# Neonatology

DIVISION CHIEF  
CHARLES  
MERCIER, M.D.

The Division of Neonatal-Perinatal Medicine (NPM) consists of eight clinical attending physicians, three NPM fellows, and 13 advanced practice providers providing medical care to premature and sick newborns. Our mission is to provide compassionate, equitable, evidence-based care for infants and their families while advancing the field of neonatology through innovative research and education. Our 29-bed NICU is the only Level III unit in Vermont. Outcomes for very low birth weight infants consistently meet or exceed expectations on key clinical performance measures calculated by the Vermont Oxford Network.

Highlights

- Aaron Wallman-Stokes, M.D., focuses research on characterizing premature infants’ oxygen exposure and the association between hypoxia and neonatal morbidities and mortality.
- Adrienne Pahl, M.D., director of the Neonatal Medical Follow Up Program (NeoMed) joined the VCHIP Perinatal Quality Collaborative–Vermont, where she focuses on the care of opioid-exposed newborns.
- Delia Horn, M.D., partners with Imaging the World to research the relationship between prenatal ultrasound findings and neonatal outcomes.
- Whittney Barkhuff, M.D.,Ph.D., investigates optimizing care during neonatal resuscitation and innovative methods of surfactant delivery.
- Leslie Young, M.D., is principal investigator for the NIH-funded study, Advancing Clinical Trials in Neonatal Opioid Withdrawal (ACT-NOW) Eating, Sleeping, Consoling (ESC), a multicenter project to improve the care and outcomes for infants with neonatal opiate withdrawal syndrome. She is co-principal investigator for Improving Pediatric Access to Clinical Trials in Vermont (IMPACT VT), co-investigator for the HEALthy Brain and Child Development Study (HBCD) and serves on the leadership committee for the IDeA States Pediatric Clinical Trials Network (ISPCTN).
- Deirdre O'Reilly, M.D., M.P.H., is director of the Neonatal-Perinatal Medicine Fellowship. Dr. O'Reilly's research focuses on care and outcomes of infants with hypoxic ischemic encephalopathy and follow-up outcomes of extremely low gestational weight infants.
- Danielle Ehret, M.D. M.P.H., is director of global health at Vermont Oxford Network (VON), chair of the American Academy of Pediatrics (AAP) Section on Neonatal Perinatal Medicine Global Health Subcommittee



DELIA HORN, M.D.

and co-chair of the AAP Helping Babies Survive Planning Group. In 2021, Dr. Ehret received funding from the Bill and Melinda Gates Foundation Grand Challenges for “Standardizing and Scaling Continuous Positive Airway Pressure (CPAP) Treatment of Respiratory Distress Syndrome (RDS) through Quality Improvement (QI) and Tele-Mentoring” within the Ethiopian Neonatal Network and from the Laerdal Foundation for “Use of Educational Clinical Videos to Enhance Helping Babies Breathe Training Comprehension and Retention.”

- Roger Soll, M.D., is the Wallace Professor of Pediatrics, vice president and director of clinical trials at VON and editor-in-chief of the Cochrane Neonatal Collaborative Review Group.

# Nephrology

DIVISION CHIEF  
LIZ HUNT, M.D.

The Division of Pediatric Nephrology treats children with kidney disease, hypertension, incontinence, genitourinary malformations, and acute kidney injury, and manages pediatric kidney transplant patients. We provide dialysis and apheresis services for children. At the beginning of the COVID-19 pandemic, we developed a telehealth service, and continue to provide virtual visits when appropriate for families. Drs. Hunt and Twichell teach renal physiology courses. We are improving access to ambulatory blood pressure monitoring and launching a support group for children with chronic illness and their families. Nationally, the division participates in the North American Pediatric Renal Trials and Cooperative Studies group and the Pediatric Nephrology Research Consortium.

# Palliative Medicine

DIVISION CHIEF  
ROBERT  
GRAMLING, M.D.

The Division of Palliative Medicine partners with the Department of Pediatrics to care for children and families, train learners of all levels, and advance the science of pediatric palliative care. We developed TalkVermont Peds, a communication skills training program for pediatric serious illness conversations, through a Frymoyer Scholarship and successfully completed three TalkVermont Peds communication workshops under the leadership of Iris Toedt-Pingel, M.D., and Stephen Berns, M.D. For pediatric trainees, we implemented a 10-session, 18-month rotating curriculum of pediatric palliative care topics with leadership from Lisa Anne Rasmussen, M.D., and John Wax, M.D. In collaboration with Kate Ostrander, M.D., we provide a structured space to debrief and find meaning following a patient’s death or challenging case. These debriefs are facilitated by Lisa Anne Rasmussen, M.D., and John Wax, M.D., and involved members of the NICU, PICU and Baird 5. Dr. Rasmussen is a standing member of the Vermont State Pediatric Palliative Care Committee.

Publications

- Neville B and Laramée A. Understanding Palliative Care: a Nursing Perspective. *Vermont Nurse Connection*. August 2020. p12-13.
- Lemmon ME, Wusthoff CJ, Boss RD, Rasmussen LA, Newborn Brain Society Guidelines and Publications Committee. Ethical considerations in the care of encephalopathic neonates treated with therapeutic hypothermia. *Seminars in Fetal & Neonatal Medicine*. 2021 Jun:101258.
- Gramling CJ, Durieux BN, Clarfeld LA, Javed A, Matt JE, Manukyan V, Braddish T, Wong A, Wills J, Hirsch L, Straton J, Cheney N, Eppstein MJ, Rizzo DM, Gramling R. Epidemiology of Connectional Silence in specialist serious illness conversations. *Patient Education & Counseling*. 2021. Nov (epub ahead of print)
- Clarfeld L, Gramling R, Rizzo D, Eppstein M. A general [Markov] model of conversational dynamics with application in serious illness communication. *PLoS One*. 2021. Jul 1;16(7):e0253124.
- Tarbi E, Gramling R, Bradway C, Meghani S. “If it’s the Time, It’s the Time”: Existential Communication in naturally-occurring palliative care conversations with individuals with advanced cancer, their families, and clinicians. *Patient Education & Counseling*. 2021. May (epub ahead of print)

# Pulmonology

DIVISION CHIEF  
THOMAS LAHIRI,  
M.D.

The Division of Pediatric Pulmonology provides outpatient, virtual and inpatient care to children with a variety of respiratory and airway and aerodigestive disorders. Procedures that we offer include flexible bronchoscopy services, pulmonary function testing, sweat chloride testing and bronchoprovocation challenges. The division staffs several multidisciplinary clinics. The cystic fibrosis (CF) program received full reaccreditation from the Cystic Fibrosis Foundation and is a repeat recipient of a Quality Care Award. The CF program functions as one of the top centers in the United States for pediatric lung function and for meeting recommendations of the national CF Foundation (CFF) Patient Registry. The division participates in several multi-center CF clinical research trials as a Therapeutic Development Center as awarded by CFF Therapeutics, Inc.

### Highlights

- Kelly Cowan, M.D., is co-principal investigator for the NIH-funded Improving Pediatric Access to Clinical Trials in Vermont (IMPACT VT) and IDeA States Pediatric Clinical Trials Network (ISPCTN). She collaborates with Vermont Department of Health for asthma self-management education and with Efficiency Vermont for Healthy Home referrals.
- L.E. Faricy, M.D., became principal investigator for VCHIP project to ensure accessibility to tobacco cessation and prevention resources for Vermont youth, and she serves as the AAP-VT state chapter E-cigarette champion leading local initiatives to prevent e-cigarette addiction. Dr. Faricy chairs the Admissions Committee at the Larner College of Medicine.
- Thomas Lahiri, M.D., is immediate past-president of the Pediatric Pulmonology Division Directors Association of the American Thoracic Society. He serves on the Guidelines Steering Committee for the Cystic Fibrosis Foundation.
- Keith Robinson, M.D., has been leader for the Institute for Healthcare Improvement (IHI) Population Health Action Community with a focus on food insecurity and promoting equity in healthcare. The team’s work was selected for a presentation at the national IHI Forum. He serves on the UVM Health Network Population Health Service Organization and High Value Care Committee.

### Publications

- Rhein L, White H, Simoneau T, Traeger N, Lahiri T, Kremer T, Sheils C, Meyer K, Rosenkrantz T, Krishnan S, Hartman T, Feldman HA, Abu Jawdeh EG. Transmitted home oximetry and duration of home oxygen in premature infants. *Pediatrics* 2020; 146(2): e20200079. PMID 32665372
- Nelson BA, Boyer D, Lahiri T, Oermann CM, Rama J. A statement on the current status and future needs of the pediatric pulmonology workforce: Pipeline Workgroup. *Pediatr Pulmonol* 2020. Doi: 10.1002/ppul.25139. PMID: 33107699
- Lahiri T, Sullivan JS. Recent advances in the early treatment of cystic fibrosis: bridging the gap to highly effective modulator therapy. *Pediatr Pulmonol* 2021
- Annett RD, Chervinskiy S, Chun TH, Cowan K, Foster K, Goodrich N, Hirschfeld M, Hsia DS, Jarvis JD, Kulbeth K, Madden C, Nesmith C, Raissy H, Ross J, Saul JP, Shiramizu B, Smith P, Sullivan JE, Tucker L, Atz AM. IDeA States Pediatric Clinical Trials Network for Underserved and Rural Communities. *Pediatrics*. 2020 Oct;146(4):e20200290. doi: 10.1542/peds.2020-0290. Epub 2020 Sep 17.
- Annett RD, Bickel S, Carlson JC, Cowan K, Cox S, Fisher MJ, Jarvis JD, Kong AS, Kosut JS, Kulbeth KR, Laptook A, McElfish PA, McNally MM, Pachter LM, Pahud BA, Pyles LA, Shaw J, Simonsen K, Snowden J, Turley CB, Atz AM. Capacity Building for a New Multicenter Network Within the ECHO IDeA States Pediatric Clinical Trials Network. *Front Pediatr*. 2021 Jul 14;9:679516. doi: 10.3389/fped.2021.679516. eCollection 2021.
- Faricy L.E., Frankowski B, Consigli A, Le J. Clearing the Air: A Toolkit to Address Youth Vaping for Primary Care Practices. Vermont Child Health Improvement Program 2021.
- Harder, V.S., Shaw, J.S., McCulloch, C.E. Kill, L., Robinson, K.J., Shepard, M.T., Cabana, M.D., Bardach, N.S., Statewide Asthma Learning Collaborative Participation and Asthma-related Emergency Department Use, *Pediatrics* published online: Nov 23, 2020 (doi: 10.1542/peds.2020.0213)

# Rheumatology

DIVISION CHIEF  
MATTHEW  
HOLLANDER, M.D.

The Division of Pediatric Rheumatology provides patient-centered care to children and adolescents with a variety of musculoskeletal and autoimmune conditions. Our team includes a dedicated nurse, social worker and administrative support specialist. We have enjoyed meeting our families’ needs in Vermont and New York via telemedicine, including robust communication through the electronic medical record patient portal. Quality improvement efforts focus on screening for influenza and COVID-19 vaccinations and ensuring our patients have the knowledge and confidence for successful transition to an adult system of care. The division actively recruits patients for medication trials and patient registries, collaborating with centers nationally to advance effective treatments. In 2021, Dr. Hollander was elected to the UVM Medical Center faculty practice clinical operations and care coordination committee, continued research with the Vermont Child Health Improvement Program and earned a yellow belt in lean six sigma, an internationally-recognized certification in quality improvement science through the Technical University of Munich. Dr. Hollander supervises medical students for their pediatric subspecialty rotation.



### Publication

- Oliver M, Jayatilleke A, Wu E, Nuruzzaman F, Aguiar C, Lenert A, Romano M, Simonini G, Shah S, Hollander M, Alsaleem A, Fox E, Theos A, Ramanan AV, Schnabel A, Lapidus S, Tucker L, Onel K, Ozen S, Dedeoglu F, Ferguson PJ, Shea B, Akikusa J, Hedrich C, Mease P, Zhao Y. Establishing core domain sets for Chronic Nonbacterial Osteomyelitis (CNO) and Synovitis, Acne, Pustulosis, Hyperostosis, Osteitis (SAPHO): A report from the OMERACT 2020 special interest group. *Semin Arthritis Rheum*. 2021. PubMed PMID: 34176644

OTHER PEDIATRIC SPECIALTIES

DIVISION CHIEF  
ANN LAWRENCE,  
D.O.

Anesthesiology

The Department of Anesthesiology, Division of Pediatrics, provides anesthetic care to children of all ages and medical complexities. While the COVID-19 pandemic required restrictions on family members in the operating room and perioperative area, our nurses, child life specialists, and providers strived to make children and their families feel comfortable. We develop individualized plans focusing on children’s emotional, behavioral, social and medical needs that combine technology, simple techniques in mindfulness, and calming medications when necessary.

Highlights

- Kevin Abnet, M.D., led hospital-wide education for management of difficult pediatric airways.
- Melissa Davidson, M.D., continued in dual roles as Designated Institutional Officer and Interim Chair of Anesthesiology.
- Becky Evans, M.D., presented nationally and was named Chair of Quality for the Department of Anesthesiology.
- Monika Modlinski, M.D., streamlined the MRI program for children and special needs adults. A new intubation room in MRI improves the procedure for patients and providers.
- Marian Murphy, D.O., was invited to present as a visiting professor at Johns Hopkins University, on the medicolegal challenges of adolescent confidentiality.
- Emily Stebbins, M.D., continued leadership as Anesthesiology Residency Director, matching all spots.
- Brian Waldschmidt, M.D., led department efforts to expand EPIC and redefine our work group.
- Emmett Whitaker, M.D., received a two-year, \$250,000 Foundation for Anesthesia Education & Research (FAER\*) Mentored Research Training Grant for “Sevoflurane Induced Cerebrovascular Dysfunction in Infant Offspring from Preeclamptic Pregnancies

Dermatology

DIVISION CHIEF  
KEITH MORLEY,  
M.D.

Pediatric dermatology serves children and families with skin conditions ranging from common eczema, hemangiomas, moles and acne to rare diseases including ichthyoses, autoimmune skin disease, neurocutaneous disorders, and vascular malformations. Teledermatology remains a sizable portion of our visits, particularly for follow-up of eczema and acne. Procedural services offered in clinic include pulsed dye laser treatment of vascular birthmarks, simple excisions, botulinum toxin for hyperhidrosis, and diagnostic skin biopsies with sedation if needed. Presentations in 2021 included “A Review of Pediatric Trichotillomania” for UVM Pediatric Grand Rounds and “Viral Skin Diseases” and “Topics in Pediatric Dermatology” at the Dermatology Update for Primary Care Conference. Dr. Morley is a pediatric contributing editor for *Visual Dx* and a member of the Society of Pediatric Dermatology’s Education Committee and Certification & Maintenance of Certification (MOC) Committee. He is the advisory board representative of the Vermont Dermatology Society to the American Academy of Dermatology (AAD). The AAD hosts an annual Camp Discovery for children with chronic skin conditions, with participation of our faculty.

Publications

- Taylor DL, Wildin RS, Morley KW. Novel neonatal presentation of megalencephaly-polymicrogyria-pigmentary mosaicism syndrome (Mppm) related to MTOR mutation: Report of a case. *Pediatr Dermatol*. Published online December 16, 2020.
- Whittington CP, Stowman AM, Morley KW. Chondrodermatitis nodularis helicis in a teenager caused by frequent headphone use. *Dermatol Online J*. 2021;27(1).
- Ross ADJ, Bombardier N, Schuessler DC, Morley K. Float like a butterfly, sting like one too. *Pediatr Dermatol*. Published online May 31, 2021.

DIVISION CHIEF  
RAMSEY  
HERRINGTON, M.D.

Emergency Medicine

Despite the challenges of the pandemic, the four PEM attending physicians, Christian Pulcini, M.D., MEd, MPH, Joseph Ravera, M.D., Molly Stevens, M.D., MSCE and David Nelson, M.D., continued providing high-quality care to children and their families in the UVMHC Emergency Department.

Dr. Ravera remains actively involved in the recruitment and selection of EM residents. He became a course director for a foundations course for the second-year medical students and gave several lectures, both internally and as an invited lecturer to programs across the U.S. He serves as the PEM section editor for a nationally recognized EM Blog, *EMdocs.net*, and produces a podcast, *PEM GEMS*, with more than 10,000 downloads.

Dr. Nelson champions pediatric readiness and emergency medical services (EMS) education throughout the state. His projects include an EMS for Children (EMSC) web series, the Pedi-To-Go program, and EMSC telehealth, for which he received a \$41,000 grant. He serves on multiple committees including one focusing on pediatric stroke and UVM Health Network Quality Improvement.

Dr. Stevens is director of EM scholarship and faculty development, providing oversight for expanding EM research and scholarship capabilities. 2021 initiatives included establishing the EM Research/Scholarship Committee, reviewing EM Division grant application ideas, and hosting career and scholarship mentoring sessions. Dr. Stevens supports multiple ongoing funded projects, as well as a rural pediatric health care quality improvement project with collaborators at Johns Hopkins. In 2021 she led seminar groups for LCOM Surgery 200 and 201 courses, maintained involvement in EM and Pediatrics resident didactics, participated in national academy and journal peer reviews, and contributed to textbooks.

Dr. Pulcini remains active in research, advocacy, and quality improvement initiatives along with clinical time in the ED. He recently earned a grant to implement trauma-informed care in the ED and a grant to support children and adolescents in mental health crises in the ED. He published and presented more than 20 peer-reviewed articles and research presentations at national meetings during the past academic year. He participates on six standing professional committees across four major national medical organizations, including two national leadership positions involving emergency medicine research and advocacy in pediatric emergency medicine.



## Neurology

**DIVISION CHIEF**  
**PETER BINGHAM,**  
**M.D.**

The pediatric neurology group includes Peter Bingham, M.D., Brad Clopton, CNP, Deborah Hirtz M.D., and Gregory L. Holmes, M.D. We see patients from Vermont and Northern New York both in person and via telemedicine. Judging from families' responses, we have seen how remote visits can lessen the transportation burden and improve travel safety. We work closely with psychologists and psychiatrists on cases involving social and emotional challenges and frequently conduct consults in the ED and Neonatal ICU. Ongoing quality improvement focuses on the prescription of rescue medications. Subspecialty work continues in the neuromuscular clinic, and we provide integrative health coaching for children with chronic pain or neuropsychiatric disorders. Educational collaborations with child psychiatry provide training for psychiatry, pediatrics, and neurology residents, and medical students. Advocacy work includes media education about adverse neurodevelopmental effects of noise pollution, and we work with local organizations to improve mental health care and music exposure for children in our community. Drs. Holmes and Hirtz collaborate with neonatologists on a clinical study of sleep in infants with abstinence syndrome. Dr. Hirtz advocates with Targeting Environmental Neurodevelopmental Risks (TENDR) and serves on the Vermont State Concussion in Schools Task Force and the Vermont Citizens Advisory Committee on Chemical Management. Dr. Holmes' research explores treating cognitive deficits following early-life seizures.

### **Publications:**

- Evidence for Environmental Influence on ASD Risk: Considering Toxic Chemicals in the Etiology of Autism. Volk HE, Ames JL, Chen A, Fallin MD, Hertz-Picciotto I, Halladay A, Hirtz D, Lavin A, Ritz B, Zoeller T, Swanson M., *Pediatrics Perspectives*, Nov 30, 2021.
- Disruption of hippocampal rhythms via optogenetic stimulation during the critical period for memory development impairs spatial cognition. Kloc ML, Velasquez F, Niedecker RW, Barry JM, Holmes GL. *Brain Stimul.* 2020 Nov-Dec;13(6):1535-1547. doi: 10.1016/j.brs.2020.08.011. Epub 2020 Aug 29. PMID: 32871261

## Pediatric and Perinatal Pathology

**DIVISION CHIEF**  
**AMELIA SYBENGA,**  
**D.O.**

The pediatric and perinatal pathology division changed substantially in the last year. Adjustments to laboratory tissue management practices, and streamlining and clarifying orders for the clinical and laboratory teams, improved tissue processing quality and speed for pediatric solid tumors and non-malignant entities, including Hirschsprung's disease. These efforts resulted in rapid turn-around time for diagnoses, with most solid tumors and Hirschsprung diagnoses being reported in 24 hours or less from the time tissue was acquired, allowing clinical teams the ability to quickly initiate definitive treatment plans. Additionally, all cases of pediatric solid tumors eligible for clinical trial had adequate tissue available to meet or exceed Children's Oncology Group specimen requirements.

To improve turn-around time and diagnostic clarity in placental and perinatal pathology, Dr. Sybenga completed a two-week intensive sabbatical with Dr. Drucilla Roberts, a world-renowned perinatal specialist at Massachusetts General Hospital. This educational experience resulted in multiple changes in placenta pathology, and pediatric and perinatal autopsy practices, and more quickly providing parents and clinical teams with much-needed answers.

## Psychiatry

**DIVISION CHIEF**  
**JAMES HUDZIAK,**  
**M.D.**

The Division of Child and Adolescent Psychiatry includes the Vermont Center for Children, Youth, and Families (VCCYF), home of Vermont Family Based Approach, a health promotion, illness prevention, and family wellness concept for the care and well-being of all families. VCCYF responded to the events and circumstances of the past 18 months by creating a diversity, equity and inclusion/social justice platform, and affirmed our commitment to underrepresented gender minorities. Jim Hudziak M.D., Yasmeen Abdul-Karim, M.D., and Sarah Guth, M.D., partnered with the Janet Munt Family Center in Burlington to bring the Vermont Family Based approach to new American families in their communities.

Under the direction of Haley McGowan, D.O, the VCCYF/Child and Adolescent Psychiatry and Psychology Consult service (CAPPCON) demonstrated incredible commitment and agility in the service of an overwhelming number of children in emotional and behavioral crises in the emergency department and as pediatric inpatients.

The VCCYF outpatient clinic, directed by Andy Rosenfeld, M.D., provides state of the field family-based care. During this past year, the clinic pivoted to a telemedicine platform for outpatient services. In collaboration with VCHIP, we produced a telemedicine satisfaction questionnaire, performed a quality improvement study, and produced a paper that identifies which patients and families are best served via remote or in-person settings.

The pandemic has been hard on children and families who struggle with an autistic spectrum illness, and the VCCYF Autism Assessment Center offered support to this community. Jeremiah Dickerson, M.D, Michael Hoffnung, D.O., Molly Bumpas, MEd/SLP, and James Tallmadge, PhD, provide in-person care to these families.

The collaborative VCCYF/UPEDS Brain-Body-Buddy program teams senior pediatric residents with child psychiatry fellows, and junior pediatric residents rotate through the VCCYF to gain additional expertise in assessment and treatment of child and adolescent emotional and behavioral problems. The VCCYF fellowship, directed by Maya Strange M.D., now includes eight fellows. The fellowship training provides important ongoing clinical care in the above services and programs and generating child psychiatrist positions in Vermont and nationwide. VCCYF researcher Ellen McGinnis, Ph.D., received a career scientist award for her novel work in using biosensors to better diagnose children and adolescents struggling with anxiety and other psychiatric disorders. In addition, Dr. McGinnis published several papers in high-impact journals. Dr. William Copeland, Director of Research for VCCYF, was cited as one of the top 1% of cited scientists in the world.



**JIM HUDZIAK, M.D.**

**DIVISION CHIEF  
MARLENE MARON,  
PH.D.**

## Psychology

The Pediatric Psychology Service quickly pivoted to provide outpatient psychotherapy and specialty clinic consultations via telemedicine. Inpatient consultation to Baird 5, NICU and PICU continued as needed, and we now offer both in-person and telehealth services in all of our areas. Our providers have been particularly active in serving children, teens and families in gastroenterology, pediatric hematology-oncology, endocrinology, transgender youth program and eating disorder consultation clinics. We appreciated the opportunity to serve families challenged by cystic fibrosis via telehealth, as this allowed us to broaden our reach and provide psychological support to families who would otherwise not receive care.

### Highlights

- Rebecca Ruid, Ph.D., began offering school-based groups to Burlington High school students struggling with anxiety and depression who would otherwise wait long times for psychotherapy due to limited community resources.
- Courtney Fleisher, Ph.D., ABPP, and CAPPCON colleagues developed a pilot project for young patients awaiting psychiatric placement to board on Baird 5 rather than remain in the ED. She also spearheaded updating and implementing revised guidelines for the care of patients with eating disorders admitted for medical stabilization.
- Psychological screening continues for patients with irritable bowel disease and now includes assessment in both in-person and telehealth modalities.
- A new COG trial for ALL is underway, with Kimberlee Roy, Ph.D., administering computer-based neuro-cognitive testing for patients in Jessica Heath, M.D.'s study. Dr. Roy initiated a plan to provide equitable, low cost psychological testing services to be implemented in pediatric hematology-oncology. Dr. Roy became an examiner for the American Board of Professional Psychology Child and Adolescent Psychology certification.
- Aubrey Carpenter, Ph.D., joined the Adolescent Eating Disorder Consultation Clinic and is cultivating relationships with community providers to assist them in caring for patients with Anorexia Nervosa and other eating disorders.
- Pamela Swift, Ph.D., joined the sleep program, providing families and patients of all ages consultations for healthy sleep practices.
- The Department of Psychological Services actively engaged with organization-wide Diversity, Equity & Inclusion initiatives and training aimed at promoting health equity and social justice for all.

## Radiology

**DIVISION CHIEF  
TIMOTHY HIGGINS,  
M.D.**

Pediatric Radiology focuses on the unique needs of children who require medical imaging. Various imaging techniques are used, including ultrasound and regular x-rays, as well as advanced imaging studies such as MRI, CT scan, and nuclear medicine studies. Our department uses the most current ultrasound technology, including contrast enhanced ultrasound capabilities. Teaching radiology residents and pediatric residents on elective is central to the division's mission. Outreach to Angkor Hospital for Children in Siem Reap, Cambodia, is ongoing through frequent online consultation with their pediatric radiologists. Quality improvement initiatives include shortened MRI protocols to decrease or eliminate sedation time. Pediatric radiology participates in oncology research and works closely with the Child Safe Program team in cases of suspected physical abuse.

**DIRECTOR  
JASON REVOIR,  
M.S.**

## Pediatric Outpatient Services

This past year has been an incredible year for Pediatric Outpatient Services. We provided our same great patient and family centered care approach, while greatly enhancing our telehealth services for primary care and specialty care. We increased our focus on caring for patients' and families' social, physical, and mental health needs, with enhanced food insecurity screenings, providing food to families, providing equitable care to all children and families in our region, and supporting mental health.

### The Children's Specialty Center

The Children's Specialty Center provides outpatient care in 20 pediatric specialties and multi-disciplinary programs for approximately 120 patients per day. This year we continued to focus on providing great access to our specialty care, through in person and telehealth, and began to look at the addition of new services such as pediatric palliative care. Families have been actively screened for social determinants of health and, when needed, have received food from our new food pantry.

### Pediatric Primary Care - Burlington and Williston

Pediatric Primary Care services are located at 1 South Prospect Street in Burlington and in Blair Park in Williston. We also offer primary care services in Burlington and Winooski schools. We continue to enhance care services related to social determinants of health, developmental screenings, and behavioral health. Although the pandemic has posed challenges, we have made it our focus to continue to provide well-child care and vaccinations by implementing safety and social distancing guidelines. We continue a collaboration with the Janet S. Munt Family Room to bring Andrea Green, M.D., there one day per week to provide well-child services and family education to New American families.

## Women's Care and Pediatric Service

The Women's Care and Pediatrics professional nursing service line provides patient- and family-centered care from birth to adolescence.

### Inpatient Pediatric Unit

Baird 5, along with the PICU, Vascular Access team (VAT), Phlebotomy, Child Life, and Family Advisors, has worked on many aspects of improving patient care, as well as education for staff. A pain prevention plan for the Children's Hospital is being developed in order to reduce or eliminate trauma for hospitalized children. We are beginning by focusing on needle procedures-IV starts and blood draws being the most common. The first phase has involved education and awareness for our nursing and resident staff around the use of EMLA, Synera and Sweet-ease, and changing order sets to include these. The second phase will be rolling out a "poke plan" on Baird 5. This will involve the RN/Child Life team introducing the concept of "poke plan" and then working with the child and parent to create a plan. The VAT and phlebotomy teams will be made aware of the plan prior to beginning their procedure. We also have been incorporating evidence-based practice via Solutions for Patient Safety, to continue to keep our hospital-acquired conditions low or non-existent; our main focus at this time has been on central line infections. Upcoming Education Days for staff will be based on training around mental health issues and de-escalation techniques due to the increase in adolescent behavioral health patients being seen in the ED and on Baird 5.

### Comfort Zone

The Comfort Zone is a child- and family-friendly outpatient pediatric sedation center that focuses on coordinating care for complex pediatric patients working in collaboration with community providers, specialists,

**DIRECTOR  
LAUREN  
TRANSGARD-  
SCOTT, R.N.,  
BSN, MSOL**

anesthesia, and families; completing anesthesia reviews to assure patient readiness for procedures; supporting children and families having procedures requiring anesthesia or oral sedation outside the OR; and supporting the pediatric lab by applying topical analgesia, and providing blood draws when needed. Quality Improvement projects in 2021 included changing workflows so recovering patients go to the PACU and began completing the Dental population PAT's (Preop Anesthesia Telephone Calls). This helped the organization with PAT completions. We have worked with the radiology nurses to take our sedated voiding cystourethrogram patients off the floor to the procedure room and, in return, we take patients requiring nuclear medicine under the age of 10, relieving the burden for radiology nurses. This has been a positive change.

**Mother-Baby Unit**

Throughout 2021, the Baird 7 Mother-Baby Unit continued its mission to deliver high-value, patient and family-centered care. As a specialty unit, the Baird 7 team provides personalized care to newborns, post-partum, and antepartum patients and their families. We care for approximately 2,100 newborns and their families each year. Despite the challenges of delivering healthcare in the midst of a pandemic, Baird 7 stayed focused on safety and quality through various goals and initiatives. Baird 7 Mother-Baby Safe Sleep Champions worked to recertify The UVM Children's Hospital as a Gold Level Safe Sleep facility through the Cribs for Kids network. As part of this Safe Sleep initiative, every Baird 7 Mother-Baby family received a swaddle blanket to bring home with their newborn. Additionally, the project provided over 100 cribs to Baird 7 families who lacked a safe sleep space at home. Our Champions continue to share the Safe Sleep message through educational opportunities in community, including educating emergency providers and home health staff. Baird 7 Safe Sleep Champions, with the goal of providing new families with education and resources, created a "New Family" Community on Facebook. Vermont continues to have some of the highest breastfeeding rates in the country. In order to continue supporting this good work, a formalized RN Inpatient Lactation Consultant Specialist position was created. This role will serve patients directly, but will also work with current Baird 7 Mother-Baby International Board-Certified Lactation Consultants to focus on program and content development, and provide education to patients, families, nurses and providers across the organization. Additional unit milestones for 2021 include implementation of two Joint Commission standards meant to reduce the risk of maternal morbidity through the prevention and treatment of post-partum hemorrhage and hypertensive crisis. Newborn initiatives include Fall/Drop prevention and education, and infant band identification and safety.

**Neonatal Intensive Care Unit 2021**

Our 20-bed Level III NICU and nine-bed step-down unit is a regional referral center that provides a collaborative team approach to care for premature and critically ill newborns. This past year our NICU came in second in a National Babies with Books National read-a-thon where we participated with over 50 other NICU's throughout the country to read to our babies in the NICU. We recently completed our second read-a-thon. Our NICU participates in quality improvement through the Vermont Oxford Network (VON). Current work involves offering families of very low birth weight infants a matching family advisor that helps provide non clinical support as families prepare for discharge and adjust to life with their new baby when at home. Feedback to date has been very positive. We have also worked on improving appropriate developmental support for infants in the NICU, including instructing staff and parents on how to offer infant massage.

**PEDIATRIC SURGICAL SPECIALTIES**

**General Surgery**

The Division of Pediatric Surgery, staffed by two board-certified pediatric surgeons, James Murphy, M.D., and Kenneth Sartorelli, M.D., provides the full range of general and thoracic surgical care for children from the newborn period through early adolescence, including prenatal consultation. Conditions treated include congenital malformations, childhood malignancies, and acquired surgical conditions of the head and neck, chest, abdomen, and genitourinary system. We work with other pediatric medical and surgical subspecialties to provide multimodal care for children with complex conditions. The pediatric surgical team oversees trauma care in our regional American College of Surgeons-verified pediatric trauma center. We work closely with our pediatric anesthesia colleagues to provide surgical care for infants under regional anesthesia when appropriate, avoiding the need for general anesthesia.



**Neurological Surgery**

Pediatric Neurosurgery has had some major changes over the past year. Along with the return of Dr. Katrina Ducis to UVMMC, Ruth Foerster, R.N., has also rejoined the pediatric neurosurgery team. Ruth has allowed for improved patient communication and fantastic family satisfaction. New advances have been made, including less invasive endoscopic surgery for the treatment of hydrocephalus, allowing the avoidance of placement of ventriculoperitoneal shunts. Continued use of computer-guided navigation to remove brain tumors from even the smallest patients in a safe and precise fashion. Combined clinics have allowed for more convenient care of our craniofacial, neuro oncology, and spina bifida patients and further physician collaboration. With the help of our local geneticist, the craniofacial team continues to reach out locally to retain complex patients in the UVMMC community while treating them with world-class care. The pediatric tumor board has also returned in person, which now allows for local expertise to discuss best methods for pediatric brain tumors. Research efforts are underway to accurately diagnose craniosynostosis without the use of radiation. In addition, there is an invigoration of effort to better treat our traumatic brain injury patients in a creative but still multidisciplinary fashion.

**DIVISION CHIEF  
KENNITH  
SARTORELLI, M.D.**

**DIVISION CHIEF  
KATRINA DUCIS,  
M.D.**

**DIVISION CHIEF  
SUJATA SINGH,  
M.D.**

# Ophthalmology

The UVM Pediatric Ophthalmology and Strabismus Clinic provides comprehensive ophthalmic evaluations, amblyopia therapy, and surgical treatment for pediatric ophthalmic diseases. As with every aspect and specialty of healthcare, the pandemic has shaped pediatric ophthalmology, especially in minimizing the risk of exposure to COVID-19. Some specific changes have included suspending use of the waiting room (with its rocket ship and sundry toys—the kids, of course, noticed this change right away), limiting the number of people accompanying the patients, and altering room turnover protocol. We have been fortunate that the common experience of living in a pandemic has resulted in the understanding of our patients and their families as we balance all these changes with the duty to serve. During this time we continue to pursue the opportunities to alleviate the burden of amblyopia in the global community. One important branch of this effort was the Division of Ophthalmology’s second annual celebration of International Agency for the Prevention of Blindness’ World Sight Day 2021 on October 14, 2021; the theme this year was “Love Your Eyes.” Our orthoptist, Sheila Chamberlin, is initiating the American Academy of Ophthalmology’s International Pediatric Ophthalmology and Strabismus Council’s endeavor in The Gambia to establish Africa’s first Orthoptic training program in The Gambia. This will dovetail with UVM Pediatric Ophthalmology’s project to establish a mandated vision screening program in The Gambia. This goal can only be sustainable with local professionals trained in evaluating and treating those children referred from vision screening. Faculty will travel to The Gambia this year to begin the first phase of this project, which will include surveys and identifying screening personnel. We look forward to another year of serving the community in clinic, the OR, and with our outreach ventures.



# Otolaryngology

**DIVISION CHIEF  
HEATHER  
HERRINGTON, M.D.**

Pediatric Otolaryngology provides comprehensive medical and surgical care to children with congenital and acquired ear, nose and throat conditions. Our team includes two fellowship-trained, board-certified pediatric otolaryngologists, Richard Hubbell, M.D., and Heather Herrington, M.D. We provide collaborative care through two multidisciplinary clinics: the Aerodigestive Clinic for children with complex airway, swallowing, and gastrointestinal concerns, and the Craniofacial Clinic for children with congenital craniofacial anomalies.

**DIVISION CHIEF  
THOMAS  
WILLSON, M.D.**

In collaboration with providers in Pediatric Pulmonology, Pediatric Intensive Care, Anesthesia, Emergency Medicine, Respiratory Therapy, and Nursing, Dr. Herrington received a Frymoyer Grant for the care of children with difficult airways. Other ongoing quality projects include a multidisciplinary initiative to improve the care of children with tracheostomies both in and out of the hospital, and the care of children with congenital hearing loss, particularly CMV-related. Dr. Hubbell has an ongoing research study evaluating the use of white-noise machines and hearing loss in children. Dr. Herrington serves as president of the Pediatric Otolaryngology Committee for the American Academy of Otolaryngology–Head and Neck Surgery.

**Publication**

- Tami A, Gerges D, Herrington H. Stridor Related to Vagus Nerve Stimulator: A Case Report. *Laryngoscope*. 2021 May;131(5):E1733-E1734. doi: 10.1002/lary.29144.

# Plastic Surgery

The pediatric plastic surgery team provides comprehensive plastic and reconstructive surgery care to children in Vermont and upstate New York. We are involved in two multidisciplinary clinics. The Cleft and Craniofacial clinic is an American Cleft Palate-Craniofacial Association-approved team that provides one-stop care for children with facial differences in coordination with the pediatric genetics, pediatric otolaryngology, speech pathology, social work and dentistry teams. The Heads Up clinic is a joint pediatric plastic surgery and pediatric neurosurgery clinic treating children with head shape differences such as plagiocephaly and craniosynostosis. Over the past year we have continued to work to improve access to our services for children throughout the region.

**Publication**

- Shihadeh H, Willson TD. Multidisciplinary treatment of a pediatric orbital roof fracture: Case report and literature review. *Plast Reconstr Surg Glob Open*. 2021 Jan 22; 9(1): e3347. PMID 33552811

# Urology

Pediatric Urology has continued to provide high-quality care throughout the pandemic. Patients and families continue to be seen in person and via telemedicine when travel is impractical. Our two fellowship-trained pediatric urologists maintain our pre-COVID clinical outreach at CVPH and Rutland Regional Medical Center. This expansion improves access to services, including a multi-specialty voiding dysfunction clinic with a special emphasis on children with developmental disabilities such as autism, a multidisciplinary myelomeningocele clinic, and robotic minimally invasive surgical treatment for even the most complex reconstructive procedures. These two sites also offer the ability to have many routine surgical procedures performed closer to home. We continue our relationship with pediatric urology at Children’s Hospital of Philadelphia. This includes participation in clinical care conferences and access to world-class expertise for the most complex urologic conditions. Pediatric Urology is active in both clinically based and basic science research. Through several private grants we are looking at ways to determine how kidney obstruction leads to permeant damage and how we can determine who is at the greatest risk. We also maintain a significant level of NIH R01 funding to study the effect of stress on bladder function. The need to better understand the role of stress in altering bladder physiology has never been more important in light of the increased anxiety children and families are experiencing due to COVID.

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