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



2022 Annual Report

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



Lewis First, M.D.

IT GIVES ME GREAT PLEASURE

to again have the opportunity to introduce this year's annual report for the Department of Pediatrics at the Robert Larner, M.D., College of Medicine and the University of Vermont Children's Hospital (UVMCH).

2022 was supposed to be a year when things quieted down from the pandemic, and we could put the severity of that challenge behind us. Little did we realize COVID would still be omnipresent in our region despite the excellent efforts our state has made to vaccinate as many children and families as possible, and yet what we did not expect was the surge of RSV and influenza that we experienced as we ended the 2022 calendar year. While continuing to deal with high volumes and high acuity, the department still managed to grow and develop its clinical and academic programs and projects, as you will learn in this year's report.

Feature articles in this year's report will focus on the care we are providing on both campuses to children and families, especially during both COVID and the recent tri-viral surge that occurred this past fall and winter. We also shine

a spotlight on some of our faculty, including our four vice chairs, who have gone above and beyond helping to further the academic as well as clinical missions of our department locally, nationally, and internationally. It is also exciting to see that our commitment to diversity, equity, and inclusion is being demonstrated with programs that you will learn about in this report, such as our "Pathway to Pediatrics" pipeline program to introduce high school, college, and graduate students to the possibility of pursuing careers in pediatric health.

Our department has grown over the past few years as we now have almost 80 faculty who are part of our department and many more in other departments (e.g., pediatric surgery, neurology, anesthesia, emergency medicine) and in the communities that surround us. Updates from our many divisions and programs are contained in the pages that follow, and I want to express my gratitude to our faculty, nurses, staff, trainees, administrators, and patient and family advisors for the outstanding commitment they have made to making our children's hospital the high-quality, child-friendly, familycentered children's hospital that it

is today. Special thanks as well to Sue Victory, who, though retired, has continued to give of her time to special projects, including her work on this year's annual report.

As I embark in 2023 on my 29th year as department chair and children's hospital chief, and our department and children's hospital turn 73, I continue to be honored to serve as a member of our remarkable team doing ongoing outstanding work day in and day out to ensure the health and well-being of the children and communities we serve. You'll understand what I mean by reading and learning about all that we have accomplished and continue to accomplish in our 2022 annual report!

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LEWIS FIRST, M.D.

Professor and Chair,
Department of Pediatrics,
Larner College of Medicine,
The University of Vermont

Chief of Pediatrics,
The University of Vermont
Children's Hospital

Physician Leader,
Children's Health Care Service,
The University of Vermont
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On the cover: Associate Professor of Pediatrics and neonatologist Danielle Ehret, M.D., M.P.H., was invested as the inaugural Asfaw Yemiru Green and Gold Professor in Global Health in 2022. (See story on page 9.)

Photography by Ryan Mercer and David Seaver





Celebrating 2022 Emeriti Faculty

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



Wendy Davis, M.D.Professor of Pediatrics
1987 - 2022



Niels Giddins, M.D.
Associate Professor
of Pediatrics
2007 - 2022



Scott Yeager, M.D.
Professor of Pediatrics
1985 - 2022

UVM CHILDREN'S HOSPITAL EMERITI FACULTY

Stephen Contompasis, 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

VT LEND

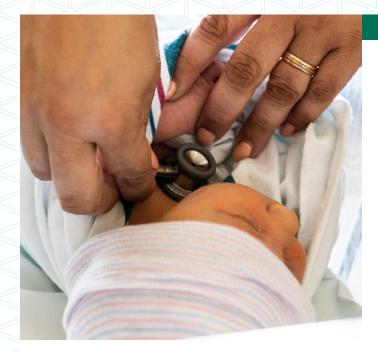
Since 1995, the Vermont Leadership Education on Neurodevelopmental Disabilities (VT LEND) program trains 12 individuals annually in their nine-month, 300-hour program. The goal is to train culturally responsive health professionals prepared to improve health care systems for children with autism spectrum disorder and developmental disabilities. With the leadership of Program Director Mercedes Avila, Ph.D., M.S.W., VT LEND has received state and national recognition as one of the most



Mercedes Avila, Ph.D., M.S.W.

diverse LEND programs in the country and as a leading program advancing culturally responsive practice and education. In 2022, VT LEND trainees represented 50 percent racial/ethnic diversity with trainees from Georgia and the U.S. Virgin Islands. VT LEND

faculty/staff are from Vermont,
New Mexico, New York, and the
U.S. Virgin Islands. In the past
year, VT LEND faculty and staff
conducted 90 continuing and
community education trainings
and technical assistance sessions
and developed 28 products,
including reports, journal articles,
web-based products, and conference presentations. VT LEND is
funded under a Health Resources
and Services Administration
(HRSA) Maternal and Child Health
Bureau (MCHB) 5-year grant.



PEDIATRIC NEW AMERICAN PROGRAM

Afghan, Somali, Sudanese, and Congolese pediatric refugees were medically resettled by the Pediatric New American Program (PNAP) throughout Vermont in 2022. The PNAP team produced a webinar series on refugee resettlement that is housed permanently on the Vermont Medical Society website. The Building Strong Families (BSF) Clinic, a partnership with the Janet S. Munt Family Room, provided 43 percent of the resettled families with food resources in addition to health care visits. BSF's bilingual and bicultural community health workers connect families to a multitude of needed supports and resources. The BSF Clinic will start a hybrid model of group well-care visits for children in immigrant families under age 6 as well as individual visits in the new year. The group well-child care model allows parents more time to learn about parenting in a new country as well as offering peer-to-peer support. Through our partnership with the Family Room, "Super Group," an autism support group for immigrant families, has flourished.

CHILDREN'S HOSPITAL 2022 SUCCESSES

Reducing Hospital Acquired Conditions

Central Line Associated Bloodstream Infections (CLABSI)

- NICU is over 6 months CLABSI-free
- Baird 5 is over a year CLABSI-free
- PICU is over 3 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

Falls

- There were no falls with injuries in 2022 on Baird 5, Mother-Baby Unit, PICU, or NICU
- Mother-Baby Unit's Quality Improvement
 Project educating families about baby drop risk factors has eliminated drops since early 2021

Pressure Injuries (PI)

- NICU and Mother-Baby Units had no PIs in 2022
- No PI on Baird 5 since July 2022
- No PI in PICU since June 2022

Medication Errors

A team representing all units and quality and safety, emergency department, pharmacy, and primary care meets monthly to review every medication-related safe report and determine appropriate action plans.

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In the UVM Clinical Simulation Laboratory, undergraduate students considering careers in medicine practice clinical skills on manikins.

WITH THE GOAL OF ONE DAY

becoming a physician, Kiana
Heredia started her undergraduate
degree at Mount Holyoke College
as a pre-medical student. Faced
with a course load of classes such
as organic chemistry, inorganic
chemistry, and physics, Heredia
says she began to second-guess
the gut feeling that she belonged
in the medical field.

"An Intro to Physics course was my first taste of what it meant to be a pre-med student," she says. "I remember thinking to myself, 'This can't be something I want to do for the rest of my life ... What am I doing here?' ... With no family members or friends in the health care field, I was convinced that these pre-med requirements and medicine were synonymous, in meaning and experience, without any room for expansion." Pediatric

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

Heredia graduated with a degree in psychology, but it wasn't until a few years later, after volunteering at a geriatric facility and a fertility clinic in Spain, that she rediscovered her love of medicine and began her path back to a career as a physician. Now she is a medical student in the Larner College of Medicine Class of 2024 and has helped Assistant Professor of Pediatrics L. E. Faricy, M.D., create the URiM Pathway to Pediatrics (UPP) program to assist others who may encounter the doubts she experienced during her undergraduate years. When the grant for the

program did not come through, Faricy approached her chair, Lewis First, M.D., to see if the Department of Pediatrics would be interested in funding the program. Not only did First agree, he also became an integral part of the event.

In April 2022, the inaugural cohort of 14 participants, including undergraduate pre-med college students from across the region, along with two students from Burlington High School, took part in the day-long program, which featured hands-on group skills sessions, a "Clinical Mystery Case" session led by First, and interactive simulations.

Participant Kelechi "KC" Onuoha, a rising senior at Saint Michael's College, commented: "Seeing all these Black women who are intelligent, educated, and successful medical students meant so much to me ... I want to be like them."

Medical Education Update

In 2022, following a vote by graduating medical

students, the Department of Pediatrics was once again a finalist for Clinical Department of the Year. This year, Lewis First, M.D., received the Frederick C. Morin III, M.D., Educational Leadership Award from the Larner Teaching Academy. Two pediatric teams - one comprising Jennifer Covino, M.D., Nate Meuser-Herr, M.D., pediatric nurse educator Colleen Pennington, B.S.N., RN, and nurse manager Disa Seymour, M.S., RNC-MNN; and the other made up of Deirdre O'Reilly, M.D., M.P.H., Jess VanNostrand, M.D., and pediatric nurse educators Katie Dezotelle, RN, and Teah Cardeilhac, RN-received Frymoyer Scholars education grant awards. Residents and fellows have been instrumental in direct teaching, and several have designed projects related to medical education this year. Pediatric residents Jonathan Danel, M.D., Sarah French, M.D., and Alex Zajack, M.D., are performing a quality improvement project aimed at improving clerkship students' preparation for oral patient presentations during rounds on the inpatient service. Neonatal-Perinatal Medicine Fellow Amara Heard, M.D., is performing a quality improvement project using a delivery room checklist tool to improve pediatric resident preparedness for resuscitations. Dr. VanNostrand has been involved in a national research study about direct observation of clerkship students during clinical encounters in the pediatric clerkship rotation. Faculty members have been involved in medical education projects as well. Hillary Anderson M.D., and Molly Rideout, M.D., have been studying professional identity formation in relation to the longitudinal fourth-year pediatric concentration. Jill Rinehart, M.D., Beth Forbes, M.D., and Buzz Land, M.D., have created a mental health curriculum for the pediatric residency program. Andrea Green, M.D., and Anisha Rimal, M.D., are studying a formal global health curriculum for the pediatric residency program that will launch this coming year. On the national level. Dr. O'Reilly serves on the executive committee for the Organization of Neonatal-Perinatal Training Program Directors; Dr. Rideout



is on the Council for Medical Student Education in Pediatrics. Dr. Rinehart completed the Association for Pediatric Program Directors Leadership in Educational Academic Development Program. The department continues work toward increasing pathways to pediatrics for underrepresented in medicine (URiM) undergraduate and medical students through several programs. More than 20 pediatric faculty members are mentors for the Pathways In Pediatric Education (PIPE) program, offering clinical shadowing opportunities for local undergraduate students. The department also established a funded fourth-year elective program for visiting fourth-year URiM students in 2022.

Pediatric Residency Program

The pediatric residency program has continued to develop its integrated mental and behavioral health curriculum. For the first time, this year's incoming pediatric residents will have a core mental/behavioral health block anchoring their knowledge of common mental health conditions with experience with child/adolescent psychiatry and the pediatric psychology team. In response to our community's need for more mental health support, residents are engaged in school-based health outreach to be a resource for local schools. The pediatric residency global health curriculum has been updated and, with the reduction of travel restrictions, has all of us excited for the return of international experiences.

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Autism Support for Immigrant Families

AT A SPACE CALLED THE

Family Room in Burlington's Old North End, Mimi Falcone '25 sat with a group of new American parents whose children are on the autism spectrum. The mothers ate watermelon and shared parenting tips while their children played tag, tossed balls, and made arts and crafts. The group gathers twice monthly to socialize and gain insights on themes such as wandering prevention, with support from social workers and volunteers. Falcone joined the group last summer for a research project.

Working with faculty mentor Andrea Green, M.D., professor of pediatrics, Falcone tracked the impact of peer support on relieving stress among immigrant parents of children with autism. She surveyed the parents about their stress related to taking care of their child with autism, asking them to rate their stress on a scale from 1 to 10 with a brief explanation.

"Parents with neurodiverse children often are cast aside and forgotten. Many of these parents have limited English proficiency and minimal family nearby, so they feel isolation to an even larger degree," said Falcone. "The hope is that this style of peer support group has a positive effect on the participants and their families by providing a sense of community and camaraderie with other parents and a connection to educators, health care professionals, and advocates."

Through this project, Falcone aimed to show that peer support groups build healthy communities and improve health care outcomes for immigrants. Early evidence shows she's on track: "So far, having a consistent time and

For her research project, Mimi Falcone '25 (left) tracked the impact of peer support groups on relieving stress among immigrant parents of children with autism.

physical meeting place for parents to decompress and share what's on their minds is proving to be instrumental in reducing the stress felt by the parents involved in the group."

Falcone became interested in integrating community service and science as an undergraduate student at UVM. A course on maternal and child health equity sparked her passion for working with underserved populations.

"I hope to be an ally, advocate, and educator within immigrant and low-resource communities. I see myself working to improve health and well-being at a population level just as much as with individuals in an exam room," she said.

Neonatal-Perinatal Medicine Fellowship Program The Neonatal-Perinatal Medicine

Fellowship Program combines

clinical training in newborn

intensive care with individualized research mentoring to prepare fellows for careers in academic medicine. Fellows receive training in quality improvement and systematic reviews and metaanalyses through work with the Vermont Oxford Network and the Cochrane Neonatal Collaboration. Fellows are engaged in active learning methods embedded within the curriculum, including regional and national efforts to improve retention of fundamental knowledge and skills in neonatal intensive care. Fellows are supported and encouraged to become protégé members of the Teaching Academy at the Larner College of Medicine to strengthen clinical teaching and mentoring skills. All fellows participate in a onemonth rotation in the cardiac intensive care unit at Boston Children's Hospital, where they obtain experience with cardiac surgery and extracorporeal membrane oxygenation (ECMO). In cooperation with the Neonatal-Perinatal Fellowship training program at Dartmouth, semi-annual joint fellow conferences focus on simulation skills, communication, and fundamental knowledge for clinical practice. Fellows tailor their research and scholarly activity to match career goals; recent efforts have included training in pointof-care ultrasound diagnostic techniques, non-pharmacologic care for opioid-exposed newborns, and global health.

Patient and Family Centered Care Program

Early in the year, Children's Hospital Patient/Family Advisors, physicians, social workers, and staff planned and implemented two multistakeholder Care Coordination Summits, convened by the Vermont Child Health Improvement Program (VCHIP). VCHIP sought to create space to discuss the current and future landscape of care coordination across Vermont. The UVMCH Patient/Family Advisory Council, a multidisciplinary team dedicated to improving the patient, family, and staff experience across the children's hospital, tackled a variety of topics ranging from how we engage with families when it comes to surveys, lead poisoning prevention guidance for parents and caregivers, and the development of an emergency care planning tool for improving health-related outcomes for kids with medical complexity in the Emergency Department. The advisory group plans to extend their reach and to increase the voices and perspectives represented in the group in the coming year. Charlotte Safran, coordinator of patient and family centered care for the Children's Hospital for six years, transitioned out of the role in June 2022. Vicki Mascareño Nelson, M.Ed., joined the team as the new coordinator, after spending 20 years as a school counselor in the Vermont education system. Nelson has also been a Patient/ Family Advisor for the Children's Hospital for five years and brings to the role an expertise and passion for DEI advocacy and leading DEI initiatives.

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2022 YEAR IN GIVING

Community members continued to step forward in the spirit of service and generosity to support the work of the UVM Children's Hospital. Despite the limitations that still existed during the third year of the COVID-19 pandemic, people still showed up for kids and their caregivers, supporting the Big Change Roundup, RALLYTHON, Extra Life Gaming Marathon, and other events.

An Extraordinary Year of Support

Big Change Roundup for Kids

\$347.029.03 RAISED

Of note, this included a \$100,000 contribution from the Holly and Bob Miller Charitable Fund at Vermont Community Foundation

Key sponsors: Maplefields, Med Associates Inc., New England Federal



Extra Life Gaming Marathon

\$44,213.99 RAISED

• 194 gamers registered



RALLYTHON 98.069.34 RAISED

• **785** participants registered

\$360,377 RAISED

Top fundraising partners:

Walmart/Sam's Club, Costco,

Federal Credit Union, Rite Aid

Kinney Drugs, New England

Foundation, Ace Hardware

Golf Classic

\$166.032 RAISED

• 160 golfers, 40 teams, 24 sponsors **Key Sponsors: Farrington Construction** (presenting), Vermont Mechanical, Fiducient Advisors, EchoStor **Technologies**





Outside of CMN Hospitals CMN Hospitals Corporate Partners Corporate Partners

Dunkin' Joy in Childhood Foundation (Dunkin' Donuts Iced Coffee Day) \$15,000

Spirit of Children (Spirit Halloween Stores Fundraising) \$19,151



Third Party and Events

\$30,054.84 RAISED for pediatric initiatives from more than 18 different events and promotions

(left to right) **UVM** Foundation President and CEO Monica Delisa, Ed.D., UVM Provost and Senior Vice President Patricia Prelock, Ph.D., Jeffrey Horbar, M.D., Danielle Ehret, M.D., M.P.H., Lewis First, M.D., and Larner Dean Richard L. Page, M.D.



Honoring a Legacy

ASSOCIATE PROFESSOR OF

Pediatrics and neonatologist Danielle Ehret, M.D., M.P.H., was invested as the inaugural Asfaw Yemiru Green and Gold Professor in Global Health in a formal ceremony held at the University of Vermont's Larner College of Medicine on July 28, 2022.

This endowed professorship was established by the Vermont Oxford Network (VON) in honor of Asfaw Yemiru, who spent his lifetime serving over 120,000 children and families at the Asra



Hawariat School in Addis Ababa,

Ethiopia, which he founded.

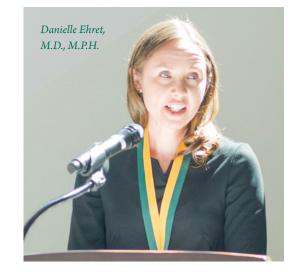
the event was Jeffrey Horbar, M.D., Jerold F. Lucey Professor of Neonatal Medicine in the Department of Pediatrics and chief executive and scientific officer of VON. In addition. members of the Yemiru family, as well as friends and supporters of the Asra Hawariat School and VON colleagues in the Ethiopian Neonatal Network, joined the event virtually via a livestream.

Horbar and his wife, Irene, met Yemiru 50 years ago when they lived and worked as teachers at the Asra Hawariat School. Yemiru's work inspired not only the global health programs at VON, but the founding of the Ethiopian Neonatal Network in partnership with the

Ethiopian Pediatric Society, as well. After Yemiru's death in 2021, the VON board of directors endowed a fund in his memory.

Dr. Ehret, who joined the UVM faculty in 2015, was introduced to Yemiru by Dr. Horbar and became inspired by his life's work. She serves as director of global health at VON and has conducted extensive research on global health issues relating to high-risk newborns in lower- and middle-income countries around the world, receiving consistent support from extramural funding institutions, including multiple awards from the Bill & Melinda Gates Foundation.

"It has taken a global village to prepare me to accept this incredible honor today," said Dr. Ehret. "I accept this professorship in recognition of an amazing community that has supported me and Asfaw's values, with a personal responsibility to lead a career that he would be proud of, and to be an incredible mentor, sponsor, and friend to mentees for generations to come."



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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 13 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 ongoing care and vaccination for COVID-19. This year, two of our long-time partners, Pam Jackson, M.D., and Catherine Rude, M.D., will be retiring. We will miss their years of service and are currently recruiting for a new pediatrician to join us.

Pediatric primary care strives to practice pediatrics that is integrated with our community and focused on promoting equity and removing barriers to care. Our Primary Care Mental Health Integration Program, in collaboration with the UVM Health Network, is a team-based approach with psychology, social work, and psychiatry increasing access to services within primary care. The School-Based Health Centers in Winooski and Burlington, led by Heather Link, M.D., and Elizabeth McDonald, PNP, provide timely, efficient, and effective care for students across a broad range of health needs. This year, the team continued a group



mental health intervention through Burlington High School in collaboration with our clinical psychologist, Rebecca Ruid, Ph.D., and worked to expand our telehealth capabilities with a pilot in the Winooski school district. 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 refugees again this year in partnership with USCRIVT and AALV, with new arrivals coming primarily from Afghanistan. Dr. Green continues to provide equity-oriented, culturally sensitive care at the Building Strong Families Clinic, where parents and children of immigrant families find a safe space to be their authentic selves with health care providers. This year, Hillary Anderson, M.D., will join her as they resume group well-child care.

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 began her term as chair of the American Academy of Pediatrics Council on Community Pediatrics.

Quality Initiatives

- Andrea Green, M.D., coordinated a webinar series on refugee health with the Vermont Medical Society
 for health care providers serving Vermont's refugee communities. Matthew Saia, M.D., Heather Link, M.D.,
 Stanley Weinberger, M.D., and Cathy Kelley, LICSW, contributed presentations to this series.
- Stanley Weinberger, M.D., is the faculty lead for the Vermont Child Health Improvement Program (VCHIP) Child Health Advances Measured in Practice project, "Minds, Hearts, and Hands: Collaborating to Promote Healthy Mental and Emotional Development."
- 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: the Adolescent Medicine Eating Disorder Consult Clinic (EDCC), the Transgender Youth Program (TYP), and the Adolescent Medicine Sexual and Reproductive Health Clinic. The multidisciplinary staff in all of these programs continue to provide education and support for young people, families, community care providers, and community-based organizations outside of direct clinic work. 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 now actively participate in the EDDC and the TYP as part of their training. Clinical electives in adolescent medicine remain available to other students and trainees. All members of the division continue to work with local and state stakeholders to improve access to quality eating disorder and youth gender care in the state.

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 celebrated the longtime service of two highly respected faculty. Former Division Chief Scott Yeager, M.D., retired as professor emeritus after 35 years at UVM, including collaborative faculty appointments for interventional cardiology and cardiac imaging at UVM, Boston Children's Hospital, and Dartmouth-Hitchcock Medical Center. Niels Giddins, M.D., retired as associate professor emeritus after a 35-year career starting on the Canadian prairies, with the final 15 years concluding in general cardiology at UVM. Nancy Drucker, M.D., collaborated with the Vermont Child Health Improvement Program to improve care coordination for patients with medical complexity, including transition to adult providers, and evaluate food insecurity for children with congenital heart disease. Caitlin Haxel, M.D., participated in a Neonatal Cardiac Care Collaborative, authoring a chapter on care of the fetus with congenital heart disease. Jonathan Flyer, M.D., was elected president of the New England Congenital Cardiology Research Foundation. New junior faculty member Danielle Burstein, M.D., joined the division in October, having completed pediatric cardiology fellowship training at the Children's Hospital of Philadelphia, followed by advanced training in

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pediatric exercise physiology, cardiomyopathy, heart failure, and cardiac transplant. Dr. Burstein will focus on exercise testing and cardiac rehabilitation for children with congenital and acquired heart disease, caring for children with cardiomyopathy and heart failure, and building a pediatric exercise program at UVM to provide opportunities for all children throughout the region to pursue physical fitness and exercise. The pediatric cardiology echocardiography lab underwent rigorous evaluation for quality care imaging metrics and achieved a Certificate of Accreditation from the Intersocietal Accreditation Commission. The division completed a five-year quality improvement study of routine lipid screening in pediatric cardiology and compliance with national guidelines, with research findings presented at the 2022 Pediatric Academic Society meeting.

Selected Publications

- 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.
- Haxel CS, Johnson JN, Hintz S, Renno MS, Ruano R, Zyblewski SC, Glickstein J, Donofrio MT. Care of the fetus with congenital cardiovascular disease: from diagnosis to delivery. Pediatrics. 2022 Nov 1;150 (Suppl 2):e2022056415C.
- Flyer JN, Goudie BW, Greenstein, EP, Toro-Salazar OH, Nikolli K, Sleeper LA, Clarke CJ, Hidestrand P, Karnik R, O'Brien SE, Zilberman MV, Lacro RV. New England Congenital Cardiology Association Bicuspid Aortopathy Registry (NECCA BAR): a regional preventive cardiovascular care collaboration. Progress in Pediatric Cardiology. 2022:66;101543.

Selected Presentations

- Flyer JN, Congdon E, Yeager SB, Giddins NG, Drucker N, Parsons KP, Haxel CS, Robinson KJ. Improvement science increases routine lipid screening in outpatient pediatric cardiology. Pediatric Academic Societies, Quality Improvement/Patient Safety: Primary & Subspecialty Outpatient. April 24, 2022.
- Haxel CS, Belser AH, DeSarno MS, Glickstein J, Flyer JN. Condolence letter writing in pediatric cardiology: how does a fellowship curriculum impact post-graduate letter writing practices? American Academy of Pediatrics National Conference & Exhibition, Best Poster - Section on Hospice and Palliative Medicine. Anaheim, CA. October 9, 2022.

Child Developmental Evaluation Program

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

Child Safe Program

DIVISION CHIEF JAMES METZ, M.D., M.P.H., FAAP The Child Safe Program is committed to improving the health and well-being of children by addressing all forms of child maltreatment. The Child Protection Team includes a board-certified child abuse pediatrician, James Metz, M.D., M.P.H., FAAP; a board-certified pediatric forensic nurse examiner, Tracey Wagner, RN, SANE-P; and a social worker with expertise in child abuse and neglect, Mary-Ellen Longworth, M.S.W. We

continue our efforts to standardize the workup and treatment of child maltreatment at UVMCH and around the State of Vermont. Transparency and standardization in our work will hopefully decrease bias when it comes to 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. Members of the Child Protection Team serve on the Vermont Citizens Advisory Board, VT SANE Board, Child Fatality Review Committee, Prevent Child Abuse Vermont Board, Pediatric Trauma Council, Kidsnet Committee, and Human Trafficking Task Force.

Selected Publications

- O'Hara MA, Valvano TJ, Kashyap M, [et. al. including Metz JB]. Understanding bilateral skull fractures in infancy. A restrospective multicenter case review. Pediatr Emer Care 2022;00: 00-00. In press.
- Wallace J, Metz JB, Otjen J. et. al. Extra-axial haemorrhages in young children with skull fractures: abuse or accident? Arch Dis Child. 2022;107:650-655.
- Feldman KW, Ambartsumyan L, Goldin A, Jenny C, Wiester RT, Metz JB. Gastrointestinal problems and non-oral feeding in children evaluated for medical child abuse (fabricated and induced illness). Child Abuse 2022;31:e2746.

Endocrinology

DIVISION CHIEF PAUL ZIMAKAS, M.D. The Division of Pediatric Endocrinology provides ambulatory and inpatient care for patients with a variety of complex endocrine disorders. Using a family-centered approach, patients and their families receive care from a multidisciplinary team consisting of two physicians, three certified diabetes educators, an endocrine nurse, a pediatric dietician, a social worker, and a pediatric psychologist. The division successfully implemented telehealth services to connect with families during the pandemic. We telehealth into our routine care. This is an effective and convenient modality to ensure necessary follow-up of our patients, particularly those who otherwise travel great distances for care.

The American Diabetes Association recognizes the Pediatric Diabetes Clinic as a center of diabetes education. The division collaborates with VCHIP on quality improvement projects to ensure safe, appropriate transition of care from pediatric specialty care to adult primary or specialty care. Jennifer Todd, M.D., serves as co-medical director at the Barton Center for Diabetes Education, overseeing diabetes summer camp programs in Vermont and Massachusetts. Paul 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.

Selected Publications

- Srinivasan S, Todd JN. The genetics of type 2 diabetes in youth: where we are and the road ahead. J. Pediatr. 2022 Aug;247:17-21.
- Li JH, Perry JA, Jablonski KA, Srinivasan S, Chen L, Todd JN, Harden M, Mercader JM, Dawed AY, Yee SW,
 Pearson ER, Giacomini KM, Giri A, Hung AM, Xiao S, Williams LK, Franks PW, Hanson RL, Kahn SE, Knowler
 WC, Pollin TI, Florez JC, Diabetes Prevention Program Research Group. Identification of ancestry-specific
 allelic associations in a genome-wide association study for metformin response in the Diabetes Prevention
 Program (DPP). In press, Diabetes.

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Gastroenterology, Hepatology, and Nutrition

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

Clinical Genetics and Metabolics

DIVISION CHIEF KATHERINE ANDERSON, M.D. The Clinical Genetics Program provides genetic and metabolic services to patients of all ages 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 at the end of 2022 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 in the near future. 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, the division will be recruiting another geneticist and genetic counselor to join the team to further support our patients and families.

Selected 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 Children's Oncology Group, an international research consortium supported by the National Cancer Institute. With 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.

Highlights

- Jessica Heath, M.D., now serves as the vice chair of research in the Department of Pediatrics. Caroline Hesko,
 M.D., and Dr. Heath have received a grant from NNECOS Research Funding Program (Northern New England Clinical Oncology Society) for clinical trial enrollment of adolescent and young adult patients.
- · Matthew Shiel, M.D., is growing our programs for pediatric bleeding and thrombosis

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. 2022 Sep 28:100898.
- Avutu V, Monga V, Mittal N, Saha A, Andolina JR, Bell DE, Fair DB, Flerlage JE, Frediani JN, Heath JL, Kahn JM, Reichek JL, Super L, Terao MA, Freyer DR, Roth ME. Use of communication technology to improve clinical trial participation in adolescents and young adults with cancer: consensus statement from the Children's Oncology Group Adolescent and Young Adult Responsible Investigator Network. JCO Oncol Pract. 2022 Mar;18(3):224-231.
- Fertal SA, Zaidi SK, Stein JL, Stein GS, Heath JL. CXCR4 mediates enhanced cell migration in calm-af10 leukemia. Front Oncol. 2022 Jan 5;11:708915.
- Fritz AJ, El Dika M, Toor RH, Rodriguez PD, Foley SJ, Ullah R, Nie D, Banerjee B, Lohese D, Tracy KM,
 GlassKC, Frietze S, Ghule PN, Heath JL, Imbalzano AN, van Wijnen A, Gordon J, Lian JB, Stein JL, Stein
 GS. Epigenetic-mediated regulation of gene expression for biological control and cancer: cell and tissue structure, function, and phenotype. Results Probl Cell Differ. 2022;70:339-373.
- Colombo B, Aurelio B, Wallace HJ, Heath JL. exploring patients' trust from a new perspective. a text-analysis study. Health Commun. 2022 Oct 10:1-11.

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

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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 care for children with life-threatening illnesses or injuries 24 hours a day. Division members participate in multicenter research projects, engage in medical student and resident education, and represent UVM locally and nationally. Amelia Hopkins, M.D., has been the associate program director for the pediatric residency program during a time with many stressors in the program. Elizabeth Ulano, M.D., is the site leader for the Virtual PICU Systems, LLC, database, which has continued to demonstrate that for a PICU our size, we consistently take excellent care of very ill children with a lower-than-expected mortality rate. She has also led the division in QA and has worked to develop and improve our Pediatric Stroke Pathway and the Diabetic Ketoacidosis Pathway. Kristin Crosby, M.D., has been working hard to provide community outreach by doing transport conferences and educational sessions. Iris Toedt-Pingel, M.D., has continued her pediatric advanced communications course, TalkVermontPEDS, as well as her work with PALISI (Pediatric Acute Lung Injury and Sepsis Investigators). She is also contributing her palliative care skills to the newly formed Pedatric Advanced Care Team. Rebecca Bell, M.D., M.P.H., is commended for her ongoing statewide, regional, and national leadership in advocacy as president for the Vermont chapter of the American Academy of Pediatrics. In addition to these many endeavors, all five attendings have been working hard to care for the patients in the PICU. The PICU has been busy in the past year, especially this fall with the surge in respiratory viruses such as RSV, rhinovirus, and influenza.

Pediatric Hospitalist Medicine

DIVISION CHIEF KAREN LEONARD, M.D. The Pediatric Hospitalist Program provides expert hospital-based care, around the clock, for pediatric inpatients and newborns at UVM Children's Hospital and Champlain Valley Physician's Hospital in Plattsburgh, New York. As a reflection of our commitment to the inpatient care of children, 10 members of our team are now Board Certified by the American Board of Pediatrics as subspecialists in Pediatric Hospital Medicine.

Our team continues to contribute both regionally and nationally to improve care of newborns and hospitalized children. Under the new medical directorship of Valerie Riss, M.D., we have led numerous quality

improvement activities on our inpatient unit at UVMCH, including improving the timeliness of discharges and the post-COVID reinvigoration of Family-Centered Rounds. Christina Imming, M.D., received a grant from VCHIP aimed at improving care for children with medical complexity. Regionally, Jennifer Covino, M.D., and Nathaniel Meuser-Herr, M.D., members of our team at CVPH, received a UVM LCOM Frymoyer Scholarship grant to improve newborn resuscitation through multidisciplinary simulation education. Our group is also participating in two national quality improvement initiatives. Scarlett Johnson, M.D., and Leigh-Anne Cioffredi, M.D., are our site leaders for a national project aimed at decreasing continuous pulse oximetry monitoring for children with bronchiolitis. Additionally, we are participating in an American Academy of Pediatrics project on management of infants with hyperbilirubinemia.

Some of the highlights of the past year include numerous academic contributions by members of the Pediatric Hospitalist Division. Karin Gray, M.D., published an important paper looking at the impact of type of supplementation and breastfeeding outcomes in the *Journal of Human Lactation*. Karen Leonard, M.D., participated in a leadership development program through the Academic Pediatric Association and conducted a workshop on pediatric hospitalist leadership at the annual Pediatric Hospital Medicine meeting. Molly Rideout, M.D., became the first vice chair of education for the Department of Pediatrics and gave multiple presentations at national meetings in the area of diversity, equity, and inclusion in medical education. Anisha Rimal, M.D., has received an educational grant from the University of Vermont Health Network to create an inter-professional BIPOC mentorship program for health professions students.

Neonatology

DIVISION CHIEF CHARLES MERCIER, M.D. The mission of the Division of Neonatal-Perinatal Medicine (NPM) is to provide compassionate, equitable, evidence-based care for infants and their families while advancing the field of neonatology through innovative research and education. We offer a NPM fellowship program. Our 29-bed NICU is staffed with attending physicians and advanced practice providers. We are the only Level III unit in Vermont. Our outcomes for very low birth weight infants consistently meet or exceed expectations on key clinical performance measures calculated by the Vermont Oxford Network.



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Highlights

- Aaron Wallman-Stokes, M.D., is associate 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 UpProgram (NeoMed) and a member of the VCHIP Perinatal Quality Collaborative-Vermont, where she focuses on improving the care of opioidexposed newborns.
- Delia Horn, M.D., is physician director of neonatal transport. Dr. Horn partners with Imaging the World to research the relationship between prenatal ultrasound findings and neonatal outcomes.
- Deirdre O'Reilly, M.D., M.P.H., is director of the Neonatal-Perinatal Medicine Fellowship. Dr. O'Reilly's research and quality improvement work focuses on care and outcomes of infants with hypoxic ischemic encephalopathy and developmental screening and care coordination for preterm infants.
- Whittney Barkhuff, M.D., Ph.D., is associate medical director of the NICU. She is a junior investigator for IMproving Pediatric Access to Clinical Trials in Vermont (IMPACT VT), working to improve capacity for clinical research at UVMMC, and is involved in studies aimed at improving the care of infants with hypoxic ischemic encephalopathy. She also works to optimize care during neonatal resuscitation.
- Leslie Young, M.D., is principal investigator for the NIH-funded Eating, Sleeping, Consoling for Neonatal
 Opioid Withdrawal (ESC-NOW) study, co-investigator for the HEALthy Brain and Child Development
 (HBCD) Study, and a consultant for the HEAL Evaluation of Limited Pharmacotherapies for Neonatal
 Opioid Withdrawal Syndrome (HELP for NOWS) consortium, all part of the NIH's transagency HEAL
 Initiative. Additionally, she 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 at UVM Larner
 College of Medicine, chief medical officer and director of global health at Vermont Oxford Network (VON),
 co-chair of the AAP Helping Babies Survive Planning Group, and a member of the International Pediatrics
 Association Strategic Advisory Group on Newborn Health and Survival. In 2022, Dr. Ehret received funding
 from the Bill & Melinda Gates Foundation as co-principal investigator of the African Neonatal Network:
 Collaborative QI and Leadership Development Community.
- Charles Mercier M.D., M.P.H., is professor of pediatrics and chief of neonatal-perinatal medicine. His
 research interests include extremely low birth weight (ELBW) infant follow-up outcomes, preventing
 chronic lung disease, and applying public health data development strategies supporting optimal perinatal
 health care delivery in hospitals anchored 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 the Vermont Oxford Network, and coordinating editor of Cochrane Neonatal, a review group of the Cochrane collaboration.

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., and Liz Hunt, M.D., continue to teach renal physiology in the medical school. Dr. Twichell was awarded a special study with NAPRTCS to understand the impact of rapid weight gain post kidney transplant on overall health. She also recently completed a two-year John E. Lewy Fund Advocacy Fellowship sponsored by the American Society of Pediatric Nephrology, and she continues to advocate for children on a local and national level.

Selected Publications and Abstracts

- Twichell S, Hunt E, Somers M. (2022, September) Association of rapid weight gain following renal transplantation and development of obesity and hypertension: an analysis of the North American Pediatric Renal Trials and Collaborative Studies Registry. International Pediatric Nephrology Association Congress, Calgary, Alberta, Canada.
- Twichell S, Boynton S, Smith J. (2022, September) SARS-CoV2 infection among children enrolled in the North American Pediatric Renal Trials and Collaborative Studies registry. International Pediatric Nephrology Association Congress, Calgary, Alberta, Canada.
- Zuckerman A., Robinson K., Twichell S., Moore M., Bonenfant N., Runte K., Couser S., First L., Flyer J.
 Updating morning report: increasing educational quality and satisfaction for pediatric residents and faculty. Pediatrics. Jul 1: 150 (1): e2021053103. 2022. PMID: 35730343.

Pediatric Advanced Care Team

DIVISION CHIEF LISA ANNE RASMUSSEN, M.D. We are extremely excited to announce that we now have a dedicated Pediatric Advanced Care Team (PACT). This is the cumulation of years of advocacy and efforts by many stakeholders in the UVM Children's Hospital and wider community, and we are so grateful to all of you for this opportunity.

Our team is formed by a dedicated nurse, Jeanne Dube, RN, and two part-time physicians, Program Director Lisa Anne Rasmussen, M.D., and Kate Ostrander, M.D., who are both fellowship trained in pediatric hospice and palliative medicine and will share the primary staffing of this program. In addition, Iris Toedt-Pingel, M.D., pediatric intensivist with advanced training in palliative care, will be intermittently covering the program clinically and supporting its development. We work closely with the Vermont State Department of Health Pediatric Palliative Care Program, which offers nursing support, case management, and expressive arts services to families in their homes. We are also partnering with VCHIP to improve the overall quality of care for children with serious life-limiting illness.

PACT started in October 2022 within the UVM Children's Hospital, with the aim of providing specialty pediatric palliative and hospice care for children and families with serious life-limiting illness. Our main goal is to get to know children and their families, so that we can keep their values and goals at the center of their medical care. We provide care alongside restorative medical care so that quality of life and family empowerment are optimized during all stages of life and illness. We aim to partner with the wider care team to provide care aimed at keeping children and family at the center of care by addressing emotional, social, cultural, and spiritual elements of quality of life.

We can help children with serious life-limiting illness and their families with medical decision making, care team communication, symptom management, connecting to community palliative care resources, hospice care coordination, and end-of-life care. We can offer short-term and long-term longitudinal consultation, both inpatient and outpatient. We have been meeting children and families inpatient, in the CSC as a drop-in during other clinic visits, at perinatal visits, and through telemedicine; we have even started some home visits. We are also collaborating and working closely with community-based home health and hospice services to support children nearing end of life. We aim to grow our program to include specific support for bereavement, sibling support, and more specific treatment of social, emotional, and spiritual elements of suffering as we build out our interdisciplinary team.

Outside of our direct care of children and their families, we hope to provide support to our dedicated colleagues within the UVM Children Hospital and wider community. We will continue to provide structured debriefs to care teams following a death or a challenging case. We will also be offering a pediatric

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palliative care curriculum for the pediatric resident program and will partner with the adult palliative care team to provide pediatric-specific training to their fellows. We are offering education to community providers in the state-led Pediatric Palliative Care Program, including nurses, expressive therapists, social workers, and case managers.

Selected Publications/Presentations/Posters

- 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) 2022 Annual Meeting, Philadelphia, PA, 09/2022.
- 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.
- Slater G, Ostrander K. Upstander (+) Training: teaching clinical team leaders to respond to discriminatory behavior. Dena Hofkosh Pediatric Educators' Symposium, University of Pittsburgh Medical Center Children's Hospital of Pittsburgh. Pittsburgh, PA, 06/2022. – Received Best Poster Award.

Pulmonology

The Division of Pediatric Pulmonology provides outpatient, virtual, and inpatient care to children with respiratory, airway, and aerodigestive disorders. Several multidisciplinary clinics are staffed by our division. 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 the 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

DIVISION CHIEF

THOMAS

LAHIRI, M.D.

Kelly Cowan, M.D., is co-principal investigator for the NIH-funded ECHO IDeA States Clinical Trials Network.
 She is also collaborating 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 AAP. She is also 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 is currently 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 is leading the Pediatric Population Health Coalition
 at UVM Children's Hospital. He has assisted in the development of a toolkit for the Pediatric Quality
 Measures Program to reduce asthma-related visits for children with asthma.

Selected Publications and Abstracts

- 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.
- Robinson KJ. Quality improvement in Rudolph's Pediatrics, 23rd Edition, Self-Assessment and Board Review.
- Bardach NS, Irwin CE, McCulloch CE, Thombley 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, McCulloh 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, a social worker, and an administrative support specialist. We have enjoyed meeting our families' needs in Vermont and New York via telemedicine, including robust communication through the electronic medical record patient portal. Quality improvement efforts focus on screening for influenza and COVID-19 vaccinations and ensuring our patients have the knowledge and confidence for successful transition to an adult system of care. The division actively recruits patients for medication trials and patient registries, collaborating with centers nationally

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to advance effective treatments. In 2021, Matthew Hollander, M.D., was elected to the UVM Medical Center Faculty Practice Clinical Operations and Care Coordination Committee, continued research with the Vermont Child Health Improvement Program, and earned a yellow belt in lean six sigma, an internationally recognized certification in quality improvement science through the Technical University of Munich. Dr. Hollander supervises medical students for their pediatric subspecialty rotation.

OTHER PEDIATRIC SPECIALTIES

Anesthesiology

DIVISION CHIEF ANN LAWRENCE, D.O. The Department of Anesthesiology, Division of Pediatrics, provides anesthetic care to children of all ages and medical complexities. As we emerged from the worst of the pandemic, we continued to focus on a family-centered approach to our patients' perioperative experience. As Winston Churchill said, "An optimist sees the opportunity in every difficulty." And although family members are no longer able to accompany their children into the operating suite, our nurses, child life specialists, and providers strived to make children and their families feel comfortable. We develop individualized plans focusing on children's emotional, behavioral, social, and medical needs. These plans combine technology, simple techniques in mindfulness, and calming medications when necessary. We strongly believe that this method has become the safest and best way to care for our patients.

Highlights

- Kevin Abnet, M.D., has been in charge of our regular morbidity and mortality grand rounds. His leadership
 has contributed greatly to our overall education for residents, anesthetists, and attendings alike.
- Melissa Davidson, M.D., continued as an invaluable leader in her role as designated institutional officer.
 She was able to step down from her role as interim chair of the Department of Anesthesiology when our permanent chair, Rebecca Aslakson, M.D., Ph.D., arrived.
- Lewis Diamond, M.D., is one of our newest board-certified pediatric anesthesiologists. He began his career in Buffalo, New York, in 2015, but has come to us from Montefiore Medical Center in the Bronx, where he had been practicing for the past five years.
- Becky Evans, M.D., continues her work as chair of quality for the Department of Anesthesiology and publishes a monthly safety update for the department.
- Ann Lawrence, D.O., was invited to lecture in Cuba at the Cuban Society of Anesthesiology and Resuscitation. Her lectures were well received by the attendees of the conference, and she hopes to arrange a spinal anesthesia workshop in Havana in 2024.
- Monika Modlinski, M.D., continues to support the Comfort Zone.
- Emily Stebbins, M.D., continued her leadership as anesthesiology residency director, and as chair-elect of the Graduate Education Committee of SEA. She also served as co-facilitator at a workshop on feedback at the Society of Education in Anesthesiology (SEA) meeting in November 2022.
- Brian Waldschmidt, M.D., led department efforts to expand EPIC and redefine our work group. He presented a poster at SPA/APP 2022 on national utilization of infant spinal anesthesia.
- Emmett Whitaker, M.D., was awarded a UVM Health Network Medical Group grant at the Dean's Celebration of Excellence in Research
- Robin Leopold, M.D., is our newest, recently board-certified pediatric anesthesiologist. Dr. Leopold was a
 medical student at UVM and completed his residency and fellowship at the University of North Carolina,
 Chapel Hill.

Dermatology

DIVISION CHIEF KEITH MORLEY, M.D. Pediatric Dermatology continues to serve children and families with a variety of skin conditions ranging from common complaints of eczema, hemangiomas, moles, and acne to rarer diseases such as ichthyoses, autoimmune skin disease, neurocutaneous disorders, and vascular malformations. Teledermatology remains a sizable proportion of our visits, particularly for follow-up of conditions like eczema and acne. Procedural services offered in clinic continue to 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. Presentations over the last year included "An Update on Pediatric Psoriasis" for UVM Pediatric Grand Rounds and the pediatric portion of "Making Dermatology Review a Kahoot" at the 33rd Annual Eastern Winter Dermatology Conference. Keith Morley, M.D., continues as a pediatric contributing editor for Visual Dx. He is 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 (AAD). The AAD's annual Camp Discovery for children with chronic skin conditions returned to in-person sessions starting in 2022 and Dr. Morley is planning to return as a camp counselor in 2023.

Selected Publications

- Salusti-Simpson M, Porter H, Morley K. A likely case of abemaciclib-induced hyperpigmentation in a patient with metastatic breast cancer. Cureus. 2022;14(9):e28948.
- Salusti-Simpson M, Marghoob N, Greene L, Morley K. Congenital cutaneous candidiasis in a full-term neonate. Pediatr Dermatol. Published online July 25, 2022.
- Whittington CP, Kalsi S, Shea KE, Morley KW. Asymptomatic plantar nodules in a toddler. Cureus. 2022;14(10):e30611.
- Whittington CP, Kalsi S, Morley KW, Bui MR. Nevus sebaceus arising within a scalp whorl of a healthy male neonate. Cureus. 2022;14(10):e30094.

Emergency Medicine

DIVISION CHIEF RAMSEY HERRINGTON, M.D. Pediatric Emergency Medicine (PEM) continues to develop and prosper at UVM. PEM is looking forward to flourishing within emergency medicine, which became a department of the Larner College of Medicine in July 2022. We continue to provide high-quality care to children and their families with a dedicated pediatric emergency medicine provider shift for 10 hours per day, and we recently received approval to expand that coverage on our higher-volume days. We also provide clinical and didactic education and training to residents from emergency medicine, pediatrics, and family medicine. In addition, we have taken on several educational and administrative roles at the College of Medicine. Specific achievements from our providers include:

- Joseph Ravera, M.D., continued with his strong commitment to education in both the clinical and the didactic arenas. He was named Clinical Teacher of the Year by the EM residents for 2021–2022. He has also continued to be actively involved in the medical school as the course director for an MS2 course.
- David Nelson, M.D., has increased his role in advocacy for children in the region by expanding his quality improvement efforts with VCHIP. 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., received the prestigious honor of a K23 award and will continue his research efforts with focus on children with medical complexity and firearm harm reduction.

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- Molly Stevens, M.D., M.S.C.E., continues to serve as an academic mentor to several junior faculty in their advancement and promotion and has been instrumental in the growth of the funded research within emergency medicine.
- In the coming year, pediatric emergency medicine looks forward to adding additional faculty and possibly
 expanding our hours of daily clinical coverage, expanding our quality and educational efforts at our
 network partner sites, building on our relationships with our community and specialty providers, and
 elevating the delivery of acute care to our patients and families and the educational opportunities to
 future providers who will take care of the children within our catchment.

Neurology

DIVISION CHIEF PETER BINGHAM, M.D. In 2022 the pediatric neurology group — Peter Bingham, M.D., Brad Clopton, CNP, Deborah Hirtz, M.D., and Gregory Holmes, M.D. — welcomed a wonderful new colleague, Safoora Syeda, M.D., who joined us from Johns Hopkins Medical Center and the National Institutes of Health. Our telemedicine clinical work continues in balance with in-person clinical work at the Children's Specialty Center. We continue to gather (largely positive) families' responses, and to work closely with psychologists, psychiatrists, emergency medicine specialists, and neonatologists. This year we have established a multidisciplinary protocol to provide optimal care for children with stroke. Ongoing quality improvement focuses on care of children admitted for EEG monitoring. As the year closes, we are starting clinics to carry out electromyography for children who would benefit from this procedure, and to restart a clinic for children with neuromuscular disorders in collaboration with the Muscular Dystrophy Association. We have ongoing research collaborations with the National Institutes of Neurological Disorders and Stroke.

We continue to provide integrative health coaching for children with chronic pain or neuropsychiatric disorders and to support the training of child psychiatry fellows, pediatric and neurology residents. and medical students. Advocacy work includes work with local organizations concerned with noise pollution, and to improve mental health care and music exposure for children in our community. In 2022 we began 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 in newborns

with abstinence syndrome. Dr. Hirtz advocates with Targeting Environmental Neurodevelopmental Risks (TENDR) and serves on the Vermont Citizens Advisory Committee on Chemical Management. Dr. Holmes's research explores treating cognitive deficits following early-life seizures.

Selected Publications

- Holmes GL. Interictal Spikes as an EEG Biomarker of Cognitive Impairment. Journal of Clinical Neurophysiology 39(2):p 101-112, (2022).
- Beach IR, Madhur RM, Bingham PM. Pain Neuroscience Education: A pilot trial in pediatric primary headache. International Journal of Pediatrics. 10 (5), pp.15919-15924 (2022).

Pediatric and Perinatal Pathology

DIVISION CHIEF AMELIA SYBENGA, D.O. The Division of Pediatric and Perinatal Pathology has changed substantially in the past year, with adjustments to laboratory tissue management practices, streamlining and clarifying orders for the clinical and laboratory teams, and improved tissue processing quality and speed for pediatric solid tumors and nonmalignant entities, including Hirschsprung's disease. These efforts resulted in rapid turnaround time for diagnoses, with most solid tumors and Hirschsprung diagnoses being reported in 24 hours or less from the time tissue was acquired, allowing clinical teams the ability to quickly initiate definitive treatment plans. Additionally, all cases of pediatric solid tumors eligible for clinical trial had adequate tissue available to meet or exceed Children's Oncology Group specimen requirements.

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

Psychiatry

INTERIM DIVISION CHIEF MAYA STRANGE, 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), which was developed by James Hudziak, M.D. The VFBA recognizes that emotional and behavioral health is central to all health and emphasizes health promotion and illness prevention to support well-being for families. In response to COVID-19, telehealth visits increased, while certain services, including the Child and Adolescent Psychiatry and Psychology Service and Autism Assessment Clinic VCCYF, maintained in-person care.

Under the direction of Haley McGowan, D.O., and Courtney Fleisher, Ph.D., the VCCYF/Child and Adolescent Psychiatry and Psychology Consult service (CAPPCON) demonstrated incredible commitment and agility in response to the increase in mental health needs seen in the emergency department and pediatric inpatient service. CAPPCON has grown, with the addition of Sara Schnipper, LICSW, Madison Smith, Ph.D., and Colleen Victor, M.D., to the team.

The VCCYF Autism Assessment Center, which includes Jeremiah Dickerson, M.D., Michael Hoffnung, D.O., Molly Bumpas, M.Ed./SLP, and James Tallmadge, Ph.D., is joining forces with Developmental and Behavioral Pediatrician Elizabeth Forbes, M.D., to create the UVMMC Autism Assessment Program. Both programs experienced increased demand for their expertise and assessment, and they now collaborate to increase efficiency while maintaining quality care.

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The VCCYF outpatient clinic, directed by Andy Rosenfeld, M.D., provides state-of-the-field family-based care and utilizes a mix of in-person and virtual visits based on clinical need. As the psychiatry department's quality improvement chair, he has been instrumental in development of a Suicide Care Pathway in collaboration with the VCHIP and now leads an initiative for suicide risk assessment for the UVM Health Network.

VCCYF, in collaboration with VCHIP, additionally collaborates on a number of other initiatives, including the Vermont Child Psychiatry Access Program (VTCPAP), led by Greta Spottswood, M.D., at Community Health Center-Burlington. VTCPAP provides consultative services to pediatric health care clinicians around diagnosis, assessment, and treatment of pediatric mental health concerns. Other VCHIP efforts include examining matters of access and equity within our practice.

The collaborative VCCYF/UPEDS Mind-Body-Buddy program teams senior pediatric residents with child psychiatry fellows. In addition, the pediatric mental health rotation is now a core experience for all first-year pediatric residents to gain additional expertise in assessment and treatment of child and adolescent emotional and behavioral problems.

The VCCYF Fellowship, directed by Maya Strange, M.D., trains eight fellows (four per year) who provide important ongoing clinical care in the above services and programs and who upon graduation accept child psychiatrist positions in Vermont and nationwide. VCCYF researcher Ellen McGinnis, Ph.D., received the Rising Star New Investigator Award from the UVM Larner College of Medicine for her novel work in using biosensors to better diagnose children and adolescents struggling with anxiety and other psychiatric disorders. In addition, Dr. McGinnis published several papers in high-impact journals. William Copeland, Ph.D., director of research for VCCYF, was again cited as one of the top 1 percent of cited scientists in the world.

Psychological Services

DIVISION CHIEF MARLENE MARON, PH.D. Our pediatric psychologists were actively engaged in hospital-based, emergency room, primary care, and specialty clinics in 2022. We expanded psychological services in the Transgender Youth Program (TYP) and the Eating Disorders Consultation Clinic (EDCC), provided crisis stabilization via innovative multidisciplinary program development and evaluation for young people who present to the Emergency Department due to psychiatric challenges, and continued to prioritize education, health equity, and cultural awareness and humility. A few highlights of the year are as follows:

- Aubrey Carpenter, Ph.D., participated in planning a state-wide training for multidisciplinary community
 providers sponsored by the Department of Mental Health, launched several adolescent skills and parentsupport groups, and developed a six-month eating disorders mini rotation for pediatric psychology
 residents. Dr. Carpenter also engaged in advocacy work with state legislators as a member of the Act 115
 Section 13 Working Group on Services for Individuals with Eating Disorders.
- Pam Swift, Ph.D., provided education for family medicine and child psychiatry residents and pediatrics primary care providers on screening and brief treatments of child/adolescent sleep disorders. She also guest lectured in Healthy Brains, Healthy Bodies on college sleep concerns and sleep education.
- Madison Smith, Psy.D., joined the Child and Adolescent Psychiatry and Psychology (CAPPCON) team. She
 collaborated with colleagues to create psycho-educational and therapeutic materials for young people and
 parents who present in the ED, and commenced program development and evaluation. Dr. Smith increased
 our capacity to serve young people with gender and eating disorder-related concerns.
- Rebecca Ruid, Ph.D., continued to address population health in pediatric primary care, via development
 of preventive, early identification, and intervention services to all and focused, targeted clinics in primary
 care and pediatric endocrinology.

- Cognitive testing for young people on Children's Oncology Group (COG) protocols is now fully under way
 and cancer-related psychological support to young people and families continued under the direction of
 Kimberlee Roy, Ph.D.
- Courtney Fleisher, Ph.D., continued to support and consult to pediatric specialty services and co-direct CAPPCON, providing leadership for hospital-based psychological services. She dedicated considerable time to trauma-informed care and DEI didactic and informal training for providers and learners.
- CAPPCON facilitated simulation trainings for all pediatric nursing staff (27 individuals) on verbal deescalation of children and adolescents, as well as culturally sensitive, trauma-informed care.
- Logan Hegg, Psy.D., further developed integrated primary care services and supervised psychology
 residents in this work. He was recognized for teaching excellence and inter-professional mentoring by the
 Department of Pediatrics.
- Dr. Hegg also provided a community lecture for the state school nurse association on suicide risk assessments, and continued to offer psychological first aid talks to various constituents to maximize access to tools and resources
- Our psychologists in primary care worked diligently to ensure timely access to the right care at the right time across settings and to provide timely consultation to staff and providers.
- Marlene Maron, Ph.D., continued to provide departmental oversight and supervise child psychiatry fellows
 in their provision of psychotherapy. Multidisciplinary collaboration around protection of existing and
 development of additional services continued to be a priority.
- The 20th annual Children's Memorial Service was held in November.

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. We provided amazing care to our patients and continued our family-centered care approach. As in previous years, we have focused on greatly enhancing our telehealth services for primary care and specialty care. We increased our focus on caring for patients' and families' social, physical, and mental health needs, with enhanced food insecurity screenings, providing food to families, providing equitable care to all children and families in our region, and supporting mental health.

The Children's Specialty Center

The Children's Specialty Center provides outpatient care in 20 pediatric specialties and multidisciplinary programs for approximately 120 patients per day. This year we officially started the first pediatric palliative care department in the state, and we are in the process of recruiting additional providers in the pediatric

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endocrinology and gastroenterology departments. This is a direct response to increased demand in our communities and our desire to maintain care for families in our community. Families in our Children's Specialty Center have been actively screened for social determinants of health and, when needed, have received food from our food pantry.

Pediatric Primary Care - Burlington and Williston

Pediatric primary care services are located at 1 South Prospect Street in Burlington and in Blair Park in Williston. Our primary care services in Winooski schools have grown 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, and we are planning an expansion to two days per week in 2023.

Women's Care and Pediatric Service

Inpatient Pediatric Unit

DIRECTOR

TRANSGARD-

SCOTT, RN, B.S.N.,

LAUREN

MSOL

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

The Comfort Zone

This last year was a year of transition for the Comfort Zone, with four new staff nurses replacing longtime members of the department. It has been a year of team building, process improvement, and quality initiatives to further the mission of the Comfort Zone. We resumed our Phase II recoveries, were awarded a grant from the Children's Miracle Network to acquire an ultrasound for guided IV placement, and created EMLA information sheets to mail to families with the discontinuation of Synera. We've welcomed nursing students, members of the IV team, and new staff to the PAT department to shadow our approaches with pediatric patients. We work to collaborate with our colleagues and act as a resource across the Children's Hospital, including Inpatient pediatrics, the outpatient pediatric lab, and the Children's Specialty Center.

Mother-Baby Unit

The Baird 7 Mother-Baby Unit continues its mission to deliver high-value patient- and family-centered care. As a specialty unit, the Baird 7 team provides personalized care to newborns, post-partum, and antepartum patients and their families. We care for approximately 2,100 newborns and their families each

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

Neonatal Intensive Care Unit

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

PEDIATRIC SURGICAL SPECIALTIES

General Surgery

DIVISION CHIEF KENNITH SARTORELLI, M.D. The Division of Pediatric Surgery, staffed by three board-certified pediatric surgeons — Martin Keller, M.D., James Murphy, M.D., and Kennith 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.

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Neurological Surgery

DIVISION CHIEF KATRINA DUCIS, M.D. Pediatric neurosurgery continues to grow and flourish at UVMMC. In order to improve care of pediatric patients suffering a mild traumatic brain injury, a virtual concussion clinic has been created. This has resulted in care of patients who were often otherwise lost to follow-up and the community has given excellent feedback. Neuroendoscopy continues to be a sought-after treatment for hydrocephalus, allowing select patients treatment without long-term hardware implants and risk of failure of ventriculoperitoneal shunts. Complex brain tumors continue to be treated with computer-guided navigation and endoscopy, and followed long term in a multidisciplinary fashion. Craniosynostosis patients have been successfully diagnosed using ultrasound, and this novel method was recently presented at a national craniofacial conference. The improvement of quality of life of the aforementioned concussion patients being managed in a novel fashion is the next research goal of the division. Lastly, Leanne Poirier, RN, is being welcomed to the pediatric neurosurgery team!

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. As the pandemic continues to evolve, so does our practice. This year we have resumed use of the waiting room with its rocket ship and sundry toys (much to the kids' acclamation) as well as increase the number of patients scheduled. We continue to teach pediatric residents and medical students about the wonders and complexities of pediatric ophthalmology, including pathology, optics, treatments, and surgery. The team also celebrated World Sight Day 2022 in The Gambia in tandem with the launch of their orthoptic training program. This is the first such program in Africa, facilitated by our own orthoptist Sheila Chamberlin (the only orthoptist in Vermont), and will allow the children access to specialized pediatric eye providers. It is one step toward reducing the impact of amblyopia on the increasing rate of global visual impairment. The team also continued in-country training of the proposed national vision screening protocol during this trip.

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 Gerges, M.D. Our team provides 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. Gerges joins us after completion of a Pediatric Otolaryngology Fellowship at the University of Pittsburgh. He brings special expertise in the 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 will now be able to offer endoscopic repair of craniosynostosis to children within our network. In collaboration with providers in pediatric pulmonology, pediatric intensive care, anesthesia, emergency medicine, respiratory therapy, and nursing, Dr. Herrington continues work on a Frymoyer grant for the care of children with difficult airways. Other ongoing quality projects include a multidisciplinary initiative to improve the care of children with tracheostomies both in and out of the hospital, and the care of children with congenital hearing loss, particularly CMV-related. Dr. Hubbell has an ongoing research study evaluating the use of white-noise machines and hearing loss in

children. Dr. Gerges presented his work entitled "Differential Dosing of Propranolol and Risk of Ulceration in Infantile Hemangioma" at the annual meeting of the American Academy of Otolaryngology-Head and Neck Surgery.

Selected Publications

• Tami A, Gerges D, Herrington H. Stridor related to vagus nerve stimulator: a case report. Laryngoscope. 2021 May;131(5):E1733-E1734. doi: 10.1002/lary.29144.

Plastic Surgery

INTERIM DIVISION CHIEF DONALD LAUB, M.D., FACS The pediatric plastic surgery team provides comprehensive plastic and reconstructive surgery care to children in Vermont and upstate New York. We are involved in the Vermont cleft and craniofacial program, an American Cleft Palate-Craniofacial Association-approved clinic. The clinic provides multidisciplinary care for children with facial differences with the pediatric genetics, pediatric otolaryngology, speech pathology, social work, and dentistry teams. Donald Laub, M.D., is also a specialist in the treatment of congenital anomalies of the hand, such as syndactyly and polydactyly.

Selected Publications

- Congenital anomalies of the upper extremity: etiology and management, 2nd ed. Donald Laub, ed. Springer Nature, Switzerland, 2021.
- Silverstein ML, Burke LW, Laub DR. Two cases of preaxial polydactyly of the foot: important implications for plastic surgeons. Plast Reconstr Surg Glob Open. 2021 Feb 17;9(2):e3358.

Urology

DIVISION CHIEF GERALD MINGIN, M.D.

Pediatric urology continues our decades-long commitment to providing high-quality care throughout these challenging times. Patients and families can be seen in person or via telemedicine when travel is impractical. Our main focus remains at the University of Vermont Children's Hospital; however, we also maintain clinics and perform minor surgical procedures at Rutland Regional Medical Center. This offers patients access to specialty care closer to home. 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, such as autism, a multidisciplinary myelomeningocele clinic, and robotic minimally invasive surgical treatment for complex reconstructive procedures. We are proud to continue our relationship with pediatric urology at Children's Hospital of Philadelphia. This includes participation in clinical care conferences and access to world-class expertise for the most complex urologic conditions. Pediatric urology is active in both clinical and basic science research. We continue to make significant contributions that are represented in the clinical and basic science literature (e.g., Journal of Pediatric Urology, American Journal of Physiology). We also maintain a significant level of NIH R01 funding (\$2.5 million) to study the effect of stress on bladder function. We continue to collaborate with leading scientists in consortium, including Michigan State University. The need to better understand the role of stress in altering bladder physiology has never been more important in light of the increased anxiety children and families have been and continue to experience.

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Faculty

Adolescent Medicine

Erica Gibson, M.D.

Anesthesiology

Kevin Abnet, M.D. Rebecca Aslakson, M.D. Melissa Davidson, M.D. Lewis Diamond, M.D. Rebecca Evans, M.D. Ann Lawrence, D.O. Robin Leopold, M.D. Monika Modlinski, M.D. Marian Murphy, M.D. Emily Stebbins, M.D. Brian Waldschmidt, M.D. Emmett Whitaker, M.D. Robert Williams, M.D.

Cardiology

Danielle Burstein, M.D. Nancy Drucker, M.D. Jonathan Flyer, M.D. Niels Giddins, M.D. Caitlin Haxel, M.D. Scott Yeager, M.D.

Child Abuse

James Metz, M.D.

Child Development

Elizabeth Forbes, M.D.

Child Psychiatry

Yasmin Abdul-Karim, M.D. Robert Althoff, M.D., Ph.D. Jeremiah Dickerson, M.D. Sarah Guth, M.D. Michael Hoffnung, D.O. Haley McGowan, D.O. Andrew Rosenfeld, M.D. Dhruv Shah, D.O. Maya Strange, M.D. Collen Victor, M.D.

Child Psychology

Aubrey Carpenter, Ph.D. Courtney Fleisher, Ph.D. Logan Hegg, Psy.D. Marlene Maron, Ph.D. Kimberly Roy, Ph.D. Rebecca Ruid, Ph.D. Madison Smith, Psy.D. Pamela Swift, Ph.D.

Critical Care

Rebecca Bell, M.D., M.P.H Kristin Crosby, M.D. Amelia Hopkins, M.D.

Iris Toedt-Pingel, M.D. Liz Ulano, M.D.

Dermatology

Keith Morley, M.D.

Emergency Medicine

David Nelson, M.D. Christian Pulcini, M.D. Joseph Ravera, M.D. Molly Stevens, M.D.

Endocrinology

Jennifer Todd, M.D. Paul Zimakas, M.D.

Gastroenterology

Richard Colletti, M.D. Michael D'Amico, M.D. Nina Gluchowski, M.D. Jillian Sullivan, M.D.

Genetics

Katherine Anderson, M.D. Robert Wildin, M.D.

Hematology/Oncology

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