

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



2023 Annual Report

It gives me enormous pleasure to introduce the annual report for the Department of Pediatrics at the Robert Larner, M.D., College of Medicine and the University of Vermont Children's Hospital.



Lewis First, M.D.

IN 2023, OUR DEPARTMENT AND children's hospital continued to grow and develop its clinical and academic programs. Clinically, it was exciting to see us become a "network department" as we integrated pediatric primary care and nursery services at our New York and Vermont partner hospitals in the University of Vermont Health Network. Sharing care improvements and having members of our partner sites participating actively in all department and children's hospital activities has enabled us to ensure the highest quality care throughout the network—details that you will read about in this report.

In this report, we highlight the growth and development of our Pediatric Advanced Care Team, a new palliative care program that has done extraordinary work in its first year of operation, creating the ability to provide unique models of palliative care delivery in communities where this was not possible previously.

In our desire to feature the scholarly work of faculty in each annual report, we focus on Dr. Ben Lee, associate professor of pediatrics, and the remarkable progress he has made in epidemiology and immunology of viral pathogens and

strategies to combat viruses locally and globally. It is exciting research that is well worth learning about.

Our department continues to grow with more than 90 clinicians, educators, and investigators who are part of our network department and more in other departments, including pediatric surgery, neurology, anesthesia, and emergency medicine. While we expand programs and services, we also stay true to our mission, vision, and commitment to actively demonstrate diversity, equity, inclusion, and social justice in all that we do. Updates of these accomplishments across divisions and programs are highlighted in the pages that follow.

I hope you will join me in expressing gratitude and appreciation to our pediatric faculty and staff, including physicians, advanced practice professionals, nurses, staff, trainees, administrators, and patient and family advisors, for their outstanding commitment to making us the high-quality, child-friendly, family-centered network department and children's hospital that we are today. Special thanks to Sue Victory, who, though retired, continues to give time to special projects including editorial work on this annual report.

2024 represents my 30th year

as a department chair and children's hospital chief and the 74th anniversary of our founding as a department in 1950 by Dr. R. James McKay, who served as chair for 33, years followed by Dr. Carol Lee Phillips for the next ten years. Following in the footsteps of these two amazing leaders, whose legacy carries forward in all that we do, remains an honor that I value most highly, because it enables me to be a part of an extraordinary team doing extraordinary work. As you read this year's annual report, you'll see just what I mean!

A handwritten signature in black ink that reads "Lewis R. First".

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: Infectious disease specialist Benjamin Lee, M.D., investigates immune system development in undernourished children with undergraduate research assistant Erika Bopp '25 and lab research technician Forida Nazib. See story on page 4.

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Celebrating Our 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 earned emeriti status in recognition of their dedication to patient care, research and teaching

UVM CHILDREN’S HOSPITAL EMERITI FACULTY

Stephen Contompas, M.D.
1994 - 2016

Ann Guillot, M.D.
1979 - 2017

Barbara Frankowski, M.D.
1985 - 2018

Eliot Nelson, M.D.
1991 - 2018

Richard Wasserman, M.D.
1983 - 2019

Craig Lawrence Kien, M.D., Ph.D.
2004 - 2019

Barry Heath, M.D.
1981 - 2020

Ann Wittpenn, M.D.
1997 - 2020

Leah Burke, M.D.
2001 - 2020

Richard Colletti, M.D.
1974 - 2020

Alan Homans, M.D.
1992 - 2021

Judith Shaw, Ed.D., M.P.H., RN
2000 - 2021

Wendy Davis, M.D.
1987 - 2022

Neils Giddins, M.D.
2007 - 2022

Scott Yeager, M.D.
1985 - 2022

A Global Health Curriculum for Pediatric Residents

With the support of the NuVance/Larner College of Medicine’s Global Health Program, and with input from the many LCOM Pediatric faculty with global health experience, the UVM Pediatric Residency program rolled out a new global health curriculum in July of 2023. The three-year rotating curriculum is for all of pediatric residents and is integrated into classroom, clinical, and experiential learning.

Led by Andrea Green, M.D., professor of pediatrics and an expert on immigrant and refugee health care, and Anisha

Rimal, M.D., assistant professor of pediatrics, faculty lend their expertise to teach about global health issues pertaining to the newborn, child, and adolescent and to share their experiences integrating global health into their careers. In clinic and interactive learning conferences, residents learn how to resettle a newly arrived immigrant child in the clinic setting, how to take an immigration history, how to screen for trauma and social drivers of health, and how to provide culturally safe and humble care.

Residents also have opportunities to do electives abroad during their third year.

Trina Thornburgh, M.D., who is bilingual in Spanish, will spend an elective rotation this summer in the Dominican Republic at Universidad Iberoamericana.

The Intercultural Developmental Inventory (a tool that assesses cultural humility) and a resident survey will be used to evaluate the resident global health curriculum. A poster outlining the Pediatric Global Health curriculum evaluation model was presented at the UVM Teaching Academy’s Snow Season retreat and has been submitted to the American Pediatric Program Directors annual meeting.

COLLABORATIVE CARE

The UVM Children’s Hospital Patient- and Family-Centered Care (PFCC) program is dedicated to the core concepts of dignity and respect, information sharing, participation, and collaboration. Our multidisciplinary team of 45 advisors share their time, wisdom, and stories of lived experience to improve care and honor patient and family perspectives across the UVM Children’s Hospital. In addition, Patient/Family Advisory Council (PFAC) co-chairs Amelia Briggs, who serves as an advisor, and Lisa Emerson, RN, B.S.N., nurse manager of inpatient pediatrics and child life, collaborate with staff to enhance the delivery of high-quality care.

During the past year, the PFAC has focused on the theme of health literacy—the ability of an individual to understand, appraise, and apply information to inform health-related decisions. In partnership with the UVM Health Network health literacy specialist, advisors consult on wayfinding through the hospital, educational brochures, in-person communications, interpreting lab results, and other aspects of health literacy. In October, the PFAC led a Grand Rounds presentation titled “Health Literacy Through the Family Experience.” Approximately 150 audience members attended in person and online.

Councils, committees, and projects under the PFCC umbrella also include the Trans Youth Council, NICU

Bereavement Committee, Food Security Action Team, and Complex Care Task Force. Three young adult advisors partner with the Vermont Child Health Improvement Program (VCHIP) team on youth-to-adult transition of care.

“Engaging young adult patient advisors has brought the voice, perspectives, and opinions of young people to our project. Partnering with young adults who have the experience of transitioning from pediatric- to adult-focused care helps our team identify key areas for improvement as well as ensuring that any changes align with the unique needs of youth,” says Alyssa Consigli, RD, CPHQ, VCHIP project director and quality improvement coach.

PFCC coordinator Vicki Mascareño Nelson, M.Ed., integrates equity, diversity, inclusion, and belonging into the program through community partnerships with organizations including Vermont Family Network, the Janet S. Munt Family Room, Howard Center Cultural Liaisons Team, and Outright Vermont. In September, Nelson’s expertise and passion for this work was shared nationally in a webinar sponsored by the Institute for The Patient- and Family-Centered Care, titled “More Than Checking a Box: Strengthening DEI in Children’s Hospital PFACs.” A newly formed Health Equity Rounds Committee will include advisors with a variety of lived experiences and identities to share stories and advise on health equity topics.

CHILDREN’S HOSPITAL SUCCESSES

Medication Errors

A team representing each of the pediatric units, including Quality and Safety, Emergency Department, Pharmacy, and Primary Care, reviewed every medication-related patient safety (SAFE) report and determined appropriate action plans. In 2023 this group reviewed more than 210 SAFE reports.

Falls

There were no falls with injuries in 2023 on any of the pediatric units

Pressure Injuries (PI)

- NICU has not had a PI since April 2023
- Baird 5 had no PIs in 2023
- PICU has not had a PI since March 2023

Central Line Associated Bloodstream Infections (CLABSI)

- NICU has not had a CLABSI since August 2023
- Baird 5 has not had a CLABSI since March 2023
- PICU is over 4 years CLABSI-free

Catheter-Associated Urinary Tract Infections (CAUTI)

- NICU does not experience such events
- Baird 5 has not had a CAUTI since March 2020
- PICU has not had a CAUTI since January 2017



Bridging Gaps in Immunity

Benjamin Lee, M.D., in his laboratory in Stafford Hall. Below right, Dr. Lee works with undergraduate research assistant Erika Bopp '25, research technician Forida Nazib, and faculty scientist Mel Symeonides (not pictured).

UNDERNOURISHED CHILDREN are more vulnerable to pathogens and more likely to die from severe infectious disease. Each year, undernutrition contributes to nearly 50 percent of global deaths in children under five years old, with most deaths occurring in low- and middle-income countries (LMICs), particularly in sub-Saharan Africa and Asia. While the mechanisms driving this vulnerability are not understood, current findings point to gut health as a contributing factor.

“We think it is something about the intestinal environments in undernourished children that makes these children more vulnerable to severe infection,” says Benjamin Lee, M.D., associate professor of pediatrics. Lee is the principal investigator on a four-year, \$2.04 million R01 grant from the National Institute of Child Health and Human Development to study the intersections of undernutrition with the intestinal microbiome and immune system development among children in Bangladesh.

This new project builds upon eight years of Lee’s ongoing re-

search at UVM, initially as Research Project Leader in the Translational Global Infectious Diseases Research Center (TGIR). The TGIR aims to decrease the burden of global infectious diseases, particularly in LMICs, while developing the research careers of outstanding junior faculty in this field.

Lee’s previous investigations have focused on the correlates of immunity to vaccine-preventable illness in resource-limited settings. Since joining the faculty in 2015, Lee has focused specifically on identifying immune correlates of protection for rotavirus, which



causes severe diarrhea and kills more than 100,000 children each year. While vaccines effectively prevent rotavirus in children living in high-income nations, these same vaccines are only half as effective in LMICs. Lee's findings implicate multiple factors to vaccine response.

Lee's current projects also include a Bill & Melinda Gates Foundation grant to investigate adenovirus infections in LMICs and a supplemental award from the TGIR program, jointly funded with Jessica Crothers, M.D., assistant professor of pathology and laboratory medicine, to examine the infant gut microbiome and how this relates to immunity to vaccines for rotavirus and polio.

Lee further serves as director of the TGIR visiting scholar program, which hosts scientists from LMIC at UVM to stimulate academic collaborations. Since launching the program in 2022, Lee has hosted scientists from South Africa, Thailand, and Zambia. Through international partnerships, the Lee lab helps to reduce the disproportionately high burden of diseases in lower resource regions and save the lives of children around the world. ■



Food As Medicine

One in three Vermonters experienced hunger at some point during the past two years, according to Hunger Free Vermont, an organization that works to end hunger statewide. Families with children were five times more likely than others to face food insecurity, defined as not having access to sufficient food to meet one's basic needs. For families experiencing food insecurity, finding help can create stress and anxiety, especially when also navigating an illness.

Through a grassroots effort led by the pediatric cystic fibrosis care team and key partners, the UVM Children's Hospital operates a "food pharmacy" in the Children's Specialty Center. Each week, 20–30 families receive canned and boxed food, frozen vegetables and meat. The seeds of this initiative were planted in the mid-2010s, and, through state grants and philanthropic support during the past several years, it has become an invaluable resource to pediatric patients and families.

"We had been screening for food insecurity on our inpatient pediatric unit since 2012, and we found that patients with cystic fibrosis had a higher rate of food insecurity," says Keith Robinson, M.D., associate professor of pediatrics and a pediatric pulmonologist. "This is important because patients with cystic fibrosis often have trouble absorbing food and calories. They also need more calories to fight off infection. Not having access to food was a real threat to their health."

Once the scope of need was



identified, the idea to help families access nutritious food within the Children's Hospital took shape. "Initially, Christine Prior, our clinic social worker, and I purchased some food and kept it in the physician dictation room," says Robinson. Donations and a grant from the Vermont Foodbank helped increase the food supplies. "Currently, we have a large closet containing the food with a refrigerator and freezer. Demand is definitely growing."

Over time, access to the food pharmacy expanded to additional families in the pediatric inpatient unit, children's specialty center, and pediatric primary care. "Our inpatient units and primary care clinics now also screen for food insecurity and other health-related social needs. They can also provide grocery cards for patients and families," said Robinson, adding that all families who screen positive for food insecurity receive referrals to local resources in addition to a share from the food pharmacy.

While the core goal of the pharmacy is to feed hungry families, it also builds trust between families and care providers, Robinson says. "I feel that they trust our teams more because we are really thinking about what they need to be healthy," including reducing food insecurity and stress.



Reflections on the Pediatric Advanced Care Team

Jeanne Dube, R.N., Lisa Anne Rasmussen, M.D., and Kaitlin Ostrander M.D. (left to right) pose for a photo in the Children's Specialty Center.

FAMILIES AND PROVIDERS caring for pediatric patients with serious illness can feel overwhelmed by difficult decisions and symptom care throughout the course of illness and at end of life. The UVM Children's Hospital established the Pediatric Advanced Care Team (PACT) in October 2022 to add a layer of support to the care of children with serious, life-limiting illness. While PACT is relatively new, families and health care providers both have come to rely on PACT's assistance and guidance.

Launched by Lisa Anne Rasmussen, M.D., Kaitlin Ostrander M.D., and Jeanne Dube, R.N., the PACT team collaborates with providers

throughout labor-delivery, mother-baby, neonatal intensive care (NICU), pediatric intensive care (PICU), inpatient pediatrics, the children's specialty center, community pediatric and family medicine offices, as well as home care and home hospice agencies across Vermont and northern New York.

Many families turn to PACT as a sounding board for making difficult medical decisions amid their child's journey. "At the heart of this program lies a shared belief among everyone at the Children's Hospital that every child and every family matters unconditionally, transcending the boundaries of their diagnosis," says Ostrander. "Our commitment is that no matter what a family is up against, we can guide

care in a way that does right by children and their families."

Joanne Besaw, M.S.W., case management supervisor in Women's Service, emphasizes PACT's comprehensive approach. "In caring for a child whose parent sought a more holistic understanding of their baby's severe illness amid the daily critical care focus, the team actively listened to the mother's concerns, offering support and collaborating with the team to navigate the challenges of an extended hospital stay."

Along with caring for patients and families, PACT serves providers attending to patients with intense specialized care needs. "I've been struck by how much our colleagues and teams have been carrying

themselves in the years prior, and I hope that us being here and being able to lean in will support them,” says Rasmussen. “This work takes a village, and we are grateful for the village we are now part of.”

NICU providers attest that PACT

has become an integral part of assisting families with navigating and understanding exceptionally complex cases in the context of who they are as a family. Parents share how thankful they are to have had somebody by their side

to help protect what was most important and meaningful during their parenting journey, from the pre-planning alongside families and teams prior to birth, through bedside care, and to the debriefs they hold after a difficult case. ■

New Chaplain for Pediatrics Patients, Families, Employees

While experiencing illness or injury, people in the hospital are severed from their routines, aspirations, and the things they cherish. For young people and their caregivers, this can be especially disruptive and painful.

Addressing patients' spiritual needs as part of their overall well-being is the role of a hospital chaplain. In 2023, a grant from the Children's Miracle Network Hospitals Fund enabled UVM Children's Hospital to hire chaplain Katherine Daniels, M.Div., M.S., M.B.A., to care for pediatric patients, families, and employees. From February through November 2023, Daniels made 575 patient and family visits across seven pediatric units. She has also delivered more than 100 hours of skilled support to dozens of children's hospital employees, contributing to reduced stress, burnout, and turnover.

Spiritual care involves addressing existential issues like meaning, identity, belonging, purpose, and loss. “These are not necessarily things other staff are trained in,” Daniels says. Part of a hospital chaplain's job is to understand patients' and families' values and beliefs to share with care team members, so they understand the whole person. Within the UVM Health Network, all chaplains are trained on the basics of various religious frameworks, though they also provide care to people who orient themselves outside of religion.

Parents and staff report with gratitude that Daniels helps create a “web of goodness” that helps families alleviate their fears, foster forgiveness, and guide important decisions. When requested, Daniels also shares blessings and meditation to help people connect with their wholeness, as well as rituals to commemorate life transitions.

Daniels works with parents coping with sick or injured children, as well as unexpected birth out-

comes. She also supports adolescents experiencing mental illness, including suicidal ideation, working closely alongside child psychologists and psychiatrists. Patients and families often struggle to find meaning in what they are experiencing, she says. “When a tragic accident results in a child's death, families are at a loss to understand it. We come alongside them as they go through this.”

In addition to working with patients and families, Daniels also supports care team members. This includes facilitating debrief sessions in the aftermath of a patient death and helping staff deal with daily life stress.

Her goals are “to be present and not turn away, to be a listener and a silent witness, to help people make meaning out of the incomprehensible and celebrate things that are important.”

“We might see a child with cancer, and while we are thinking about their white blood cell count, they might be thinking, ‘I'm going to miss my prom.’”

Helping people find meaning, purpose, and community enhances their healing. “Sometimes what is going to make or break a person's recovery is their ability to have peace. If a spirit has peace, there's a greater chance that a body will recover. So, at a very practical level, we're helping get people home.”



Katherine Daniels, M.Div., M.S., M.B.A., demonstrates the “web of goodness” that helps families guide decisions.



Stepping Up for UVM Children’s Hospital

Community members throughout the region stepped forward in the spirit of service and generosity to support the work of the UVM Children’s Hospital. The UVM Children’s Golf Classic, RALLYTHON, Big Change Roundup drew enthusiastic participations that translates into meaningful support for patients and their families.

Big Change Roundup for Kids

\$279,715.58 RAISED

98.9 WOKO’s Big Change Roundup for Kids raises funds for innovative, high-quality patient care. **Key sponsors:** New England Federal Credit Union, Maplefields, and Med Associates Inc.



UVM Children’s Golf Classic

\$165,858 RAISED

176 golfers, **44** teams, **19** sponsors

Key Sponsors: EchoStor Technologies, Farrington Construction, Vermont Mechanical Inc., LN Consulting, M&T Bank, Fiducient Advisors, QGenda, Nuance Communications, Vital Delivery Solutions, ReArch Company, Inc, Fidelity Investments

RALLYTHON

UVM’s Miracle Network Dance Marathon

\$102,034.09 RAISED

647 participants



Children’s Miracle Network Hospitals National Partners

\$300,000 RAISED

Top fundraising partners: Walmart/Sam’s Club, Costco, Kinney Drugs, New England Federal Credit Union, Rite Aid Foundation, Ace Hardware, North Country Federal Credit Union, Coca Cola

Third Party Events

\$23,255 RAISED

for pediatric initiatives



Extra Life Gaming Marathon

\$46,601.51 RAISED

141 Gamers

Local Partners directed their support to our Child Life Program: Dunkin’ Joy in Childhood Foundation (Dunkin’ Donuts Iced Coffee Day): **\$10,000**, Spirit of Children (Spirit Halloween Stores Fundraising): **\$25,609**



Improving Autism Assessment and Follow-Up

Molly Bumpas, M.Ed., (right) and Jeremiah Dickerson, M.D., assess children for autism in the Vermont Center for Children, Youth & Families. Heidi Schumacher, M.D., (left) is a principal investigator on a statewide initiative to remove barriers to autism assessment.

OVER THE PAST SEVERAL YEARS, child health professionals have increased their practice of screening young children's development with validated tools in the medical home. As a result, more young children exhibiting early signs of autism are receiving referrals to child development specialists for appropriate assessment and formal diagnosis. Like subspecialists across the nation, providers at UVM Children's Hospital Developmental Behavioral Pediatrics division and the Vermont Center for Children, Youth, and Families (VCCYF) saw a significant increase in referrals for autism assessment during the past decade, resulting in extremely long wait times.

"As our referrals kept creeping up and up, we struggled to meet the needs of the state of Vermont," says Jeremiah Dickerson, M.D., assistant professor of psychiatry and director of the VCCYF autism

assessment clinic. "There was this lore that pediatricians and family practice providers couldn't diagnose, so children would get on a list waiting up to 18 months to see us, when in fact someone could have provided at least a provisional diagnosis a lot earlier to get the ball rolling on intervention."

To address this need, the pediatric and psychiatry departments collaborated to restructure the autism assessment program at VCCYF. This involved expanding the clinical team, bringing in specialists from different departments, and streamlining the intake process to reduce paperwork and wait times. "It's now easier and quicker for children to see a specialist, and a better experience for families," says Elizabeth Forbes, M.D., M.P.H., assistant professor of pediatrics and division chief for developmental and behavioral pediatrics.

In addition, the Vermont Child Health Improvement Program

(VCHIP), in partnership with the Vermont Department of Health, launched a statewide-level initiative to improve rates of developmental screening and remove barriers to autism assessment and diagnosis. VCHIP Executive Director Rachel Garfield, Ph.D., and Heidi Schumacher, M.D., principal investigator at VCHIP, lead this effort with Molly Bumpas, M.Ed., speech language pathologist at VCCYF, and Patricia Prelock, Ph.D., CCC-SLP, professor of communication sciences and disorders and professor of pediatrics.

Providers in pediatric and family medicine practices now receive coaching, data support, tools, and training to make screening, diagnostic, and treatment decisions with confidence.

"We see children at 18 and 24 months where we conduct a very basic screen for autism. [In the past,] if it's a positive screening, we would refer away to an outside specialist. Now, we don't have to refer away and wait for further evaluation," says Monica Benjamin, D.N.P., M.B.A., M.S.N., of Porter Pediatric Primary Care in Middlebury. "Learning the assessment tools has been invaluable, and it now feels like it will integrate easily into the flow of the office."

Bumpas and Dickerson additionally support parents with young children diagnosed with autism and awaiting assessment, offering group learning sessions where families discuss topics such as social communication strategies and home visits with video feedback and problem-solving. "We want to make things easier for parents and ensure that we are getting children into intervention as early as possible because we know that's what promotes the best outcomes," says Dickerson. ■



Creating A Pediatrics Network Department: Connecting the Docs

MANY PEOPLE NOTE THAT a silver lining of the COVID-19 pandemic is that it forced people to collaborate remotely, accelerating innovations in teamwork and problem-solving. This is evident within the UVM Children's Hospital and the pediatrics department.

In 2020, pediatrics personnel at each of the six UVM Health Network hospital sites and five outpatient pediatrics primary care sites across Vermont and New York quickly came together, remotely, to stay abreast of COVID information for the patients served at these network sites. Collaborations soon expanded to other topics, including workflow, care quality, and social drivers of health. In 2023, pediatric

care and nursery services blossomed into a cohesive academic network where providers connect regularly to learn from each other, share best practices, and solve problems in patient care and population health.

"We were collaborating previously, but we had separate practices," says Keith Robinson, M.D., associate professor of pediatrics and vice chair of quality improvement and population health at UVM Children's Hospital. "Now we are looking at processes and health outcomes centrally with site leaders from all the health care partners to improve pediatric outcomes across the network. It's clearer that we're all part of the same network department with the same academic pursuit and mission."

Pediatric primary care providers throughout the network now meet monthly to share ideas. "Each site is unique and does things in different ways, and we've been able to share what we do and take things from each other's sites to implement across all our sites," says Stan Weinberger, M.D., associate professor of pediatrics, pediatric primary care division chief, and site director for pediatric primary care in Burlington and Williston, Vermont. "It's been interesting and rewarding to work with our network colleagues in a more cohesive way."

Asthma care, for example, has greatly improved through collaboration across the network, says Weinberger. "Asthma is one of the most common chronic illnesses that we see and the cause of many preventable emergency room visits. As much as we try to help families maximize control of asthma symptoms, it's hard," Weinberger says. "Central Vermont Medical Center was doing a nice job with triage nurses doing standardized check-ins with families and tracking information in a way that we had not yet figured out. It was nice to see this working, they piloted it, and we were able to bring that method to other primary care sites."

Another area of innovation has been in screenings for food insecurity and mental health during primary care and specialty care visits.



Neonatologists use telehealth to provide specialized care across the region.



“It’s clearer that we’re all part of the same network department with the same academic pursuit and mission.” — Keith Robinson

Pediatricians Keith Robinson, M.D., (left) and Stan Weinberger, M.D., collaborate to share screening tools and track information across the network.

All sites now use the same screening tools and processes to include screenings in the workflow, document and share the information, and follow up with patients and families, which leads to improved care and better outcomes. As examples, when a screening identifies a patient who is experiencing mental health challenges or whose family struggles to buy food, that information becomes part of the patient’s electronic health record so that all providers who work with that patient have the same facts and can implement appropriate follow-up plans as a result.

Inpatient care also benefits from more robust collaboration. Neonatologists at UVM Children’s Hospi-

tal frequently engage in telehealth visits with partners at other network hospitals for babies needing specialized care, and children with serious health issues receive the same high-quality care regardless of their medical home location.

Education and research have expanded through greater network connectivity. “We spread educational opportunities for residents, medical students and other learners across all the sites, along with opportunities for educational leadership,” says Weinberger. “A pediatrician or nurse practitioner at Central Vermont or Porter can take on leadership

roles around education.”

Staying connected generates ongoing improvements in patient safety and care quality, says Robinson. Each month, representatives from pediatric inpatient, outpatient, specialty care, emergency care, family medicine, and family advisors gather online to share concerns and ideas. Additionally, Robinson leads a quality and safety team that includes UVMCH Director of Patient Safety Caroline Hesko, M.D., M.P.H., Senior Quality Improvement Partner Kathleen Browne, LICSW, and Pediatric Patient Safety Coordinator Andrea Aldrich, M.S.N., RN CPPS, who meet weekly to review reports regarding patient safety and engineer solutions across the network. ■

GENERAL PEDIATRICS DIVISIONS AND PROGRAMS

Pediatric 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. Our faculty of 12 across two sites in Burlington and Williston continues to provide care, in person or via telehealth, for a full range of acute and preventive services, including care for children with special health needs and medical complexity. In 2023, Elizabeth Perzanowski, M.D., joined our team. Her area of interest includes healthy weight and weight bias and gender-affirming care.

Pediatric primary care is focused on community-based care, with an emphasis on family-centered, equitable care. Notable programs include our Primary Care Mental Health Integration Program, which is a team-based approach with psychology, social work, and psychiatry to increase capacity to support mental health within primary care. As a part of that, Michael Hernandez, M.D., joined us in child psychiatry, and multiple primary care providers completed the REACH Institute's Mental Health in Primary Care Fellowship program. Our 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. In collaboration with the Vermont Department of Health and the Winooski School District, they vaccinated 131



LIBBY McDONALD, NP

adults and 118 children against influenza this year. This year, the team added Ashley Tubens, school-based health center coordinator, who will help evaluate the effectiveness of these programs. These innovations are supported through a partnership with Downs Rachlin Martin, PLLC. Our Pediatric New American Program, directed by Andrea Green, M.D.C.M., welcomed 88 refugee children this year in partnership with the U.S. Committee for Refugees and Immigrants and the Association of Africans Living in Vermont. Dr. Green and Hillary Anderson, M.D., M.P.H., continue 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. Finally, pediatric primary care has been focused on

developmental screening and empowering families in supporting their child's development. In conjunction with this, Catherine Rude, M.D. and Pam Jackson, M.D., are now doing primary care autism spectrum disorder assessments, which is key in improving access to families for these needed assessments.

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, while Dr. Anderson is the fourth-year director for the Department of Pediatrics and Dr. Green directs global pediatrics. Dr. Green also continues as chair of the American Academy of Pediatrics Council on Community Pediatrics.

Quality Initiatives

- Heather Link, M.D., Elizabeth McDonald, PNP, and Elizabeth Parris, RN, presented “School Health: A Panel Exploring Partnerships in the Winooski School District to Increase Health Equity” at the 2023 UVM Health Network’s Health Equity Summit.
- Stanley Weinberger, M.D., is the faculty lead for the Vermont Child Health Improvement Program (VCHIP) Child Health Advances Measured in Practice project, “Improving Vermont’s System of Care for Development and Autism Assessment and Follow-up.”
- 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 the Vermont Department of Health.

Adolescent Medicine

DIVISION CHIEF ERICA GIBSON, M.D.

The Division of Adolescent Medicine continues to provide direct patient and family care in three clinics: Adolescent Medicine Eating Disorder Assessment Clinic, Transgender Youth Program (TYP), and Adolescent Medicine Sexual Reproductive Health/Pediatric and Adolescent Gynecology. In addition to clinical service, the multidisciplinary staff in each of these programs provide education and support for young people, families, community care providers, community-based organizations, and schools. Multiple members of the division continue to work with local and state stakeholders to improve access to high-quality eating disorder and youth gender care in the state. Dr. Gibson collaborated this year with state legislators, the Vermont Chapter of the American Association of Pediatrics, and the Vermont Medical Society to support the passage of two “shield laws” that provide protections to providers and patients who administer or receive reproductive and gender-affirming care in Vermont. Pediatric interns continue to rotate through the division for one month in their intern year as part of their adolescent medicine residency training, and psychology residents actively participate in the TYP as part of their training. Clinical electives in adolescent medicine remain available to medical students and other multidisciplinary trainees. In the coming year, the division will continue to expand staff and clinic space with generous support from the UVM Health Network and the Department of Pediatrics.

Erica Gibson, M.D., works with the Vermont Child Health Improvement Program, the Vermont Department of Health, and the American Academy of Pediatrics Vermont Chapter (AAPVT) on adolescent health issues specific to Vermont. She also continues to focus on adolescent health topics at the national level through her work with the Society for Adolescent Health and Medicine (SAHM) and the AAP Council on School Health.

Cardiology

**DIVISION CHIEF
JONATHAN FLYER,
M.D.**

The Division of Pediatric Cardiology provides a wide range of cardiovascular services with special focus on advancing our fetal cardiology and cardiac fitness programs. Caitlin Haxel, M.D., was selected as the inaugural director of fetal cardiology at UVM Children's Hospital to improve prenatal cardiac imaging and care coordination. Dr. Haxel is the site investigator for an international study to identify and intervene in fetuses at high risk for congenital complete heart block. She was named to the executive board of the New England Congenital Cardiology Association (NECCA) and selected to co-lead its Quality Improvement Committee. Danielle Burstein, M.D., is developing the first pediatric fitness program in the region to provide exercise assessment and recommendations for children with special health care needs, supported by a Children's Miracle Network Grant. Burstein co-founded the National Pediatric Exercise Registry Working Group and is co-leading the development of the first multi-institutional national pediatric cardiac exercise registry, aiming to advance the role that cardiopulmonary exercise testing and research will have to improve congenital heart disease outcomes. Nancy Drucker, M.D., collaborates with the Vermont Child Health Improvement Program to improve care coordination for patients with medical complexity, including transition to adult providers, and to address food insecurity. Dr. Drucker's work with Fontan patients resulted in a publication on provider perspectives regarding single ventricle heart disease. She will retire from clinical practice in 2024. Jonathan Flyer, M.D., co-chairs the NECCA Bicuspid Aortopathy Registry and serves as president of the New England Congenital Cardiology Research Foundation.

Selected Publications

- Elder, R, Valente, A, Davey, B, Wu F, Drucker N, et al. How good are cardiologists at predicting major adverse events in Fontan patients? *JACC Adv.* 2024 Jan, 3 (1).
- Haxel CS, Belser AH, DeSarno M, Glickstein J, Flyer JN. Pediatric cardiology condolence letter writing: Does a fellowship curriculum impact practice? *J Pain Symptom Manage.* 2023 Sep;66(3):e343-e352.
- Stack KO, Schluger C, Roberts AL, Lawrence K, Balsara S, Hunt M, Kaplinski M, Gardner MM, Ravishankar C, Rossano JE, Goldberg DJ, Mahle M, O'Connor MJ, Mascio CE, Gaynor JW, Burstein DS. Impact of ventricular dysfunction and atrioventricular valve regurgitation on pre-Fontan attrition. *Ann Thorac Surg.* 2023 Jul 8:S0003-4975(23)00692-6.
- Dunne EC, Lacro RV, Flyer JN. Bicuspid aortic valve and its ascending aortopathy. *Curr Opin Pediatr.* 2023 Oct 1;35(5):538-545. doi: 10.1097/MOP.0000000000001276. Epub 2023 Jul 26. PMID: 37497761.
- Holland JE, Rohwer JK, O'Connor JM, Wahlberg K, Desarno M, Hopkins WE, Flyer JN. Development, feasibility, and initial evaluation of an active learning module for teaching pediatric ECG interpretation and entrustable professional activities to clinical medical students. *Academic Pediatrics* 2022.

Selected Presentations

- Danielle Burstein, M.D., moderated "Advances in Care at Home – Keeping Pediatric Heart Patients Out of the Hospital" at the 2023 American Heart Association Scientific Meeting, and was interviewed on a Pediheart podcast ("What Is the Best Anticoagulant for the Small Paracorporeal VAD Patient in 2023?") regarding recent publication:
- Burstein DS, Kimmel S, Putt M, Rossano J, VanderPluym C, Ankola A, Lorts A, Maeda K, O'Connor M, Edelson J, Lin K, Buchholz H, Conway J. Cost-effectiveness of bivalirudin in pediatric ventricular assist devices. *J Heart Lung Transplant.* 2023 Mar;42(3):390-397.

Child Safe Program

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

The Child Safe Program is committed to improving the health and well-being of children by addressing all forms of child maltreatment. 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, RN, SANE-P; and social worker with expertise in child abuse and neglect Mary-Ellen Longworth, M.S.W. We continue to focus our efforts on standardizing the workup and treatment of child maltreatment at UVM Children's Hospital and Vermont statewide. Transparency and standardization help decrease bias when caring for children who have experienced maltreatment and their families. We continue our outreach and training efforts on recognition of child maltreatment to health care providers, law enforcement, child welfare workers, judges, educators, and community members to recognize child maltreatment. Our close work with the Vermont Department for Children and Families has led to several new initiatives that have improved communication and care for children and families. Members of the Child Protection Team serve on the Vermont Citizens Advisory Board, the Vermont Sexual Assault Nurse Examiner Board, the Child Fatality Review Committee, the Prevent Child Abuse Vermont Board, the Pediatric Trauma Council, the Kidsnet Committee, and the Human Trafficking Task Force.

Publications

- Kalra K, Whittington CP, Sevey W, Hunt E, Metz JB. Delusions of parasitosis and delusions of parasitosis by proxy in a mother and her child. *Pediatr Dermatol.*2023;40:544-546.
- O'Hara MA, Valvano TJ, Kashyap M, [et. al. including Metz JB]. Understanding bilateral skull fractures in infancy. A retrospective multicenter case review. *Pediatr Emer Care* Vol. 39, No. 5, May 2023.
- Kelly, J.P., Feldman, K.W., Wright, J.N, Metz J.B., Weiss A. Pediatric abusive head trauma: visual outcomes, evoked potentials, diffusion tensor imaging, and relationships to retinal hemorrhages. *Doc Ophthalmol* (2023). <https://doi.org/10.1007/s10633-023-09927-w>.

Developmental Behavioral Pediatrics

DIVISION CHIEF
ELIZABETH
FORBES, M.D.,
M.P.H.

During this year's restructuring, all clinical processes were reviewed and streamlined to improve access to developmental screenings. Clinical care is now provided in the Autism Assessment Program, which is housed in the Vermont Center for Children, Youth, and Families and is a collaborative effort between the University of Vermont Departments of Pediatrics and Psychiatry. The program has an ongoing commitment to multidisciplinary and neurodiversity-affirming practice. Other division activities include medical training, community outreach, and regional advocacy, with a shared goal of improving systems of care for children with autism and other developmental differences.

Endocrinology

DIVISION CHIEF
P. J. 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, a pediatric dietician, a social worker, and a pediatric psychologist. The division continues to utilize telehealth services to effectively ensure follow-up of our patients, particularly those who otherwise travel great distances for care.

This October, the division welcomed Lauren Iacono, D.O., as the third full-time pediatric endocrinologist. Dr. Iacono completed her fellowship at Children's Hospital at Montefiore, Albert Einstein College of Medicine. 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 participate actively in several courses in the Vermont Integrated Curriculum. The American Diabetes Association recognizes the Pediatric Diabetes Clinic as a center of diabetes education. The division collaborates with the Vermont Child Health Improvement Program on quality improvement projects to ensure safe, appropriate transition of care from pediatric specialty care to adult primary or specialty care.

Publications

- Srinivasan S, Chen L, Udler M, Todd J, Kelsey MM, Haymond MW, Arslanian S, Zeitler P, Gubitosi-Klug R, Nadeau KJ, Kutney K, White N, et al. Initial insights into the genetic variation associated with metformin treatment failure in youth with type 2 diabetes. *Pediatric Diabetes* 2023 May 24.
- Huerta-Chagoya A, Schroeder P, Mandla R, Deutsch AJ, Zhu W, Petty L, Yi X, Cole JB, Udler MS, Dornbos P, Porneala B, DiCorpo D, Liu CT, Li JH, Szczerbiński L, Kaur V, Kim J, Lu Y, Martin A, Eizirik DL, Marchetti P, Marselli L, Chen L, Srinivasan S, Todd J, Flannick J, Gubitosi-Klug R, Levitsky L, Shah R, Kelsey M, Burke B, Dabelea DM, Divers J, Marcovina S, Stalbow L, Loos RJF, Darst BF, Kooperberg C, Raffield LM, Haiman C, Sun Q, McCormick JB, Fisher-Hoch SP, Ordoñez ML, Meigs J, Baier LJ, González-Villalpando C, González-Villalpando ME, Orozco L, García-García L, Moreno-Estrada A; Mexican Biobank; Aguilar-Salinas CA, Tusié T, Dupuis J, Ng MCY, Manning A, Highland HM, Cnop M, Hanson R, Below J, Florez JC, Leong A, Mercader JM. The power of TOPMed imputation for the discovery of Latino-enriched rare variants associated with type 2 diabetes. *Diabetologia*. 2023; 66(7): 1273-1288.
- Srinivasan S, L Chen, MM Kelsey, J Todd, S Arslanian, N Chang, L Laffel, L Levitsky, J Sprague, T Pollin, A Manning, and JC Florez on behalf of the Progress in Diabetes Genetics in Youth (ProDiGY) consortium, Genetic ancestry influences metformin treatment response in youth with type 2 diabetes. Abstract for poster presentation, ADA 83rd Scientific Sessions, San Diego CA, June 2023. Winner of the Women's Interprofessional Network ADA award for best abstract in the Clinical Diabetes, Epidemiology, and Diabetes Complications category.

Gastroenterology, Hepatology, and Nutrition

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

The Division of Pediatric Gastroenterology, Hepatology, and Nutrition provides care across our region of Vermont and upstate New York for children with a variety of disorders of the GI tract, liver, and pancreas, and problems of feeding, growth and nutrition, obesity, and lipid disorders. The division has grown substantially in size and scope of services offered by a team of four physicians, six nurses, two practice support specialists, a medical assistant, a dietician, a social worker, a psychologist, and a research coordinator. Our providers are leaders locally, regionally, and nationally in clinical practice, research, and educational and curriculum development endeavors. Jill Sullivan, M.D., M.S.C.S., is the physician site leader for ImproveCareNow (ICN), an internationally recognized and award-winning quality-improvement initiative for children with inflammatory bowel disease. Established in 2007 by Richard Colletti, M.D., professor emeritus of pediatrics, ICN engages

clinicians, researchers, patients, and parents in providing information for quality improvement, research, and community-building. Nina Gluchowski, M.D., serves as the division's educational liaison and associate clerkship director for Larner medical students rotating through pediatrics. Our stellar nursing staff continue to garner accolades for their high-quality care and educational efforts across the region.

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, upstate New York, and northwestern New Hampshire. 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. The division received a Children's Miracle Network grant for CatamountSeq, a pilot project for rapid genome sequencing in hospitalized pediatric patients, the aim of which is to provide evidence to insurers as to the cost effectiveness of such testing. Dr. Anderson continues to work closely with the Vermont Department of Health Newborn Screening Program to care for infants identified with metabolic conditions and to review and strategize for new conditions that are likely to be added to the panel. Drs. Wildin and Anderson continue to work on areas of quality improvement for genetic testing in the University of Vermont Health Network. Existing and new avenues for multidisciplinary collaboration are a strength for the division, and are expected to expand in the upcoming year, including monthly craniofacial clinics, conferences with maternal-fetal medicine, and expanding partnerships with neurologic specialties. In 2023, we initiated recruiting an additional geneticist and genetic counselor to further support patients and families.

Publications and Presentations

- Han ST, Anderson KJ, Bjornsson HT, Longo N, Valle D. A promoter variant in the OTC gene associated with late and variable age of onset hyperammonemia. *J Inherit Metab Dis.* 2022 May 23. doi: 10.1002/jimd.12524. Epub ahead of print. PMID: 35605046.
- Anderson KJ, Shiel M, Giummo C, Trapp-Stamborski V, Dugan S, Smith C, Springer M, Perez Botero J, Homans, A. (2022) "Meiotic Recombination in Action." Poster presented at the 43rd Annual David Smith Workshop on Malformations and Morphogenesis in Virginia Beach, VA.
- Wildin RS, Giummo CA, Reiter AW, Peterson TC, Leonard DGB. Primary care implementation of genomic population health screening using a large gene sequencing panel. *Front Genet.* 2022 Apr 25;13:867334. doi: 10.3389/fgene.2022.867334. PMID: 35547253; PMCID: PMC9081681.
- Wildin RS, Gerrard DL, Leonard DGB. Real-world results from combined screening for monogenic genomic health risks and reproductive risks in 300 adults. *Journal of Personalized Medicine.* 2022; 12(12):1962. <https://doi.org/10.3390/jpm12121962>.

Hematology/Oncology

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

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 the Children's Oncology Group, an international research consortium supported by the National Cancer Institute. Through this collaboration, we are able to offer the latest national clinical trials to patients locally. Our team includes a dedicated staff of 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 while providing state-of-the-art care with compassion.

Selected Publications

- Hesko C, Mittal N, Avutu V, Thomas SM, Heath JL, Roth ME. Creation of a quality improvement collaborative to address adolescent and young adult cancer clinical trial enrollment: ATAQI (AYA trial access quality initiative). *Curr Probl Cancer*. 2023 Dec;47(6):100898. doi: 10.1016/j.currproblcancer.2022.100898. Epub 2022 Sep 28. PMID: 36207194.
- Hesko C, Liu W, Srivastava DK, Brinkman TM, Diller L, Gibson TM, Oeffinger KC, Leisenring WM, Howell R, Armstrong GT, Krull KR, Henderson TO. Neurocognitive outcomes in adult survivors of neuroblastoma: A report from the Childhood Cancer Survivor Study. *Cancer*. 2023 Sep 15;129(18):2904-2914. doi: 10.1002/cncr.34847. Epub 2023 May 18. PMID: 37199722; PMCID: PMC10523930.
- Colombo B, Aurelio B, Wallace HJ, Heath JL. Exploring patients' trust from a new perspective: A text-analysis study. *Health Commun*. 2023 Dec;38(13):3040-3050. doi: 10.1080/10410236.2022.2131973. Epub 2022 Oct 10. PMID: 36214768.
- Boles B, Shiel M, Gardner JA, Conant JL. Pediatric myelodysplastic syndrome with SF3B1 mutation. *J Assoc Genet Technol*. 2023;49(2):69-72. PMID: 37269336.

Infectious Disease

DIVISION CHIEF
WILLIAM RASZKA,
M.D.

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 COVID-19, to VCHIP, the Vermont Department of Health, the Agency of Education, and the Agency of Commerce and Community Development, and to scientific advisory committees for the governor and the 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, the University of Vermont, the Bill & Melinda Gates Foundation, and the National Institutes of Health/National Institute of General Medical Sciences.

Selected Publications

- Rideout M, Schwartz A, Devon EP, Burns R, Skurkis CM, Carter M, Hartke A, Raszka WV Jr, APPD LEARN/COMSEP Boot Camp Study Group. How prepared are they? pediatric boot camps and intern performance. *Acad Pediatr*. 2022 Sep-Oct;22(7):1237-1245. doi: 10.1016/j.acap.2022.05.005. Epub 2022 May 13. PMID: 35577284.
- Hermann EA, Lee B, Balte PP, Xanthakis V, Kirkpatrick BD, Cushman M, Oelsner E. Association of symptoms after COVID-19 vaccination with Anti-SARS-CoV-2 antibody response in the Framingham Heart Study. *JAMA Netw Open*. 2022 Oct 3;5(10):e2237908. doi: 10.1001/jamanetworkopen.2022.37908. Erratum in: *JAMA Netw Open*. 2022 Nov 1;5(11):e2247057. PMID: 36269359; PMCID: PMC9587476.

Pediatric Critical Care Medicine

DIVISION CHIEF
AMELIA HOPKINS,
M.D.

The Pediatric Critical Care Medicine division, staffed by five board-certified pediatric intensivists, provides round-the-clock care for children with life-threatening illnesses or injuries with emphasis on patient- and family-centered care. Division members participate in multicenter research projects and engage in medical student and resident education. Amelia Hopkins, M.D., also serves as associate program director for the

Pediatric Residency Program. Elizabeth Ulano, M.D., is the site leader for the Virtual PICU Systems LLC database, which demonstrates that our pediatric intensive care unit (PICU) consistently provides excellent care of very ill children, with a lower-than-expected mortality rate. Dr. Ulano led the quality assurance division and developed the Pediatric Stroke Pathway. Kristin Crosby, M.D., works hard to provide community outreach through transport conferences and educational sessions. Iris Toedt-Pingel, M.D., continues offering a pediatric advanced communications course, TalkVermontPEDS, and collaborating with Pediatric Acute Lung Injury and Sepsis Investigators (PALISI), which specializes in identifying therapeutic and preventive strategies for life-threatening pulmonary or systemic inflammatory syndromes. Dr. Toedt-Pingel also received a grant to support her work in pain prevention at UVM Medical Center. Rebecca Bell, M.D., M.P.H., takes statewide, regional, and national leadership in advocacy as president for the Vermont Medical Society (VMS). This year, Dr. Bell received the prestigious VMS Founders' Award, which is presented to individuals who have demonstrated outstanding leadership, vision, and achievement in improving the health of Vermonters and all Americans.

Pediatric Hospitalist Medicine

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

The Pediatric Hospitalist Program provides hospital-based care for pediatric inpatients and newborns at UVM Children's Hospital and Champlain Valley Physician's Hospital (CVPH) in Plattsburgh, New York. Our team of 14 pediatric hospitalists includes nine with subspecialty board certification in pediatric hospitalist medicine and expertise in quality improvement, clinical research, and clinical informatics. In 2023, we welcomed the addition of a talented new team member, Olunmi Salako, M.D., who provides care for patients at both clinical sites.

Our mission is to improve the care of newborns and hospitalized children locally, regionally, and nationally. We partner with colleagues across disciplines to improve patient care. In 2023, our inpatient pediatric unit, led by the collaborative leadership team of Valerie Riss, M.D., M.P.H., director of quality improvement in pediatrics at CVPH, Lisa Emerson, RN, patient and family-centered care coordinator, and Kathleen Browne, LICSW, senior quality improvement partner, has worked to increase the efficiency of patient discharges. Our CVPH hospitalist team, led by Nate Meuser-Herr, M.D., collaborated with the UVM Children's Hospital neonatology team to improve newborn resuscitation and transfers through multidisciplinary case reviews. We also participated in multiple national quality improvement initiatives, including work led by Scarlett Johnson, M.D., with the American Academy of Pediatrics on a project focused on reducing over-treatment of newborn jaundice.

In addition to clinical care, our team is committed to advancing knowledge in pediatric hospital medicine and educating future pediatricians and physicians in inpatient pediatrics and newborn medicine. As educators, we play a major role in the clinical clerkship experience of all UVM Larner College of Medicine students and pediatric residents as they rotate through our inpatient unit and newborn nurseries. Our faculty serve key leadership roles in the UVM Larner College of Medicine: Christina Imming, M.D., is associate program director of the pediatric residency program; Molly Rideout, M.D., is vice chair of education for the Department of Pediatrics, and Christa Zehle, M.D., is senior associate dean for education at the Larner College of Medicine.

Highlights

- Anisha Rimal, M.D., received the Innovation in Curriculum Development Award at the Larner College of Medicine for her work developing an interprofessional mentorship program for BIPOC nursing and medical students. She presented this work at the annual Council of Medical Education in Pediatrics conference.

- Jennifer Covino, M.D., moved into the role of medical director of the UVM Children's Hospital newborn nursery, where she works with the multidisciplinary nursery leadership team on a variety of quality improvement initiatives.
- Molly Rideout, M.D., continues to serve as co-chair of the Council of Medical Education in Pediatrics Diversity, Equity, and Inclusion Committee. She presented multiple workshops at national conferences, including workshops on bias in narrative assessments and mentorship of under-represented minority students.
- Leigh-Anne Cioffredi, M.D., continued her research in infant development, with multiple publications, including "Maternal perceived stress and infant behavior during the COVID-19 pandemic" published in Pediatric Research.

Neonatology

**DIVISION CHIEF
DEIRDRE O'REILLY,
M.D., M.P.H.**

The Division of Neonatal-Perinatal Medicine focuses on advancing excellence in clinical care, research, and education in the field of neonatology. The 29-bed neonatal intensive care unit serves a wide catchment area that includes Vermont and Upstate New York. In 2023, our providers and nurses cared for more than 500 neonates requiring intensive care.

Highlights

- Aaron Wallman-Stokes, M.D., is program director for the Neonatal-Perinatal Medicine Fellowship. His research focuses on the association between oxygenation and vital sign patterns and neonatal morbidities and mortality.
- Adrienne Pahl, M.D., is director of the Neonatal Medical Follow Up Program (NeoMed) and a member of the VCHIP Perinatal Quality Collaborative, focusing on improving the care of opioid-exposed newborns. Dr. Pahl is a member of the American Academy of Pediatrics (AAP) Section of Neonatal-Perinatal Medicine's working group on Neonatal Follow-up, presenting her work on fellow education in follow-up care at the AAP National Conference and Exhibition in October 2023.
- Delia Horn, M.D., is the director of neonatal transport for the division. Dr. Horn is currently the primary investigator on an NIH-funded pilot study assessing antimicrobial resistance in an Ethiopian NICU. This work is done in partnership with the UVM Translational Global Infectious Disease Research Center and the Vermont Oxford Network (VON). Horn is leading efforts to bring point of care ultrasound (POCUS) to the NICU.
- Deirdre O'Reilly, M.D., M.P.H., is division chief and associate program director of the Neonatal-Perinatal Medicine Fellowship. Dr. O'Reilly is co-chair of the Organization of Neonatal Training Program Directors and the Mid-Career Neonatologist Leadership Committee, both executive committees of the AAP Section on Neonatal-Perinatal Medicine.
- Whitney Barkhuff, M.D., Ph.D., is the medical director of the NICU. Dr. Barkhuff spearheads the collaborative clinical leadership team for the NICU and current quality improvement (QI) projects including VON internet-based Newborn Improvement Collaborative for Quality (iNICQ) All Care is Brain Care.
- Leslie Young, M.D., is the director of research. Dr. Young completed the NIH-funded Eating, Sleeping, Consoling for Neonatal Opioid Withdrawal (ESC-NOW) study, published in the New England Journal of Medicine in June 2023. Young is co-principal investigator for IMproving Pediatric Access to Clinical Trials in Vermont (IMPACT VT) and serves on the leadership committee for the IDeA States Pediatric Clinical Trials Network (ISPCTN).
- Danielle Ehret, M.D., M.P.H., is the Asfaw Yemiru Green and Gold Professor of Global Health, chief medical officer and director of global health at VON. Dr. Ehret is a faculty member of the African Neonatal Network, leading neonatal-focused QI work in 19 hospitals across five countries in Africa.

- Charles Mercier M.D., M.P.H., is director of neonatal-perinatal medicine. His research interests include preventing chronic lung disease, neurodevelopmental follow-up outcomes, and simulation-based clinical training. Dr. Mercier is a member of the Perinatal Quality Collaborative-Vermont working to apply public health data insights to support optimal perinatal health care delivery in hospitals in rural settings.
- Roger Soll, M.D., is the H. Wallace Professor of Pediatrics, vice president and director of the Institute for Evidence Based Practice at VON, and coordinating editor of Cochrane Neonatal, a review group of the Cochrane Collaboration.

Selected Publications

- Young LW et al. Eat, Sleep, Console approach or usual care for neonatal opioid withdrawal. NEJM 2023; 388: 2326-2337 <https://www.nejm.org/doi/full/10.1056/NEJMoa2214470>.

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. Nationally, the division participates in the North American Pediatric Renal Trials and Cooperative Studies (NAPRTCS) group and the Pediatric Nephrology Research Consortium. Sarah Twichell, M.D., M.P.H., was selected to serve on the American Society of Nephrology committee on COVID and Emerging Threats, and Liz Hunt, M.D. was named assistant director of the Learning Environment at Larner College of Medicine. Sarah Couser, M.D., will join the division in September 2024. Dr. Couser completed her residency at UVM and is finishing her pediatric nephrology fellowship at Cincinnati Children's Hospital and pursuing a master's degree in medical education.

Selected Publications

Twichell S, Ashoor I, Boynton S, Dharnidharka V, Kizilbash S, Levy Erez D, Smith, J on behalf of the NAPRTCS Investigators. COVID-19 disease among children and young adults enrolled in the North American Pediatric Renal Trials and Collaborative Studies registry. *Pediatric Nephrology*. In press.

Pediatric Advanced Care Team

**DIVISION CHIEF
LISA ANNE
RASMUSSEN, M.D.,
M.SC., FRCPC**

We have had a busy first year on the Pediatric Advanced Care Team (PACT). PACT offers subspecialty pediatric palliative and hospice medicine services, with an interprofessional approach that meets families where they are, providing inpatient consultation as well as longitudinal outpatient follow-up through in-person visits in the Children's Specialty Center, local pediatric offices, telemedicine, and home visits. We are grateful to our village of colleagues at the University of Vermont Children's Hospital and in the wider pediatric care community.

Highlights

- Along with service line development, we now have Epic referral pathways for both inpatients (CON124 Consult Pediatric Advanced Care Team) and outpatients (REF345 AMB CONS/FOLLOW UP Pedi Advanced Care Team).
- We intensely collaborated with UVM Home Health and Hospice, the Miller McClure Respite House, and other home hospice agencies across Vermont and Northern New York to provide comprehensive end-of-life care.
- We engaged with maternal fetal medicine, NICU, and the birthing center to support care pathways for prenatal consultations and comfort care for newborns.

- PACT has embedded with the Vermont State Department of Health's Pediatric Palliative Care Program, coordinating palliative care in the community and offering provider-level support to their team of pediatric nurses, case managers, and expressive therapists.
- We continue to offer an evidence-based interprofessional debriefing model for staff and formalize other staff supports in the care of seriously ill children.
- The PACT interdisciplinary Implementation Work Group has worked on a bereavement needs assessment, and as we enter year two, we have set our focus on developing and implementing an approach to bereavement outreach and bereavement services that is standardized, accessible, and sustainable.
- Lisa Anne Rasmussen, M.D., and Kate Ostrander, M.D. co-authored a textbook chapter on pediatric palliative care, to be published in spring 2024.
- We offer several education opportunities at UVM—We are revising the pediatric residency palliative care curriculum; supporting facilitation of the TalkVermont Pediatrics interprofessional communication course; and Jeanne Dube, RN, is working with Jessica Boyea, RN, to begin offering a Pediatric Neonatal End of Life Nursing Education Consortium (ELNEC) course in May 2023, with plans for two courses in spring 2024.
- Dr. Rasmussen continues her academic work in neuropalliative care, giving invited lectures with the International NeuroPalliative Care Society on pediatric palliative care and shared decision making in pediatrics, and facilitating a pediatric pain course at the American Academy of Neurology Congress.
- Dr. Ostrander presented several conference workshops, invited workshops, and webinars nationally on “Realign-Respond-Repair: Responding to Discrimination with Your Interprofessional Team.” She continues to support the Residency Wellness Committee through organization of the Healer’s Reflection Program.

Selected Publications/Presentations

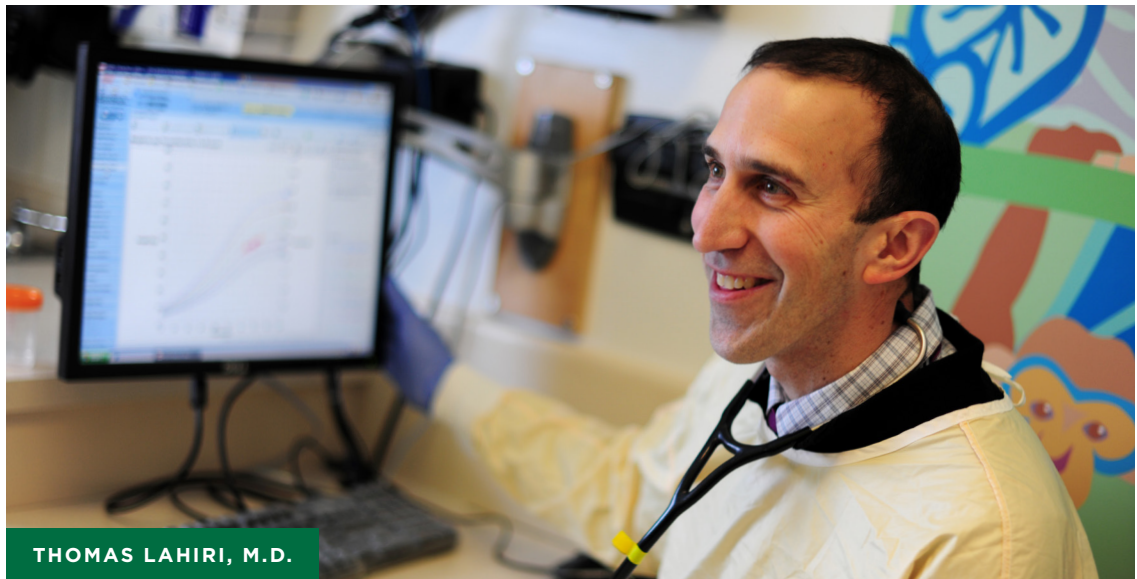
- Lemmon ME, Wusthoff CJ, Boss RD, Rasmussen LA, Newborn Brain Society Guidelines and Publications Committee. Ethical considerations in the care of encephalopathic neonates treated with therapeutic hypothermia. *Seminars in Fetal & Neonatal Medicine*. 2021 Jun;101258.
- Tobey A, Simons J, Mady L, Ostrander K. Care giver burden, social and economic disparities, and palliation in the pediatric tracheostomy population. *American Academy of Otolaryngology-Head and Neck Surgery (AAO-HNS) 2023 Annual Meeting, Nashville, TN 10/2023*.
- Ostrander K, Berns S, Toedt-Pingel I, October T, Walter J. TalkVermont Pediatrics: learning to discuss what matters most to patients and their families: Development and implementation of an interprofessional communication course curriculum. *Virtual - American Academy of Pediatrics, National Conference & Exhibition, Philadelphia, PA, 10/2021*. – Received section abstract award.
- Ostrander K, Wax J, Rasmussen LA. Digital death debriefs how a pandemic offered an unexpected source of resilience in Vermont. *Virtual - Academic Pediatric Association Pediatric Hospital Medicine Annual Conference, 08/2021*.
- Rasmussen LA, Grégoire MC. Challenging neurological symptoms in paediatric palliative care: An approach to symptom evaluation and management in children with neurological impairment. *Paediatr Child Health*. 2015 Apr;20(3):159-65.
- Rasmussen LA, Ostrander K. Pediatric palliative care, pain and symptom management chapter. *Swaiman’s Pediatric Neurology, 7th edition - print pending 2024*.
- Ostrander K, Slater G. Realign-Respond-Repair: Responding to discrimination with your interprofessional team. Presented as workshops at several locations: *Pediatric Hospital Medicine Conference, Orlando, FL, July 202; McGill International Palliative Care Congress, Montreal, Quebec, Canada, October 2022; American Academy of Hospice and Palliative Annual Assembly, Montreal, Quebec, Canada, March 2023*.

Pulmonology

DIVISION CHIEF
THOMAS
LAHIRI, M.D.

The Division of Pediatric Pulmonology provides outpatient, virtual, and inpatient care to children with respiratory, airway, and aerodigestive disorders. Our division staffs several multidisciplinary clinics. Our cystic fibrosis (CF) program received full reaccreditation from the Cystic Fibrosis Foundation in 2019 and has been a repeat recipient of the Quality Care Award. The CF program continues to function as one of the top centers in the United States for pediatric lung function and for meeting recommended guidelines as reported in the national CF Foundation (CFF) Patient Registry. Our nutritional outcomes for CF were the highest in the U.S. in CFF's most recent report. The division continues to participate in several multicenter CF clinical research trials as a Therapeutic Development Center as awarded by CFF Therapeutics, Inc. In 2021, we were the top enrolling site for CF clinical trials in the U.S. when adjusted for the size of our patient population. Led by Kelly Cowan, M.D., the division participates in trials for pediatric respiratory conditions through the IDeA States Clinical Trials Network. Procedures that we offer include flexible bronchoscopy services, pulmonary function testing, sweat chloride testing, and treatment for bronchoprovocation challenges.

This year we were excited to welcome Sigfus Gunnlaugsson, M.D., to the division. He is fellowship trained in pediatric pulmonology and sleep medicine and will oversee all pediatric sleep evaluations.



Highlights

- Kelly Cowan, M.D., is co-principal investigator for the NIH-funded ECHO IDeA States Clinical Trials Network. She also collaborates with the Vermont Department of Health for asthma self-management education and with the Weatherization Health Initiative for asthma Healthy Home Referrals. She is also co-PI for a BREATHE (Better Respiratory Education And Treatment Help Empower) study on bronchiolitis recovery and use of HEPA filtration.
- L. E. Faricy, M.D., serves on the executive committee for the section on Pediatric Pulmonology and Sleep Medicine for the American Academy of Pediatrics (AAP) and is the AAP-VT state chapter e-cigarette champion. Dr. Faricy continues to serve as chair of the admissions committee at the Larner College of Medicine.
- Thomas Lahiri, M.D., serves on the executive committee for the Pediatric Pulmonology Division Directors Association of the American Thoracic Society. He serves on the guidelines steering committee for the

Cystic Fibrosis Foundation and on a work group to write guidelines for the management of infants and children with CFTR-related metabolic syndrome.

- Keith Robinson, M.D., has been a leader for the IHI Population Health Action Community with a focus on food insecurity and promoting equity in health care. He leads the Pediatric Population Health Coalition at the UVM Children's Hospital. Dr. Robinson assisted in the development of a toolkit for the Pediatric Quality Measures Program to reduce asthma-related visits for children with asthma.

Selected Publications

- Lahiri T, Sullivan JS. Recent advances in the early treatment of cystic fibrosis: bridging the gap to highly effective modulator therapy. *Pediatr Pulmonol* 2022; 57 Suppl 1:S60-74. doi: 10.1002/ppul.25660. PMID 34473419.
- Lahiri T. Use of sweat chloride testing to assess adherence to and efficacy of elexacaftor/tezacaftor/ivacaftor treatment in a pediatric cystic fibrosis clinic. North American Cystic Fibrosis Conference, Philadelphia, PA, November 2022. Abstract published in *J Cyst Fibros* 2022.
- Sullivan JS, Ludlow M, Lahiri T. High dose (Stoss) vitamin D supplementation in cystic fibrosis: a quality improvement project. North American Cystic Fibrosis Conference, Philadelphia, PA, November 2022. Abstract published in *J Cyst Fibros* 2022.
- Cabana MD, Robinson KJ, Plavin J. Partnering to improve pediatric asthma quality. *Acad Pediatr*. 2022 Apr;22(3S):S73-S75. doi: 10.1016/j.acap.2021.06.013. PMID: 35339246.
- Zuckerman A, Robinson KJ, Twichell S, Runte KE, Bonenfant N, Couser S, First L, Flyer JN. Increasing morning report educational value through quality Improvement. *Pediatrics*. 2022;150(1):e2021053103 [https:// doi.org/10.1542/peds.2021-053103](https://doi.org/10.1542/peds.2021-053103).
- Robinson KJ. Quality improvement in Rudolph's Pediatrics, 23rd Edition, Self-Assessment and Board Review.
- Bardach NS, Irwin CE, McCulloch CE, Thombly R, Shaw J, Robinson K, Pellegrino C. Pediatric Quality Measures Program Pediatric Asthma Emergency Department Use Toolkit (Pediatric Asthma Emergency Department Use Toolkit (ahrq.gov)).
- Watson SE, Smith P, Snowden J, Vaughn V, Cottrell L, Madden CA, Kong AS, McCulloch R, Stack Lim C, Bledsoe M, Kowal K, McNally M, Knight L, Cowan K, Yakes Jimenez E. Facilitators and barriers to pediatric clinical trial recruitment and retention in rural and community settings: A scoping review of the literature. *Clin Transl Sci*. 2022 Apr;15(4):838-853. doi: 10.1111/cts.13220. Epub 2022 Jan 21.
- Meshnick A, Faricy LE, Lushniak B. An Analysis of FDA's Vuse Market Authorization: limitations and opportunities. *Tobacco Control*, 2022 (Accepted).

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 and an administrative support specialist. The division recruits patients for medication trials and patient registries, collaborating with centers nationally to advance effective treatments. Quality improvement efforts focus on vaccination screening and ensuring patients successful transition to an adult system of care. Dr. Hollander supervises medical students for their pediatric subspecialty rotation.

Selected Abstracts

- Harder V, Early C, Varni SE, Hollander MC, Consigli A and Robinson K. Increase in Mental Health Diagnoses among Children with Medical Complexity during the COVID-19 Pandemic. Pediatric Academic Societies National Meeting, Washington, D.C. Apr 2023. Pediatric Research Day, University of Vermont, Burlington, VT. Jun 2023

Selected Publications

- Chmielewski M, VanNostrand J, Hollander M. Fever and Pleuritic Chest Pain in a 16-year-old Girl with Ulcerative Colitis. *Pediatrics In Review*. 2022;43(10):586-589. doi:10.1542/pir.2021-004937.
- Mansfield LM, Lapidus SK, Romero SN, Moorthy LN, Adler-Shohet FC, Hollander M, Cherian J, Twilt M, Lionetti G, Mohan S, DeLaMora PA, Durrant KL, Muskardin TW, Correia Marques M, Onel KB, Dedeoglu F, Guttierrez MJ, Schulert G, the CARRA Autoinflammatory Network Consortium for the CARRA PFAPA/ Autoinflammatory Working Group. Increase in pediatric recurrent fever evaluations during the first year of the COVID-19 pandemic in North America. *Front Pediatr*. 2023;11:1240242. doi:10.3389/fped.2023.1240242.

OTHER PEDIATRIC SPECIALTIES

Anesthesiology

**DIVISION CHIEF
ANN LAWRENCE,
D.O.**

The anesthesiology department provides anesthetic care to children of all ages and medical complexities. Although we've discontinued the practice of letting family members accompany their children into the operating suite, family-centered care is always a priority. Our nurses, child life specialists, and anesthesia providers strive to make children and their families feel as comfortable as possible. We meticulously develop individualized plans that focus on children's emotional, behavioral, social, and medical needs. We use methods such as distracting technology, simple techniques in mindfulness, and calming medications to ease children into the operating room and other procedure sites.

Highlights

- Kevin Abnet, M.D., oversees our regular morbidity and mortality grand rounds. His leadership has contributed greatly to our overall education for residents, anesthesiologists, and attendings.
- Melissa Davidson, M.D., continues as an invaluable leader in her role as designated institutional officer. She is a mentor to many, and we are so lucky to have her in the pediatric anesthesia arena.
- Rebecca Evans, M.D., stepped up her clinical duties. We love seeing more of her in the OR!
- Ann Lawrence, D.O., continues as division chief of the pediatric anesthesiology team, and also serves as the supply chain representative for the anesthesia group.
- Monika Modlinski, M.D., continues to support the Comfort Zone, as well as working to solve issues with health care access in adults with special needs.
- Emily Stebbins, M.D., continues her leadership as anesthesiology residency director, and as chair of the Graduate Education Committee of the Society of Education in Anesthesiology.
- Brian Waldschmidt, M.D., continues to lead the department's efforts to expand use of EPIC and redefine our work group.
- Robin Leopold, M.D., settled into the group nicely and now mentors new members of the department.
- Jenny Soares, M.D., is the newest member of our group and will be starting at UVM Medical Center in late February 2024. She is a 2007 graduate of the Robert Larnier College of Medicine. She was a resident at UVM Medical Center in pediatrics, then completed a fellowship in pediatric pulmonary medicine at Vanderbilt University, a residency in anesthesiology at Virginia Mason, and a fellowship in pediatric anesthesiology at the North Carolina Children's Hospital.

Dermatology

**DIVISION CHIEF
KEITH MORLEY,
M.D.**

Pediatric dermatology welcomed Amie Frederick, PA-C, to our care team. Frederick earned a master's degree in physician assistant studies with an associate degree in child health at the University of Colorado. She developed an interest in pediatric dermatology during a subspecialty rotation at Colorado Children's Hospital. During the past seven years, she worked in pediatric primary care in Colorado, Virginia, and Connecticut. At UVM Children's Hospital Frederick sees pediatric patients with acne, alopecia areata, hyperhidrosis, psoriasis, seborrheic dermatitis, vaginal/vulvar rashes, vitiligo, warts, and molluscum. Teledermatology remains a sizable proportion of our visits, particularly for follow-up of conditions like 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 in the Comfort Zone if needed. Keith Morley, M.D., is a pediatric contributing editor for VisualDx and a member of the Society of Pediatric Dermatology's Education Committee and Certification and MOC Committee. He is the advisory board representative of the Vermont Dermatology Society to the American Academy of Dermatology.

Selected Publications

- Whittington C, Lapidus R, Morley K, Greene L. Persistent, pruritic, reddish-brown papules and plaques: an atypical presentation of adult-onset still's disease. *Cureus*. 2023;15(2):e35587.
- Shaw K, Taylor D, Sanchez-Melendez S, Barker J, Lonowski S, Shahriari N, Porter HJ, Morley K, LaChance A, Vleugels RA. Improvement in mucosal discoid lupus erythematosus with anifrolumab. *Clin Exp Dermatol*. Published online May 27, 2023:llad190.
- Esfandiari N, Vandyke S, Porter HJ, Shea K, Morley K, Greene L. A case of mevalonate kinase deficiency, neonatal Sweet syndrome, and inflammatory bowel disease. *Pediatr Dermatol*. Published online October 8, 2023.

Emergency Medicine

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

Pediatric Emergency Medicine (PEM) provides high-quality care to children and their families with a dedicated pediatric emergency medicine provider shift for 10 hours per day, with expanded coverage to 16 hours on high-volume days. We provide clinical training and didactic education to residents from emergency medicine, pediatrics, and family medicine.

Highlights

- Christine Campbell, M.D., M.S.P.H., joined the PEM team. Dr. Campbell formerly worked at the University of Alabama-Birmingham, as the director of quality improvement and patient safety for seven years. Our collective learners have been very excited about Campbell's bedside education.
- David Nelson, M.D., increased his role in advocacy for children in the region by expanding his quality improvement efforts with the Vermont Child Health Improvement Program. He is passionate about pediatric readiness and providing education and resources for our rural hospitals and EMS crews.
- Christian Pulcini, M.D., M.Ed., M.P.H., continues to build a robust research portfolio supported by a combination of National Institutes of Health (NIH) and foundation grants. His research focuses on children with special health care needs/medical complexity, pediatric mental health, and firearm injury. Dr. Pulcini received a Dean's Excellence in Research Award for a new investigator at the Larner College of Medicine.
- Molly Stevens, M.D., M.S.C.E., serves as an academic mentor to several junior faculty in their advancement and promotion and has been instrumental in the growth of funded research within emergency medicine. Dr. Stevens leads the Department of Emergency Medicine Reappointment, Promotion, and Tenure Committee.

- In 2024 PEM looks forward to construction of dedicated pediatric treatment rooms and teaching spaces, expansion of daily clinical coverage, extension of our quality and educational efforts at our network partner sites, advancement of telemedicine peer-to-peer support capacity, and strengthening of relationships with our community and specialty providers.

Selected Publications

- Pulcini CD, Raphael JL, Lopez KN. Translating research into child health policy: Aligning incentives and building a new discourse. *Pediatr Clin North Am.* 2023;70(1):151-164. doi:10.1016/j.pcl.2022.09.012.
- Pulcini CD, Fleegler EW. Ensuring precision in methodology for nonfatal firearm injuries. *JAMA Pediatr.* 2023;177(6):647-648. doi:10.1001/jamapediatrics.2023.0352.
- Pulcini CD, Schneider S, Wolfley H, Collins B, Li J. Assessment of statewide initiative for children boarding in rural EDs with mental health concerns. *Acad Emerg Med.* 2023;10.1111/acem.14772. doi:10.1111/acem.14772.
- Pulcini CD, Collier RJ, Houtrow AJ, Belardo Z, Zorc JJ. Further developments in preventing emergency department visits for children with medical complexity. *Acad Pediatr.* Published online September 14, 2023. doi:10.1016/j.acap.2023.09.004.

Neurology

DIVISION CHIEF PETER BINGHAM, M.D.

The pediatric neurology division includes Peter Bingham, M.D., Bradley Clopton, CNP, Deborah Hirtz, M.D., Gregory Holmes, M.D., and Safoora Syeda, M.D. Throughout 2023, we continued consultative in- and outpatient work on behalf of infants, children, and adolescents in Vermont and northern New York. Families who live up to a four-hour drive from our clinic value ongoing telemedicine clinical work. Our inpatient work involves collaborations with intensivists, neonatologists, hospitalists, psychologists, psychiatrists, and emergency medicine specialists. As genetic testing plays an ever-greater role in many challenging cases, we meet regularly with colleagues in genetics to ensure an optimal, coherent approach to assessing hereditary disorders. We serve in clinics to provide electromyography to help detect neuromuscular abnormalities. We are working to restart a clinic for children with neuromuscular disorders in collaboration with the Muscular Dystrophy Association.

We provide integrative health coaching for children with chronic pain or neuropsychiatric disorders and to train child psychiatry fellows, pediatric and neurology residents, and medical students. In 2023 we completed an interview project to learn clinicians' and administrators' perspectives on recent challenges in pediatric mental health. Drs. Holmes and Hirtz collaborate with neonatologists on a clinical study of sleep among newborns with abstinence syndrome. Hirtz continues her work with Targeting Environmental Neurodevelopmental Risks (TENDR) and serves on the Vermont Citizens Advisory Committee on Chemical Management. Holmes's research explores treating cognitive deficits following early-life seizures. We participate in the Underrepresented in Medicine Pathways to Pediatrics program for pre-medical students, and advocacy work on the effects of noise pollution on children's development.

Selected Publications

- Scott RC, Moshe SL, and Holmes GL. Do vaccines cause epilepsy? Review of cases in the National Vaccine Injury Compensation Program. *Epilepsia* 00:1-29 (2023).

Pediatric and Perinatal Pathology

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

The Division of Pediatric and Perinatal Pathology is excited to announce the arrival of Halit Pinar, M.D., to the perinatal service. An internationally renowned professor of placental and perinatal pathology, Dr. Pinar came to UVM from Brown University's Women and Infant's Hospital. In his short time at UVM, he has already earned a reputation for being a kind and excellent teacher and has contributed substantially to quality improvement in perinatal services, including resident education and reducing autopsy turn-around time. The pediatric pathology service continues to grow and improve within the Department of Pathology and Laboratory Medicine. Recognition for the unique role and need for expertise in this field has led to efforts to create a dedicated pediatric pathology bench for all pediatric surgical pathology specimens, and a search for second pediatric pathologist to join our team.

Psychiatry

**DIVISION CHIEF
STEVEN
SCHLOZMAN, 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 (VFBA), developed by James Hudziak, M.D. The VFBA emphasizes the principle that emotional and behavioral health is central to overall health, and that it occurs within family and community systems. To this end, the treatment of child and adolescent psychiatric syndromes involves focusing attention to the world around the patient and emphasizing wellness as part of the psychiatric intervention.

In addition to routine psychotherapy and psychopharmacologic interventions, outpatient child psychiatry at UVM also involves a combined clinic for developmental pediatrics and psychiatry to address the need for greater and more integrated autism evaluation and treatment. This service falls under the joint leadership of Jeremiah Dickerson, M.D., from child psychiatry and Elizabeth Forbes, M.D., from pediatrics with clinicians Michael Hoffnung, D.O., James Tallmadge, Ph.D., and Molly Bumpass, M.Ed., CCC-SLP, BCBA.

Under the direction of Haley McGowan, D.O., Colleen Victor, M.D., Courtney Fleisher, Ph.D., and Sara Schnipper, M.S.W., the VCCYF/Child and Adolescent Psychiatry and Psychology Consult service (CAPPCON) continues to demonstrate extraordinarily high-level care for children and adolescents with psychiatric needs who are in the emergency department or on pediatric floors. This care involves diagnosis and ongoing—often lengthy—treatment, given the lack of child psychiatry inpatient beds in northern New England. The division added the Mind-Body Buddy program in cooperation with the pediatrics department to broaden educational outreach across disciplines regarding psychiatric conditions that more commonly present in pediatrics. Recent publications from CAPPCON include a report in *Academic Emergency Medicine* examining characteristics of children boarding in emergency departments in rural New England. Dr. McGowan serves as a liaison with the department of mental health and participated in report to the Vermont Legislature regarding best practices for children and adolescents with eating disorders. McGowan has appeared on local radio programs advocating for and educating others about the need for psychiatric attention to the youth of Vermont.

The VCCYF outpatient clinic, directed by Andy Rosenfeld, M.D., provides state-of-the-field family-based care utilizing a mix of in-person and virtual visits based on clinical need and will continue to study the best ways to utilize telemedical technology to broaden availability of care. As the psychiatry department's quality improvement chair, Dr. Rosenfeld has been instrumental developing a Suicide Care Pathway in collaboration with VCHIP and now leads a UVM Health Network initiative for suicide risk assessment. Now in its second year, this pathway is moving toward targeted interventions following data collection. Additionally, Yasmeen

Abdul-Karim, M.D., and Pippa Owens, RN, M.S.W., LISCW, created the “Warm Welcome Pathway” to include easier access to child psychiatry services for families whose dominant language is not English.

VCCYF, in collaboration with VCHIP, additionally collaborates on several other initiatives, including the Vermont Child Psychiatry Access Program (VTCPAP), led by Greta Spottswood, M.D., M.P.H., at Community Health Center-Burlington. VTCPAP provides consultative services to pediatric health care clinicians around diagnosis, assessment, and treatment of pediatric mental health concerns. Efforts also include examining matters of access and equity within our practice. The VCCYF Child Psychiatry Fellowship, directed by Maya Strange, M.D., trains eight fellows (four per year) who provide important ongoing clinical care in the above services and programs and who upon graduation accept child psychiatry positions in Vermont and nationwide.

VCCYF researchers continue to distinguish themselves on the national and international psychiatric stage. Recent research into socioeconomic determinants of health have included inquiries by psychiatric chair Robert Althoff, M.D., Ph.D., on the relationship between food insecurity and child psychiatric syndromes. Research by child psychiatry fellow Michelle Cross, D.O., aims to better understanding of the role of micronutrients in emotional dysregulation. Masha Ivanova, Ph.D., publishes on topics including psychiatric measurement tools and the relationship of cultural expectations to psychiatric diagnoses in children. Steven Schlozman, M.D., recently published articles on the educational value of consult-liaison psychiatry, the importance of trust in the doctor-patient relationship, and the relationships of popular culture and media to mental health in children and adolescents. William Copeland, Ph.D., director of research for VCCYF, was again cited as one of the top one percent of referenced scientists in the field of child psychiatrist and psychology in the world.

The Division of Child and Adolescent Psychiatry is keenly aware of the ongoing crisis in pediatric mental health in the United States. The division will continue to provide outpatient, inpatient, and consultative care for children and adolescents. Major goals for the following year include increased community involvement toward meeting the needs of the children and families we are privileged and honored to serve.

Psychological Services

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

In 2023 the Pediatric Psychology Service continued to prioritize the needs of young people who struggle with psychiatric crises and significant psychological distress, acute medical illness and injury, and chronic conditions carrying psychological challenges. Our psychologists supported children, adolescents, and families in the Emergency Department, inpatient medical units, the Transgender Youth Program, diabetes, gastroenterology, and hematology-oncology clinics, and primary care practices.

Highlights

- Rebecca Ruid, Ph.D., reevaluated annual mental health screening in pediatric endocrine clinic and updated measures and administration to reflect shifts in population health care that remain secondary to the COVID pandemic; conducted a statewide training in methods intended to prevent and treat needle phobia in the general pediatric population to decrease time demands placed on staff during vaccine visits, increase access to recommended medical interventions, and decrease stress in youth and families around needle sticks; and continued to focus on enhancing integrated primary care through program development and population health initiatives at Pediatrics Primary Care in Williston.

- Madison Smith, Psy.D., developed robust programming and family education materials for young people and families awaiting psychiatric placement and created training programs for staff; developed a psychosocial assessment structure for the Transgender Youth Program; and provided clinical supervision of psychology residents in the care of gender creative young people.
- Kimberlee Roy, Ph.D., developed an assessment program for young people undergoing cancer treatment and provided psychological support to young people referred by the Transgender Youth Program.
- Courtney Fleisher, Ph.D., collaborated with others on the development of health equity rounds at UVM Children’s Hospital; presented a poster, “Practicing from a Culturally Humble Stance: The Role of Clinical Documentation,” at the UVM Health Equity Summit; and presented a virtual presentation for the Ethics committee at Mt. Washington Pediatric Hospital, “Open Notes: A New Culture from a Humble Stance.”
- Logan Hegg, Psy.D., supported ongoing development of a network-wide suicide care pathway with multidisciplinary colleagues across partner institutions; engaged in a state-legislated Mental Health Integration Council as part of the Pediatric Integrated Care Workgroup, which will submit its final report to the state legislature in 2024; completed program consultation and recommendations to Pediatric Primary Care at Porter Medical Center; developed Epic functionality to enhance team-based, family-centered whole-person care; initiated Cosmos Super-User Training; offered primary care mental health services within the medical home with focus on quick access to evidence-supported generalist mental health services, especially for children and families with barriers to accessing mental health care; provided clinical supervision toward licensure for M.S.W. colleagues within the Pediatrics-Vermont Center for Children, Youth, and Families Autism Assessment Program; served as an invited member of the Four Pines Fellowship Advisory Committee to enhance medical student training around suicide risk prevention; presented lectures for pediatrics residents, psychiatry residents, and child-adolescent fellows; and presented on anxiety and suicide risk assessment at the Children’s Specialty Center.

Radiology

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

The Division of 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.

Pediatric Outpatient Services

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

This past year has been another incredible year of growth for Pediatric Outpatient Services. In October of 2022, we began our first pediatric-specific palliative care program, providing palliative care services to hospitalized and outpatient children and families and consultations to providers and specialists. The program has been very well received by patients, families, and providers. We also created a contractual relationship with Massachusetts General Hospital to provide pediatric physiatry services at UVM Children’s Hospital on a quarterly basis. This is the only pediatric physiatry service in Vermont. We have also taken steps to align our autism assessment services with child psychiatry and pediatrics, and we have aligned the groups’ processes starting this fall. Additionally, we are developing a pediatric exercise physiology program through

our pediatric cardiology division and outlining the expansion of our adolescent medicine division to support broader adolescent services and transgender youth services.

The Children's Specialty Center

The Children's Specialty Center provides outpatient care in 20 pediatric specialties and multidisciplinary programs for approximately 120 patients per day. This year we expanded physician services for pediatric endocrinology, and we continue to recruit for physicians to expand access to pediatric gastroenterology, nephrology, and genetics. This is a direct response to increased demand in our communities and underscores our desire to maintain care for families in our community. Families in the Children's Specialty Center are screened for social determinants of health and, when needed, receive food from our "food pharmacy."

Pediatric Primary Care - Burlington and Williston

Pediatric primary care is located at 1 South Prospect Street in Burlington and in Blair Park in Williston. Our primary care services in Winooski schools expanded this year. Working with the UVM Medical Center, the school district recently installed an iPad-based system connected to stethoscopes, laryngoscopes, and other instruments. Providers can now see patients remotely on any school day, not just on the days they staff the clinic in person. We continue to enhance care services related to social determinants of health, developmental screenings, and behavioral health. We continue our collaboration with the Janet S. Munt Family Room to bring our services there one day per week to provide well-child services and family education to New American families.

Pediatric Inpatient Services


**DIRECTOR
MICHELE
BOUCHARD,
B.S.N., RNC-NIC,
CNML**

Inpatient Pediatric Unit

The Inpatient Pediatric Unit on Baird 5 is a 20-bed nursing unit that admits pediatric patients ranging from day one of life to 18 years old. We are a general medical surgical unit, and we care for children with any pediatric diagnosis or disorder and at varying levels of acuity. We onboarded six new registered nurses in 2023 and supported seven nurses to take the APHON (Association of Pediatric Hematology/Oncology Nurses) course, enabling them to be certified to administer chemotherapy and biotherapy to pediatric patients. Our team collaborated with the Neonatal Intensive Care Unit (NICU) to create specific guidelines around transferring infants to the floor from the NICU. We also collaborated with the NICU and Postpartum and Newborn Nursery to create a pathway for infants with Neonatal Opioid Withdrawal Syndrome to be transferred to inpatient pediatrics, with the goal to decrease the length of stay and improve the caregiver experience. We trained all of our nursing staff on the Eat, Sleep, Console care approach for newborns exposed to opioids in the womb and began implementing this care approach in July. Baird 5 also holds an education day in May for all the RNs, which this year included an innovative and creative "Escape Room" activity to test nursing knowledge and skills while reiterating regulatory standards—and having fun!

Labor & Delivery

Labor & Delivery staff delivered high-quality care for more than 2,200 births in 2023 and cared for pregnant and postpartum patients presenting for evaluation of pregnancy-related and non-pregnancy-related concerns. The Maternal-Fetal Medicine division at UVM Medical Center receives referrals for high-risk pregnancy care from all of Vermont, upstate New York, and beyond, partnering with the NICU team to provide care for premature and critically ill newborns from around the region. We welcomed 11 new staff nurses last year, including four newly graduated nurses, and have been operating without the need for travel nurses. The staff nurses on our Unit Based Nursing Practice Council introduced several quality-improvement projects, including standardization of care for high-risk cesarean sections performed in the main operating



room, nursing care for newborns in their first hour of life, quantitative measurement of blood loss after delivery, optimization of the pre-operative process, data analysis around induction of labor, twin deliveries, and elective inductions. Our volunteer doula program continues to thrive, and shows a measurable reduction of cesarean section rates for patients who have the support of a doula during their labor.

Neonatal Intensive Care Unit

Vermont Children's Hospital Neonatal Intensive Care Unit (NICU) is a 20-bed Level III and nine-bed step-down unit that serves as a regional referral center and the only NICU in Vermont. We have a critical transport team that services all of Vermont and upstate New York. The NICU offers a collaborative team approach to care for premature and critically ill newborns. In 2023, we introduced a full-time dedicated lactation consultant role, filled by nursing Certified Lactation Consultants (CLCs) and International Board Certified Lactation Consultants (IBCLCs) who provide lactation support to NICU moms seven days a week for a minimum of four hours daily to assist mothers with breastfeeding, pumping, milk storage, and other lactation support issues. Families and staff have found this role extremely helpful, and Press Ganey data showed that score for preparedness for discharge increased from 70.9 percent in 2022 to 84 percent in 2023. Vermont Oxford Network (VON) quality data also reflected infants receiving any human milk at discharge went from 51.6 percent in 2020 to 71.4 percent in 2023.

The NICU is slotted for a renovation to begin in 2024 to offer two more patient care isolation rooms. One room is a single and one room is a double, to allow the NICU to care for three more patients in need of isolation. This renovation is funded in part by a donation from New England Federal Credit Union.

Postpartum and Newborn Nursery

The Baird 7 postpartum and newborn nursery continues its mission to deliver high-value patient- and family-centered care to newborns, postpartum, and antepartum patients and their families. We care for approximately 2,100 newborns and their families annually. UVM Children's Hospital maintained our Gold Level Safe Sleep facility through the Cribs for Kids network. Vermont continues to have some of the highest breastfeeding rates in the country. In 2023 our lactation consultant nurse specialist worked to increase the availability of our lactation consultants on the unit and for breastfeeding patients in other areas of the hospital. We also increased accessibility to resources for lactation in the community after discharge. A new initiative, Project LIGHT (Learning and Implementing Guidelines for Hyperbilirubinemia Treatment), aims to optimize management of hyperbilirubinemia (jaundice). These guidelines streamline phototherapy, allowing for newborns to be held and room with their parents during treatment rather than in an isolette in the nursery.

PEDIATRIC SURGICAL SPECIALTIES

General Surgery

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

The Division of Pediatric Surgery, staffed by three board-certified pediatric surgeons — Martin Keller, M.D., James Murphy, M.D., and Kenneth Sartorelli, M.D. — provides the full range of general and thoracic surgical care for children from newborn 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

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

Collaboration has been the theme of pediatric neurosurgery in 2023. Surgical correction of craniosynostosis continued with the addition of Daniel Gerges, M.D., assistant professor surgery in the Division of Otolaryngology-Head and Neck Surgery. We collaborate with providers in oncology, radiology, and radiation oncology to care for pediatric neuro-oncology patients. The concussion clinic thrives under the leadership of Leanne Poirier, RN. This program, which provides outpatient rehabilitation services to children following head injury, inspired a poster presentation at the American College of Surgeons quality conference and a publication in 2023 in the journal *Child's Nervous System*, "Analysis of a Novel Virtual Pediatric Concussion Clinic in a Rural Setting." Spina bifida patients continue to receive comprehensive care with including medical and surgical treatments for patients from newborn to adult.

Selected Publication

Bales NJ, Perera DC, Foerster R, Poirier L, Ducis K. Analysis of a novel virtual pediatric concussion clinic in a rural setting. *Childs Nerv Syst.* 2023 Nov 28. doi: 10.1007/s00381-023-06231-5. Epub ahead of print. PMID: 38015249.

Ophthalmology

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

The UVM Pediatric Ophthalmology and Strabismus Clinic provides comprehensive ophthalmic evaluations, amblyopia therapy, and surgical treatment for pediatric ophthalmic diseases. We teach pediatric residents and medical students about the intricacies of pediatric ophthalmology, including pathology, optics, and treatments. We work with the Gambian government, National Ministry of Education, National Eye Health Program, and OneSight to establish a national children's vision screening program, a considerable and rewarding undertaking requiring in-country work and negotiations, with a goal to increase children's vision screening and training of orthoptists. It is one step toward reducing the impact of amblyopia on the increasing rate of global visual impairment. The team also coordinated with the pediatrics department to host visiting professor Chet Raj Pant, M.D., professor of ophthalmology and chair of the Nepal Netra Jyoti Sangh, the national blindness prevention organization of Nepal. We learned about the tremendously advanced system for ophthalmology in Nepal, discussed an opportunity for bidirectional educational



partnership, and explored Vermont's beautiful vistas. The clinic team celebrated World Sight Day 2023 with a poster unveiled on October 12 discussing the year's theme, "Love Your Eyes At Work." We held employee vision screenings at UVM Medical Center on October 25 to celebrate Blindness Prevention Month. The event drew nearly 100 employees and afforded an opportunity to discuss eye health, provide reassurance, and recommend referral.

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 three fellowship-trained, board-certified pediatric otolaryngologists: Richard Hubbell, M.D., Heather Herrington, M.D., FACS, and Daniel Geroges, 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. Dr. Geroges joined us after completing a pediatric otolaryngology fellowship at the University of Pittsburgh. He brings special expertise in surgical care of children with cleft palate, micrognathia via mandibular distraction, and complex airway reconstruction. In collaboration with Katrina, Ducis, M.D., in neurosurgery, we can now offer endoscopic repair of craniosynostosis to children in our network. In 2023, the team performed three fronto-orbital advancements for coronal and metopic craniosynostosis, one cranial vault remodeling procedure for sagittal craniosynostosis, and one posterior cranial vault distraction for bicoronal craniosynostosis. In collaboration with providers in pediatric pulmonology, pediatric intensive care, anesthesia, emergency medicine, respiratory therapy, and nursing, Dr. Herrington continues work, funded by a Frymoyer Scholars Program grant, on improving care of children with difficult airways. We are extending this training to providers throughout the network, as children often present to our partner hospitals first. Ongoing quality projects also 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's ongoing research study evaluates the use of white-noise machines and hearing loss in children. Geroges moderated an oral presentation for pediatric otolaryngology at the American Academy of Otolaryngology-Head and Neck Surgery annual meeting, and Herrington served on a panel, "How to Manage Pediatric Complications to make your Life Simpler."

Plastic Surgery

**DIVISION CHIEF
DONALD LAUB,
M.D.**

University of Vermont Children's Hospital pediatric plastic surgery welcomed back Donald Laub, M.D., who returned following private practice in the community. Dr. Laub is the medical director of the Cleft Palate and Craniofacial Clinic, which serves ongoing medical and social needs of children born with oral-facial clefts. Clinic team members include specialists in plastic surgery, otolaryngology, genetics, dentistry, speech-language pathology, social work, child life, and a nursing clinic coordinator. This multidisciplinary team promotes coordination of care and reduces clinic visits for each patient and family. We see patients from six months of age until they graduate from our clinic, usually around age 21. We collect family satisfaction and quality data for the multidisciplinary clinic as a part of our recertification process with the American Cleft Palate-Craniofacial Association. Laub is also a specialist in the treatment of children with congenital differences of the hand, including syndactyly and polydactyly, and, along with Robert Nesbit, M.D., he offers splinting for infants born with deformities of the external ear and removal of preauricular tags.

Urology

**DIVISION CHIEF
GERALD MINGIN,
M.D.**

Pediatric urology sees patients and families in person or via telemedicine. While our main focus remains at the University of Vermont Children's Hospital, we look forward to offering clinical outreach at Champlain Valley Physician's Hospital. This will offer patients in the north country improved access to specialty care. Pediatric urology is devoted to improving care through our multispecialty (in partnership with pediatric nephrology) voiding dysfunction clinic with a special emphasis on children with developmental disabilities, including autism; a multidisciplinary myelomeningocele clinic; and robotic minimally invasive surgical treatment for complex reconstructive procedures. We proudly continue our relationship with pediatric urology at Children's Hospital of Philadelphia, which includes participation in clinical care conferences and access to world-class expertise for the most complex urologic conditions. In rare cases, we can arrange for surgical treatment with our physician in Philadelphia. Pediatric urology is active in both clinical and basic science research with significant contributions to journals including the *Journal of Pediatric Urology* and *American Journal of Physiology*. We maintain a significant level of NIH R01 funding (\$2.5 million) to study the effect of stress on bladder function, in collaboration with scientists in consortium, including Michigan State University. The need to better understand the role of stress in altering bladder physiology has become more important in light of increased anxiety among children and families.

Selected publications

- Saxena P, Broemer E, Herrera GM, Mingin GC, Roccabianca S, Tykocki NR. Compound 48/80 increases murine bladder wall compliance independent of mast cells. *Sci Rep.* 2023 Jan 12;13(1):625. doi: 10.1038/s41598-023-27897-6.PMID: 36635439. Free PMC article.
- Jones BM, Mingin GC, Tykocki NR. The mast cell stimulator compound 48/80 causes urothelium-dependent increases in murine urinary bladder contractility. *Am J Physiol Renal Physiol.* 2023 Jul 1;325(1):F50-F60. doi: 10.1152/ajprenal.00116.2023. Epub 2023 May 18.PMID: 37199916.



GERALD MINGIN, M.D.

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