

Vermont Children's Hospital & University of Vermont Department of Pediatrics

annual report 2013



annual report

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On the cover: Medical student Sarah Gardner (left) and Assistant Professor of Pediatrics Karen Leonard, MD, examine a young patient at the Vermont Children's Hospital.

Please note that information contained in this book focuses primarily on the work of the full-time staff in the Department of Pediatrics in The University of Vermont College of Medicine and the Vermont Children's Hospital at Fletcher Allen Health Care, unless otherwise stated.

introduction



LEWIS FIRST, MD
Chairman and Professor
Department of Pediatrics

Chief of Pediatrics
Vermont Children's Hospital

Physician Leader
Children's Health Care Service,
Fletcher Allen Health Care

It gives me great pleasure to introduce this year's Annual Report for the Department of Pediatrics at the University of Vermont College of Medicine and the Vermont Children's Hospital at Fletcher Allen Health Care. This report summarizes my 18th year as Chair of the Department, and our 11th anniversary year as the Vermont Children's Hospital. It covers the period from January through Summer 2013, and captures the contributions, highlights, and achievements of the remarkable group of people that make up our Department and Vermont Children's Hospital. This report also tells the story of how each and every day we further our mission and vision to improve the health of children in our region as well as of children nationally and internationally through our clinical, educational, research and advocacy efforts. This was the dream of R. James McKay, MD, who founded the Department in 1950, served as our chair for the department's first 33 years, and sadly passed away in November 2012. His legacy is in everything described in this report and in what we do each and every day in our care for children and families.

Our report this year has a new look with photographs and summaries submitted by our various medical, surgical, neurologic and psychiatric divisions and departments as they relate to activities germane to children's health. Despite the new look, what has not changed is our commitment to our patients, our community, and the academic mission. Thus this report describes a myriad of activities, achievements, and awards that reflect the excellence in everything we do as exemplified by our being recognized this past year as a top children's hospital in the national rankings from *U.S. News and World Report* along with a number of our faculty who were rated in the top 1% in their subspecialty field of Pediatrics.

This report also reflects our growth in faculty, in our residency and student teaching programs, in our health services research, and in our advocacy efforts. In addition our philanthropic gains also described in this report have allowed us to expand programs and services that meet the needs of the patients and communities we serve.

While space in my introduction does not allow me to specifically identify or thank the many individuals and teams that make our department and Children's Hospital as extraordinary as it is, none of this would have been possible without the remarkable dedication and commitment to children of Dr. McKay, who 63 years ago had a mission and vision to bring together everyone in our region interested in children's health – a vision that sustains us today. It is for that reason that we dedicate this year's report in memory of Dr. McKay. We miss him – but know that through the narratives and photographs captured in this report, his legacy lives on. We would not be the department and children's hospital we are today without the influence of Jim McKay – and for that we are all eternally grateful!

faculty

Full Time Pediatric Faculty

- | | |
|-------------------------|---------------------------|
| Leslie Abramson, MD | Edward Kent, MD |
| Abigail Adler, MD | C. Lawrence Kien, MD, PhD |
| Robert Althoff, MD | Joseph Kreutz, MD |
| Garrick Applebee, MD | Thomas Lahiri, MD |
| David Aronsson, MD | Jerry Larrabee, MD |
| Scott Benjamin, MD | Donald Laub, MD |
| Marie Berg, MD | Ann Lawrence, MD |
| Peter Bingham, MD | John Lawrence, MD |
| Heather Bradeen, MD | Karen Leonard, MD |
| Leah Burke, MD | Jennifer Lisle, MD |
| Richard Colletti, MD | Robert Macauley, MD |
| Stephen Contompasis, MD | Marlene Maron, MD |
| Kelly Cowan, MD | Wendy McKinnon, MS |
| Michael D'Amico, MD | Charles Mercier, MD |
| Melissa Davidson, MD | Gerald Mingin, MD |
| Wendy Davis, MD | Monika Modlinski, MD |
| Joseph Dickerman, MD | Molly Moore, MD |
| Nancy Drucker, MD | Frederick Morin III, MD |
| Paula Duncan, MD | Eliot Nelson, MD |
| Susan Durham, MD | Karyn Patno, MD |
| Barry Finette, MD, PhD | Robert Pfister, MD |
| Barbara Frankowski, MD | Lori Racha, MD |
| Eva Fraser-Harris, MD | William Raszka, Jr., MD |
| Janice Gallant, MD | David Rettew, MD |
| Niels Giddins, MD | Marianne Rideout, MD |
| Rebecca Goodman, MD | Mary Lee Ritter, PNP |
| Karin Gray, MD | Paul Rosenau, MD |
| Andrea Green, MD | Catherine Rude, MD |
| Ann Guillot, MD | Kennith Sartorelli, MD |
| Allison Hall, MD | Judith Shaw, EdD, MPH, RN |
| Molly Hastings, MD | Roger Soll, MD |
| Barry Heath, MD | Emily Stebbins, MD |
| Timothy Higgins, MD | Jillian Sullivan, MD |
| Gregory Holmes, MD | Iris Toedt Pingel, MD |
| Alan Homans, MD | Bruce Tranmer, MD |
| Amelia Hopkins, MD | Richard Wasserman, MD |
| Jeffrey Horbar, MD | Stanley Weinberger, MD |
| Richard Hubbell, MD | Robert Williams, MD |
| James Hudziak, MD | Ann Wittpenn, MD |
| Pamela Jackson, MD | Scott Yeager, MD |
| Elizabeth Jaffe, MD | Christa Zehle, MD |
| Anne Johnston, MD | Nilgun Zimakas, MD |
| Martina Kacer, MD | Paul Zimakas, MD |

Residents

- Ryan Good, MD,
Chief Pediatric Resident
- Aaron Burley, MD
Sarah Canale, MD
Rachel Cohen, MD
Jennifer Covino, MD
Emily Davie, MD
Shannon Evans, MD
L.E. Faricy, MD
Amelia Fisher, MD
Allison Foertsch, MD
Delia Horn, MD
Whitney Irwin, MD

- Jamie Mehringer, MD
Rachel Millner, MD
Colleen Moran, MD
Catherine Naber, MD
Adrienne Pahl, MD
Sean Pyper, MD
Peter Reed, MD
Courtney Riley, MD
Timothy Rogers, MD
Mark Shwayder, MD

Fellows

- Keri Marques, MD
Leslie Young, MD



pediatric primary care

FACULTY



JERRY LARRABEE, MD
Division Chief
Associate Professor

Barbara Frankowski, MD
Professor

Andrea Green, MD
Associate Professor

Pamela Jackson, MD
Associate Professor

Eliot Nelson, MD
Professor

Lori Racha, MD
Assistant Professor

Mary Lee Ritter, PNP
Clinical Assistant Professor

Catherine Rude, MD
Associate Professor

Richard Wasserman, MD
Professor

Stanley Weinberger, MD
Assistant Professor

Ann Wittpenn, MD
Associate Professor

Nilgun Zimakas, MD
Assistant Professor



Dr. Jerry Larabee

Vermont Children's Hospital has two Pediatric Primary Care sites on its Fletcher Allen campuses: University Pediatrics (UPeds) in Burlington at the UHC Campus, and in Williston at Blair Park. The sites share a practice supervisor, Amy White, and a medical director, Jerry Larrabee, MD, an associate professor of Pediatrics and associate director of the Pediatric residency program.

ACADEMICS

Two faculty members sit on national committees and are nationally renowned for their involvement in those areas: Professors Barbara Frankowski, MD, in school health, and Eliot Nelson, MD, in safety and advocacy. Their participation, Larrabee says, "is a feather in our caps." The Division is also deeply involved in residency and training programs. All 21 pediatric residents participate in a primary care continuity clinic, and residents from Family Medicine and Psychiatry train here, as do College of Medicine clerkship students. Ann Wittpen, MD, provides oversight to the many trainees who pass through the clinic.

ADVOCACY AND CHILD HEALTH

Pediatric primary care's deep engagement in advocacy includes faculty who testify at the State House and sit on the Vermont chapter of the American Academy of Pediatrics (AAP). Dr. Nelson does significant legislative advocacy for child safety issues. Dr. Larrabee gives oversight to Advocacy training of Pediatric residents, who participate in a legislative seminar series and lobby at the State House for a chosen bill or platform under the supervision of UPeds faculty. Residents are required to do a community advocacy project, many of which are overseen by practice faculty and which have included snowboarding and swim lessons for the ever-growing pediatric immigrant population in Burlington.



Dr. Andrea Green

CLINICAL

The clinics care for children from all over Chittenden County and central Vermont. The immigrant program is an important part of UPeds, caring for all refugee children in the area through the Vermont Refugee Resettlement Program. Associate Professor Andrea Greene, MD, is the program's medical director and works closely with Stan Weinberger, MD, and Nilgun Zimakas, MD – the immigrant clinic's founder. Child Psychologist Joanne Wolfe, MA, serves as a "great resource for parents and providers" at UPeds. Dr. Green and Lori Racha, MD, head up school health for the Burlington Public Schools, Dr. Frankowski also runs clinics in Burlington schools – at Burlington High School, which is new and "a great success" – and at Barnes Elementary. "We're trying to weave in a little of immigrant health with those clinics," Dr. Larrabee said, "because they have such high need and so many obstacles, and this makes it easier." Dr. Frankowski and Mary Lee Ritter, NP, staff those clinics.

Pediatric primary care's deep engagement in advocacy includes faculty who testify at the State House and sit on the Vermont chapter of the American Academy of Pediatrics (AAP).

RESEARCH

Richard "Mort" Wasserman, MD, leads PROS – Pediatric Research in Office Settings – which is a subsidiary of the AAP. Dr. Weinberger serves as a liaison with Vermont Child Health Improvement Program (VCHIP). Catherine Rude, MD, and Pamela Jackson, MD, participate in a number of clinical research initiatives, and almost all of our faculty are involved with research projects at any one time.



Mary Lee Ritter, PNP

pediatric cardiology

FACULTY



SCOTT YEAGER, MD
Division Chief
Professor

Nancy Drucker, MD
Associate Professor

Niels Giddins, MD
Associate Professor



Dr. Niels Giddins (right) with resident Dr. Rachel Millner

Dr. Niels Giddins has been involved in developing a syncope protocol, and the Division is submitting data on all new patients with referral diagnoses of chest pain and syncope, with the aim of improving outcomes and patient satisfaction while controlling resource utilization.

The Division of Pediatric Cardiology operates outpatient clinics in the Children's Specialty Center five days per week, and holds outreach clinics in Brattleboro, St. Johnsbury, Randolph, Rutland, and Plattsburgh, NY. Fetal echocardiograms, performed and interpreted in the Fetal Diagnostic Center, average about 250 yearly. The Joint Program in Pediatric Cardiology results in close collaboration with our colleagues at Dartmouth-Hitchcock Medical Center, with catheterizations and complex interventional procedures performed in both Burlington and Lebanon, NH.

RESEARCH

Dr. Scott Yeager's current research projects include an analysis of the cost and benefit of universal neonatal oximetry based on our regional historical experience, and investigation of the association between necrotizing enterocolitis and congenital heart disease in very low birth weight infants. Dr. Nancy Drucker is participating in a multicenter trial for cholesterol tracking in young adults with congenital heart disease. Dr. Niels Giddins

recently presented data at the World Congress of Pediatric Cardiology outlining the effect of the electronic medical record on clinic report generation time.

EDUCATION

Our educational activities include clinical core students at outpatient clinics, students and residents participating in our month-long elective program, clinical core student lectures, monthly lectures to the house staff and cardiology fellows, quarterly reviews of abnormal fetal echocardiograms with obstetrics and radiology, participation in pediatric advanced life support instruction, as well as regularly scheduled lectures to parent groups, physical therapy students, catheterization staff, nursing groups, and outreach education in community hospitals. A computer-based, comprehensive, multimedia examination has been developed to focus and evaluate students and residents through pre- and post-rotation assessment of core cardiology knowledge base.

INNOVATION

The Division is incorporating and developing management protocols to standardize care and limit resource utilization for a wide range of congenital heart diagnoses. Dr. Yeager is co-founder and president of the New England Congenital Cardiac Research Foundation, dedicated to supporting multi-institutional research and education programs based in the six New England States, and to providing seed money to help young investigators become more competitive for national funding

QUALITY

The Division is actively participating in the Boston Children's Hospital-based Standardized Clinical Assessment and Management Plan (SCAMP) quality initiative. Dr. Niels Giddins has been involved in developing a syncope protocol, and the Division is submitting data on all new patients with referral diagnoses of chest pain and syncope, with the aim of improving outcomes and patient satisfaction while controlling resource utilization.

We also meet monthly with our colleagues from throughout New Hampshire to present upcoming surgical and catheterization cases, discuss complex and difficult patients, and review current literature and scientific advances in the field.



Dr. Nancy Drucker

Dr. Yeager is co-founder and president of the New England Congenital Cardiac Research Foundation, dedicated to supporting multi-institutional research and education programs based in the six New England states, and to providing seed money to help young investigators become more competitive for national funding.



Dr. Scott Yeager

pediatric endocrinology

FACULTY



PAUL J. ZIMAKAS, MD
Division Chief
Associate Professor
Martina Kacer, MD
Assistant Professor

The Pediatric Endocrinology Program provides consultative subspecialty care to children and adolescents from Vermont and upper New York State. Under the supervision of pediatric endocrinologists Drs. P.J. Zimakas and Martina Kacer, the service provides both ambulatory and inpatient care for patients with a variety of complex endocrine disorders and diabetes mellitus. Using a family centered approach; patients receive the highest quality of care from a multidisciplinary team, consisting of physicians, certified diabetes educators, an endocrine nurse, a pediatric nutritionist, a social worker and a pediatric psychologist.

The breadth of endocrine conditions managed by this service includes disorders of: the thyroid gland, growth, sexual development, glucose metabolism, bone and calcium metabolism, the pituitary gland, and the adrenal gland. The Division manages the pediatric endocrine dynamic testing unit which allows for complex diagnostic testing in the ambulatory setting for a variety of endocrine disorders. Testing in this unit includes: growth hormone stimulation testing, GnRH stimulation testing, ACTH stimulation testing, water deprivation challenges, fasting challenges, thyrogen stimulation testing. Periodic ambulatory infusion therapies, such as bisphosphonate therapy for children with osteoporosis and recurrent fractures, are also provided through this unit.

Dr. Zimakas also serves as the Pediatric Endocrine Consultant to the Vermont Department of Health's Newborn Screening Advisory Committee. His work with the committee has helped develop and expand guidelines for screening of serious congenital endocrine disorders. In collaboration with the Divisions of gynecology, urology and psychology; Dr. Kacer is in the process of developing a multi-disciplinary clinic dedicated to providing care

Dr. Paul Zimakas



and support for transgender adolescents and young adults. In collaboration with Dr. Matt Gilbert from the adult Endocrine Division, a formal Pediatric to Adult Endocrine Transition clinic was developed to ensure a seamless transition from pediatric to adult endocrine care for young adults with chronic and complex endocrine conditions.

The Diabetes Care Program for Children and Adolescents provides outpatient diabetes education to newly diagnosed children with diabetes and their families, as well as the frequent follow-up of established patients. The clinic is recognized as a center of excellence in diabetes education by the American Diabetes Association.

The Outpatient Diabetes Education Program was developed by a multidisciplinary team, consisting of physicians, certified diabetes educators and nutritionists. This team orchestrates a two day intensive education program that allows families to learn how to manage diabetes successfully, and obviates the need for initial hospitalization.

Subsequent chronic care and around the clock support is provided by certified diabetes educators and physicians that are available to address individual patient questions and concerns, and to provide and maintain education materials regarding diabetes management in schools (including a formal presentations for school nurses biennially). Dedicated care is also provided to patients with cystic fibrosis related diabetes in our clinic in conjunction with the Division of pediatric pulmonology.

EDUCATION

The Division is also dedicated to providing clinical educational experiences for pediatric residents, adult endocrinology fellows, and reproductive-endocrinology fellows. Dr. Zimakas lectures in several of the courses of the integrated curriculum for first year and second year medical students at the University of Vermont. Dr. Kacer is an instructor in the Doctoring Skills course for first year medical students and is on the medical student admissions committee.

QUALITY

In continuing collaboration with the Vermont Child Health Improvement Program (VCHIP), a population-based maternal and child health services research and quality improvement program of the University of Vermont, the clinic has developed a comprehensive data base registry for patients with diabetes mellitus. This registry has been used to ensure that quality of care standards for children with diabetes are being met. It is also used to direct quality improvement research, such as improving influenza vaccination rates in children with diabetes; where we were able to increase the rate of documented vaccination from 47% in 2008-2009 to 83% in 2011-2012.

In collaboration with the Diabetes and Metabolism Translational Medicine Unit, we are an affiliate site of the Type 1 Diabetes Trial Net Study Group. Trial Net is an international consortium of investigators studying ways to identify those at greatest risk for and potentially preventing type 1 diabetes.

In continuing collaboration with the Vermont Child Health Improvement Program (VCHIP), a population-based maternal and child health services research and quality improvement program of the University of Vermont, the clinic has developed a comprehensive data base registry for patients with diabetes mellitus.

pediatric gastroenterology, hepatology & nutrition

FACULTY



MICHAEL D'AMICO, MD
Division Chief
Associate Professor

Richard Colletti, MD
Professor

Jillian Sullivan, MD
Assistant Professor

The Division of Pediatric Gastroenterology, Hepatology and Nutrition offers consultation for a variety of disorders of nutrition and growth, the GI tract, the liver and pancreas, obesity and lipid disorders and feeding problems, and includes pediatric gastroenterologists Dr. Richard Colletti, Dr. Michael D'Amico and Dr. Jillian Sullivan, as well as nurse practitioner Bridget Thabault.



Dr. Michael D'Amico

Outpatients at Vermont Children's Hospital are evaluated at the Children's Specialty Center (CSC) where more than 1,000 new patients were seen during the year. The service is busy and continues to grow, with plans to add a fourth physician to the Division in the coming year to join us in taking care of patients and providing consultation on the general pediatric inpatient wards, the Neonatal Intensive Care Unit, the Pediatric Intensive Care Unit and the Emergency Department.

Endoscopic procedures are performed with the assistance of Roberta Pratt, RN, MSN, and Linda Siberini, RN. Liver biopsies, esophageal pH monitoring, esophageal and ano-rectal manometry are performed. Lactose breath hydrogen testing is performed at our CSC clinic with the aid of medical assistant Nate White. Our very busy and dynamic Division is kept running smoothly by our Practice Support Specialist, Pam Handy. Dr. D'Amico directs the multi-disciplinary clinic for overweight children and adolescents, known as the Healthy Living Clinic, which is also staffed by Bridget Thabault, NP and several nutritionists. He is also the physician leader for the Children's Specialty Center.

RESEARCH

Dr. Sullivan joined the Division in 2010 from her fellowship at the Children's Hospital Colorado. She has research interests in pediatric liver disease, is the associate program director for the Pediatric Cystic Fibrosis Center and just completed her Master's Degree in Science and Clinical Science (MSCS) from the University of Colorado at Denver.

EDUCATION

There is an active educational program for pediatric residents and medical students. The academic program includes research and international collaboration. Some patients are enrolled in multi-center clinical trials of medications for GE Reflux, inflammatory bowel diseases, chronic constipation and other disorders.

INNOVATION

A former President of the North American Society for Pediatric Gastroenterology, Hepatology and Nutrition, Dr. Colletti is now Director of the ImproveCareNow Collaborative for pediatric inflammatory bowel disease, in which Vermont Children's Hospital is a founding and participating site. The Pediatric Gastroenterology Internet Bulletin Board, the official listserv of NASPGHAN, with 2000 subscribers from over 50 countries and 5 continents, was founded here in 1995 and is managed through the resources of the University of Vermont.

QUALITY

In 2012, the Division was one of two programs at the Vermont Children's Hospital cited as a center of excellence for pediatric subspecialty care by *U.S. News and World Report*. We were ranked in the top 20th percentile of the best programs (44th) for Pediatric GI, Hepatology and Nutrition in the nation.



Dr. Jillian Sullivan

The Pediatric Gastroenterology Internet Bulletin Board, the official listserv of NASPGHAN, with 2000 subscribers from over 50 countries and 5 continents, was founded here in 1995 and is managed through the resources of the University of Vermont.

pediatric genetics & dysmorphology

FACULTY



LEAH BURKE, MD
Division Chief
Professor

With the explosion of genetic information since the completion of the Human Genome Project in 2003, clinical genetics has been a rapidly changing field. The members of the Vermont Regional Genetics Center (VRGC) which is housed at the UVM Department of Pediatrics and Vermont Children's Hospital, are at the center of this change, providing innovative care to the children and families of Vermont and parts of New York State.

RESEARCH

At the VRGC, every effort is made to ensure that our patients have access to all the latest treatments and research studies. The VRGC has participated in research studies at the National Institutes of Health, the Brain Research Center at the University of Washington, and other national centers of excellence. The VRGC personnel are active participants in the New England Consortium for Metabolic Diseases, and the New England Genetics Consortium Quality Improvement Workgroup.

EDUCATION

The members of the VRGC are involved in the education of medical students, residents and fellows, in the form of formal lectures and clinical clerkships. In addition Dr. Burke is the course director for the COM Introduction to Clinical Decision Making course, the first introduction to the field of Clinical Genetics for the medical students.

Our group has been active in giving presentations at regional and national meetings, including clinical case presentations, research presentations and invited lectures, webinars, and workshops.

INNOVATION

Innovation in genetics has changed both the diagnosis and treatment of genetic conditions. The VRGC offers patients the most up-to-date genetic testing, such as comparative genomic hybridization, next generation sequencing panels and whole exome sequencing. The VRGC is dedicated to providing the most up to date and effective therapies for our patients. The VRGC works with the Children's Specialty Center to provide enzyme replacement therapies for rare metabolic diseases. Dr. Burke was granted an individual Investigational New Drug (IND) from the FDA to treat a patient with a rare, progressive and fatal disease, with an infusion protocol that has only been used in a few centers.

Innovation in community education is demonstrated by the development of a website (GEMSS – Genetics Education Materials for School Success) to provide practical and useful information about genetic conditions to teachers and school personnel in order to improve the care of children with genetic conditions in the classroom. The website was developed through the auspices of the New England Genetics Collaborative and has been well received by educators both across the United States but also internationally.

QUALITY

The VRGC has been a part of a quality improvement project on the evaluation of children with developmental delay that has been accepted as a Quality Improvement project for the Maintenance of Certification of the American Board of Medical Genetics.

In 2012, the Vermont Metabolic Clinic was moved to Fletcher Allen Health Care in order to improve the service to the children of Vermont with inherited disorders of metabolism. As part of that change, Molly Holland, metabolic nutritionist, came to the VRGC to reorganize the clinics and to improve the quality of care. The clinic has implemented standard treatment guidelines that are being developed through the New England Metabolic Quality Improvement Forum.

Innovation in genetics has changed both the diagnosis and treatment of genetic conditions. The VRGC offers patients the most up to date genetic testing, such as comparative genomic hybridization, next generation sequencing panels and whole exome sequencing.



Dr. Leah Burke (left) and members of the Vermont Regional Genetics Center

pediatric hematology/oncology

FACULTY



ALAN C. HOMANS, MD
Division Chief
Professor

Heather A. Bradeen, MD
Associate Professor

The Pediatric Hematology/Oncology Clinic continues to see all referred patients with hematological or oncologic problems. Our staff includes two full time physicians, two Pediatric Nurse Practitioners, two clinical research associates, and staff who offer social support social work. The Pediatric Oncology Program is an active member of the Children's Oncology Group (COG), an international consortium of over 200 pediatric oncology centers. This membership gives us the opportunity to offer families current treatment regimens with access to the most recent investigational agents and molecular testing. Our research program has an active interest in clinical research, with the majority of our patients receiving their therapy in the context of front line COG investigational treatment protocols.

Additionally, the Pediatric Oncology program is an active participant in the Consortium for New England Childhood Cancer Survivors, a group of New England programs dedicated to improving the survivorship of childhood cancer patients and their families. We are also members of the Vermont Regional Hemophilia Center and participate in the activities of region I in providing hemophilia care.

RESEARCH

We are committed to continuing the improvement in childhood cancer care through research. The majority of pediatric oncology patients are enrolled in front line clinical investigations through COG. Most are also enrolled in epidemiology or late effects studies as well. Our oncologists have participated in publications for COG and CONNECS in the last year.

EDUCATION

Medical students and Pediatric residents have the options to participate in our Pediatric Hematology/Oncology rotation. In addition, students attend one of our clinics as part

of their clinical outpatient rotations. Our staff is actively engaged in teaching medical students in the Professionalism, Communication and Reflection course and in a number of other lecture opportunities. Our nurses and practitioners are engaged in providing both lectures and preceptorships for nursing students and in the American Society of Pediatric Oncology Nursing (APON) chemotherapy courses for staff nurses.

The Pediatric Oncology staff also provides service to the University as well, and serves on the Committees for Human Research in the Medical Science (UVM's IRB) and the Faculty Standards Committee.



Dr. Alan Homans

pediatric immunology & infectious disease

Pediatric Infectious Diseases and Immunology has seen dramatic changes over the past few years. Screening of pregnant mothers and effective anti-retroviral therapy has dramatically reduced the incidence of perinatally acquired HIV infection. Expanded use of vaccines has made previously common bacterial and viral infections infrequent. However, management of infections caused by resistant bacteria, opportunistic infections, and hereditary immune deficiencies and periodic fever syndromes, and the burgeoning number of children traveling around the world has kept the service busy.

The service provides inpatient, outpatient, and telephone consultation services for acute and chronic infectious disease complications. Working with the pediatric hospitalist team, the service gives advice regarding central catheter placement and home intravenous antibiotic use. The service works with the adult Infectious Disease service and pharmacy to practice antibiotic stewardship. Additionally, the service runs a travel clinic for children and adults traveling with children to give pre-travel advice and prophylaxis. Approximately 400 travelers are seen each year for pre-travel counseling.

EDUCATION

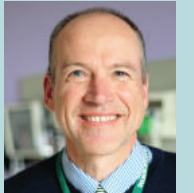
The service is very active at all levels of medical student and resident education. Dr. Raszka is the Course Director for the Foundations Level Attacks and Defenses Course, and the Pediatric Clerkship. The service regularly facilitates small group learning sessions among students and residents. The Pediatric Infectious Disease elective remains one of the most popular electives for medical students in the Department. While on the pediatric infectious disease service, medical students and residents participate in all aspect of patient care.

QUALITY

The service is very active in infection control policy design, surveillance, and resource utilization. Working with the Fletcher Allen Health Care Infection Control team, Department of Pathology, and nursing staff, the service recommends infection control policies, implementation of routine testing, and outbreak control. The service provides consultation to the Vermont Department of Health for the management of outbreaks, epidemiologic investigations, and vaccine issues.

Tania Storms, RN

FACULTY



WILLIAM RASZKA, JR, MD
Division Chief
Professor

The Pediatric Infectious Disease elective remains one of the most popular electives for medical students in the Department.



inpatient & critical care pediatrics

FACULTY



BARRY HEATH, MD
Division Chief
Professor

Amelia Hopkins, MD
Assistant Professor

Iris Toedt Pingel, MD
Assistant Professor

Multiple members of the Division have won the Department of Pediatrics Teacher of the Year award.

The Division of Inpatient and Critical Care Pediatrics was organized in 2008, joining the Pediatric Hospitalists and the Pediatric Intensivists.

THE PEDIATRIC HOSPITALIST PROGRAM

The Pediatric Hospitalist program at Vermont Children's Hospital (VCH) plays a central role in providing hospital-based care to children from Vermont and northern New York. The pediatric hospitalist program now includes eleven participating physicians.

VCH hospitalists provide inpatient care for patients referred from regional practices as well as local primary care practices. The hospitalists are available for telephone consultation to referring physicians and assist in facilitating patient transports. In addition, the hospitalists, in conjunction with the Pediatric intensivists, serve as medical consultants to the pediatric transport team. The hospitalist program also provides routine newborn care in the newborn nursery, pediatric care in the emergency room, and inpatient consultations for surgical and sub-specialist services.

Pediatric Hospitalists are currently involved in expanding our services across multiple areas of pediatric care, including lactation consultation/breast feeding education, neonatal circumcision and conscious sedation.

As of October 1, 2013, we have 24/7 in-house attending coverage of the inpatient pediatric patients, including 24/7 availability for emergency room consultation as well as development of a rapid response team for pediatric emergencies.

RESEARCH

Hospitalists at Vermont Children's Hospital are a participating center in the collaborative research group Pediatric Research in Inpatient Settings. Hospitalists are active in quality improvement work in conjunction with the Vermont Children's Hospital Quality Council. By integrating hospital systems improvement with academic clinical practice, the hospitalist program seeks to improve the health of children throughout the region. Projects involving our pediatric hospitalists include/have included:

- Implementation of Pediatric Early Warning Scoring System
- Initiation of Longitudinal Quality Improvement Curriculum for Pediatric residents
- Establishment of a bronchiolitis protocol
- Implementation of multiple-newborn protocols, including a newborn hypoglycemia protocol, late preterm care protocols, and guidelines for evaluation of newborns for sepsis

EDUCATION

We are currently developing a formal three-year curriculum for the residents, which is based on Pediatric Hospital Medicine Core competencies. We have established a comprehensive normal newborn curriculum which is completed by all of our residents. Our Division members are dedicated to teaching both residents and medical students. Multiple members of the Division have won the Department of Pediatrics Teacher of the Year award.

PEDIATRIC CRITICAL CARE PROGRAM

The Pediatric Critical Care Service provides inpatient care to children with life-threatening injuries or illnesses in the Pediatric Intensive Care Unit (PICU) on McClure 3. Our patients come from Vermont Children's Hospital's inpatient wards and Emergency Department, as emergency transfers from referral hospitals and emergency departments, and as elective admissions from Fletcher Allen Health Care's operating rooms and cardiac catheterization lab.

The PICU is staffed by pediatric intensivists and pulmonologists. PICU attendings are active in teaching on campus and at our referral hospitals and have been the recipients of teaching awards including: Department of Pediatrics Teacher of the Year, University of Vermont Medical Group Graduate Medical Education Teacher of the Year, and University of Vermont Kroepsch-Maurice Award for Excellence in Teaching. The PICU service provides a comprehensive three-year educational curriculum for Pediatric residents. An elective in Pediatric Critical Care for clinical elective medical students is offered through the College of Medicine.

The PICU provides a unique and active full-time pediatric emergency critical care telemedicine service available at twelve referring rural emergency departments. This program is one of the most active pediatric critical care telemedicine programs in the country with the largest published experience.



HOSPITALISTS

Karen Leonard, MD
Hospitalist Division Chief
Assistant Professor

Abigail Adler, MD
Assistant Professor

Barry Finette, MD, PhD
Professor

Lewis First, MD
Professor

Rebecca Goodman, MD
Assistant Professor

Karin Gray, MD
Assistant Professor

Molly Moore, MD
Assistant Professor

Marianne Rideout, MD
Assistant Professor

Paul Rosenau, MD
Associate Professor

William Raszka, Jr., MD
Professor

Christa Zehle, MD
Associate Professor

INTENSIVISTS

Barry Heath, MD
Professor

Amelia Hopkins, MD
Assistant Professor

Thomas Lahiri, MD
Professor

Iris Toedt-Pingel, MD
Assistant Professor

pediatric neonatology

FACULTY



CHARLES MERCIER, MD
Division Chief
Professor

Marie Berg, MD
Assistant Professor

Jeffrey Horbar, MD
Professor

Anne Johnston, MD
Associate Professor

Robert Pfister, MD
Associate Professor

Roger Soll, MD
H. Wallace Professor of
Neonatology

The Division of Newborn Medicine provides medical care to premature and sick newborn infants including inpatient intensive care, inpatient convalescent care, acute patient transport services, outpatient medical follow up care, and outpatient developmental surveillance. Neonatal care at Vermont Children's Hospital serves Vermont, northern New York state and New Hampshire; neonatal care units have an average daily census of 19 infants accounting for over 4,500 patient days annually. The high level of available neonatal care includes high frequency oscillatory ventilation, inhaled nitric oxide, whole body cooling; pediatric surgical care is supported as well.



Dr. Charles Mercier in the
Neonatal Intensive Care Unit.

EDUCATION

The Division actively supports graduate and post graduate medical education, including a subspecialty fellowship training program currently directed by Drs. Berg and Soll. For the College of Medicine, Dr. Mercier is the medical director of the Vermont Regional Perinatal Health Project, providing continued education activities to physicians and hospital-based perinatal staff throughout our referral area. Dr. Mercier also mentors two Schweitzer Fellows from the College of Medicine whose project focuses on improving family support for infants in the NICU.

RESEARCH

Research activity within the Division is extensive and principally based in clinical and translational science and quality improvement. Dr. Horbar, the Jerold F. Lucey Professor of Neonatology, is the Chief Executive and Scientific Officer of Vermont Oxford Network (VON), a working collaboration of over 900 NICUs worldwide dedicated to improving the quality and safety of medical care for newborn infants and their families. Dr. Soll, the H. Wallace Professor of Pediatrics and a President of VON, serves as the Director of Clinical Trials and Research at VON. Drs. Soll and Mercier direct a national effort at describing follow up outcomes of extremely low birth weight infants. Dr. Pfister, also an investigator at VON, leads research describing outcomes of newborns with neonatal encephalopathy and those treated with therapeutic hypothermia.

INNOVATION

Support of evidence-based medicine and medical decision making is complex: the Neonatal Cochrane Review Group, directed by Dr. Soll, is an international effort focused on producing and disseminating systematic review of evidence for neonatal healthcare interventions. Simulation as a learning experience continues to be defined in the context of graduate and post graduate education; Dr. Pfister leads the Division in conducting sophisticated high fidelity neonatal resuscitation simulations and debriefings. The care of opioid exposed infants in the outpatient setting is challenging and resource intensive: Dr. Johnston is currently a co-investigator of an National Institutes on Drug Abuse funded study addressing issues of healthcare management for this population of newborns.

QUALITY

An active NICU member of the VON, Dr. Mercier chairs the quality improvement collaborative work group which aims to reduce the incidence of chronic lung disease in the very low birth weight infant by increasing and improving the use of non-invasive modes of respiratory support. The group also focuses to improve the experience of families of infants requiring NICU care. Drs. Pfister and Soll are faculty members of the VON Quality Improvement Collaboratives (NICQ and iNICQ); have developed Quality Improvement Toolkits and educational materials expressly for these collaborative series, and present annually at national VON meetings.



Elizabeth Lyster, RN

pediatric nephrology

FACULTY



ANN GUILLOT, MD
Division Chief
Professor

The Division of Pediatric Nephrology includes many members of the Vermont Children's Hospital across several departments, as care for children with kidney disease requires a multi-specialty approach.

Children and families come to the Division for management of a wide variety of problems ranging from the acute and fairly straightforward to the life-long and complex. These include hypertension (of all causes), prenatal management and counseling about genitourinary anomalies, all forms of chronic kidney disease, and acute kidney injury. We have a close working relationship with the Pediatric Urology Division in the department of Surgery, and co-manage many patients.

We offer dialysis modalities to patients from birth to early adulthood, and renal transplantation to older children and adolescents, as well as pediatric apheresis. Our pediatric dialysis team includes some of the best pediatric dialysis nurses around. Our transplant team includes a dedicated pediatric transplant coordinator, and close collaboration with the Fletcher Allen Renal Transplant surgeons and transplant nephrologists.

Our core pediatric nephrology team includes a pediatric social worker, a dietician and a nurse clinician, who manages coordination with our patients' medical homes, as well as their medical nephrology needs. We have also forged a link with the school nurses in the region, allowing some of our complex patients to be in school and have informed nurses

who can help with management of these very complex diseases, which are often not familiar to many in the community.

Our Division has been a participant for over 25 years in the North American Pediatric Renal Trials and Cooperative Studies group, which includes almost all of the pediatric renal transplants in the country. This allows for both participation in multi-center trials, and for benchmarking our performance against that of the other participating centers.

Dr. Ann Guillot



pediatric palliative care

FACULTY



ROBERT MACAULEY, MD
Medical Director
Pediatric Advanced Care Team
Professor

The Vermont Children's Hospital provides caring and compassionate services for children with life-threatening illnesses. Our goal is to provide the best possible care for children and families including the latest treatments and therapies for pain and symptom management, advance care planning and specialized palliative care.

Palliative care is complementary to other hospital treatment plans and is compatible with therapy designed to prolong life. The difference is that palliative care focuses on comfort, dignity, hope and improving quality of life. The American Academy of Pediatrics describes palliative care as "adding life to a child's years, rather than years to a child's life."

Staff at the Fletcher Allen Palliative Care Service are committed to a patient- and family-centered approach that puts the needs of your child and family first and foremost. Our experienced, skilled Pediatric Advanced Care Team (PACT) brings together specialists from different disciplines to address the physical, psychological, spiritual and social needs of your child and family. This team, which is specially trained in providing palliative care for children, includes physicians, nurses, social workers, child life specialists, and chaplains. Robert Macauley, MD, medical director of clinical ethics at Fletcher Allen, serves as medical director of the PACT team, and is one of fewer than 100 board-certified palliative care pediatricians nationwide.

The PACT team provides services for children from birth through adolescence, focused on the following areas:

- Management of acute and chronic pain
- Management of other life-impacting symptoms, such as nausea and difficulty breathing
- Advance care planning: One of the principles of palliative care is to "hope for the best, and also prepare for the worst." The PACT team collaborates with other specialties to evaluate the potential outcomes of possible treatments. Through thoughtful discussion, we help the patient and family arrive at a treatment plan that reflects their values and preferences.
- Parent and sibling support
- Bereavement

We provide care for a broad range of conditions that fall into the following categories:

- Potentially curable conditions, such as cancer and extreme prematurity.
- Incurable conditions whose course can be altered through intensive treatment, such as muscular dystrophy and cystic fibrosis.
- Progressive conditions for which there is only palliative treatment, such as glycogen storage diseases, metabolic disorders that result from a defect in breaking down glycogen into glucose.
- Conditions which may not impact duration of life but definitely impact quality of life, such as severe cerebral palsy.

pediatric pulmonology

FACULTY



THOMAS LAHIRI, MD
Division Chief
Professor

Kelly Cowan, MD
Assistant Professor

The Pediatric Pulmonology Division provides outpatient care in the Children's Specialty Center and inpatient consultation to children with respiratory and airway disorders. The Division participates in three multidisciplinary clinics: the Cystic Fibrosis Clinic, the MDA Clinic serving children with neuromuscular disorders, and the Pediatric Aerodigestive Program.

The Vermont Cystic Fibrosis (CF) Center is accredited by the CF Foundation, which cares for children and adults with CF from Vermont and northeastern New York State. Dr. Thomas Lahiri is the Center Director and serves as the Pediatric Program Director. The CF multidisciplinary clinic is staffed with a pediatric pulmonologist, gastroenterologist, nurse practitioner, dietician, respiratory therapist, social worker, nurses and child life specialist. The Pediatric Program nurse coordinator is Heidi Pecott-Grimm. Patients with cystic fibrosis who have received lung transplantation continue to be cared for in clinic. Our CF Center has an energetic patient and family advisory board which actively participates in quality improvement projects. Julie Houchell, FNP oversees our Adolescent Transition Clinic for patients between 12 and 18 years of age. Dedicated care is also provided to

PROCEDURES INCLUDE:

- Sweat chloride testing by quantitative pilocarpine iontophoresis
- Pulmonary function testing
- Flexible laryngoscopy and bronchoscopy

CONDITIONS WE TREAT:

- Asthma
- Cystic fibrosis (CF)
- Chronic lung disease of prematurity
- Complicated pneumonia
- Neuromuscular disorders
- Airway and pulmonary malformations
- Immune mediated lung disease
- Recurrent aspiration
- Interstitial lung diseases
- Pulmonary hypertension
- Chronic home invasive and non-invasive assisted ventilation management



Dr. Thomas Lahiri

patients with CF related diabetes in our clinic in conjunction with the Division of pediatric endocrinology. We are a recipient of the Quality Care Award by the CFF and have had favorable outcome measures for both nutrition and lung function.

EDUCATION

The pediatric pulmonology Division is invested in medical education. Faculty participate in several 1st and 2nd year UVM medical student courses. Didactic sessions are provided to core pediatric clerkship students, pediatric residents and fellows at regular intervals. Pediatric respiratory topics are also presented locally and regionally by Division faculty.

RESEARCH

Our Division is an active participant in clinical trials research. After a competitive application process, we have received renewal of our grant funding as a Therapeutic Development Center from the Cystic Fibrosis Foundation Therapeutics, Inc. to participate in multi-center trials to investigate treatments for CF. Our research performance metrics rank very favorably compared to even much larger programs across the nation and has enabled us to earn renewal of funding. In conjunction with the Vermont Lung Center, we also participate in pediatric asthma trials sponsored through the American Lung Association. The CF Center continues to actively participate in epidemiologic research at a local and national level in conjunction with the Northern New England CF Consortium. Several investigator-initiated projects have also been undertaken with a focus on quality improvement.

INNOVATION

We are the primary providers of pediatric flexible bronchoscopy services throughout the state of Vermont and northeast New York State, with approximately 150 procedures annually. We have also jointly established the Pediatric Aerodigestive Program at Vermont Children's Hospital with pediatric gastroenterology, otolaryngology, speech-language pathology and nutrition services. This service was developed to address the needs of infants in children with swallowing or complex respiratory disorders, as well as to provide more coordinated and streamlined care to children with feeding and airway disorders.

QUALITY

Vermont Children's Hospital was recognized by *U.S. News and World Report* as one of the top Children's Hospitals in Pediatric Pulmonology. We were the smallest program recognized in the survey. Together with pediatric gastroenterology, this marked the first time that Vermont Children's Hospital was honored with this particular designation. The Vermont CF Center is fully accredited by the CFF and has been a recipient of the Quality Care Award. Our outcome metrics for lung function and nutritional status of our patients compare favorably to other centers with performance in the upper quartile.



Julie Houchell, FNP

Vermont Children's Hospital was recognized by *U.S. News and World Report* as one of the top Children's Hospitals in Pediatric Pulmonology

pediatric rheumatology

FACULTY



LESLIE ABRAMSON, MD
Division Chief
Associate Professor

The Division of Pediatric Rheumatology provides subspecialty care to children with a variety of rheumatic diseases. Leslie Abramson, MD, Division head, is a board certified pediatric rheumatologist working with a pediatric nurse coordinator to evaluate and treat children with a variety of autoimmune disorders that often involve the musculoskeletal system as well as multiple body systems. The diseases we treat include Juvenile Idiopathic Arthritis, Juvenile Dermatomyositis, Lupus, Scleroderma, Vasculitis and a variety of other autoimmune disorders. Dr. Abramson is actively involved at the national level in clinical research activities aimed at improving the care of children with rheumatic disease. She is a participating member of the Childhood Arthritis and Rheumatic Disease Research Alliance (CARRA) and the Pediatric Rheumatology Collaborative Study Group (PRCSG), two leading national organizations in collaborative research amongst pediatric rheumatology centers in North America. She is a primary investigator in CARRAnet, a national registry for children with rheumatic diseases and also participates in a variety of investigations through the PRCSG looking at efficacy as well as adverse events related to the use of biologic medications in the treatment of pediatric rheumatic diseases. She has also been involved in ARCHIVE, a U.S./Canadian registry for children with vasculitis. She has authored the Juvenile Idiopathic Arthritis patient information sheet for the American College of Rheumatology for several years and has been involved in patient advocacy activities through the ACR as well. She participates in educational activities of medical students and pediatric residents as well as adult rheumatology fellows at Fletcher Allen Health Care.



As newer more effective medications have become available for children with rheumatic diseases (and especially Juvenile Idiopathic Arthritis) it is important that children suspected with these diagnoses are evaluated by a pediatric rheumatologist, diagnosed correctly and treated appropriately early on in their disease course to prevent potential damage to joints as well as other body systems.

Dr. Leslie Abramson



pediatric psychiatry

FACULTY



JAMES HUDZIAK, MD
Division Chief
Professor

Robert Althoff, MD, PhD
Associate Professor

Allison Hall, MD
Assistant Professor

David Rettew, MD
Associate Professor
Director of the Pediatric Psychiatry Clinic
and the Child Fellowship Program

The Vermont Center for Children, Youth, and Families (VCCYF), under the direction of James Hudziak, MD, is an internationally known Division of Child and Adolescent Psychiatry. The VCCYF has robust academic research programs in genetics, neuroimaging, psychophysiology, multicultural assessment, temperament, epidemiology, and public health. The VCCYF participates in bench to bedside research, from identifying brain regions involved in the maintenance of attention, aggression, and anxiety in typically developing children, to developing a new model of treatment, The Vermont Family Based Approach. The Division serves the Department of Pediatrics through patient care, training, teaching and research efforts.

(Left to right) Masha Ivanova, PhD, Allison Hall, MD, Robert Althoff, MD, Valerie Harder, PhD, Thomas Achenbach, PhD, Laura Wainer, NP, James Hudziak, MD, Katy Cahill, NP, PhD, David Rettew, MD, Eliza Pillard, LICSW, Cynthia LaRiviere, PhD



CLINICAL SERVICE

Outpatient child psychiatry services at the VCCYF, using the model of the Vermont Family Based Approach, have expanded to record levels to help meet the mental health needs of children and families all across the area. In 2012, clinicians in the VCCYF performed approximately 7000 visits. Despite the added clinical capacity, our community continues to struggle with being able to access high quality child mental health care.

VERMONT CHILD HEALTH IMPROVEMENT PROGRAM

The VCCYF has an active VCHIP program. James Hudziak, MD and Judith Shaw, EdD, MPH, RN, in collaboration with members of the VCHIP and VCCYF teams, have programs in co-location and consultations to pediatricians around the state, provide email/phone consultations to all interested pediatricians in the state, provide telechildpsychiatry services to three federally-qualified health centers, are actively implementing the Vermont Family Based Approach in a school setting (Addison County), and through the Vermont Program in Evidenced Based Practice, actively collaborate with a number of CMHC's to implement and supervise practitioners in new evidenced based parent training programs.

CHILD & ADOLESCENT PSYCHIATRY FELLOWSHIP

The fellowship, under the direction of Dr. David Rettew, graduated its second class in 2012, while recruiting two new interns into its integrated adult/child psychiatry training program. The fellowship has graduated three new child psychiatrists who have gone on to take clinical positions in the local area. The fellows also continue to provide consultation to primary care clinicians in four federally qualified health centers. The fellows have embraced the Vermont Family Based Approach model and have taken this perspective into their practices.

The VCCYF has robust academic research programs in genetics, neuroimaging, psychophysiology, multicultural assessment, temperament, epidemiology, and public health.

EDUCATION

In addition to the fellowship, members of the VCCYF have been involved in teaching individuals at all levels of training. The Center now has an expanded role in teaching medical students during both their psychiatry and pediatric clerkships, and the faculty continues to offer training to general psychiatry and pediatric residents as well as various community health centers. Faculties also are preparing to teach at the next Child Psychiatry in Primary Care Conference, scheduled for May 2014.

RESEARCH

The VCCYF continues to excel in research. Members of the Center currently have grants in genetic and environmental influences on child exercise and obesity, neuroimaging and epigenetics of fear, genetic and neuroimaging sequelae of sports concussions, child dysregulation and obesity, as well as ongoing collaborations with scientists around the world.

ADVOCACY

Members of the VCCYF have been increasingly involved in advocacy efforts to promote child behavioral health and wellness to our Vermont community and beyond. Dr. Hudziak is the Chair of Health Promotion and Prevention for the American Academy of Child and Adolescent Psychiatry. The Child Mental Health Blog (www.blog.uvm.edu/drettew) has enjoyed good success with increased membership and over 1000 hits per month, bolstered by posts from many contributors. Dr. Hudziak gave several lectures across the state to community organizations on the topic of child wellness. Dr. Rettew has contributed as a member of a state advisory committee to gather important information about factors leading to antipsychotic usage in Vermont children.

pediatric psychology

FACULTY



MARLENE MARON, PHD
Division Chief
Associate Professor

The Pediatric Psychology Service, a Division of Psychological Services at Fletcher Allen Health Care, is committed to providing the highest quality psychological services, staff consultation, and clinical training. We serve children, adolescents and families referred through pediatric specialty clinics, inpatient general and intensive care pediatric units, and community providers. We serve patients from all over the region and treat a wide variety of conditions. We serve as a primary referral and resource for primary care providers all over Vermont and Northern New York state.



(Left to right) Clinical Psychologists Joanne Wolfe, Kimberlee Roy, Practicum Student Lilya Sitnikov, and Pediatric Psychology Student Eric Low meet with Division Chief, Associate Professor Dr. Marlene Maron (right)

All of our psychologists have specialized training and experience in the care of children and families faced with medical challenges. In addition, we provide outpatient psychotherapy to children and families in our general outpatient clinical and primary care settings. We provide cognitive-behavioral therapies trauma focused, interpersonal, family, and psychodynamically informed interventions, parent training and guidance, parent child interaction therapy, hypnosis and pain management. In 2012 we conducted 2698 psychotherapy sessions with children and provided more than 250 hours of consultation to VCH and community providers.

HIGHLIGHTS OF ORGANIZATIONAL AND STATEWIDE SERVICE

Dr. Maron serves as the Psychiatry representative to the VCH Quality Council and Mental Health/Substance Abuse Technical Advisory Group member for the Green Mountain Care Board. She facilitated monthly wellness meetings for Pediatric Residents, provided leadership for planning the eleventh annual Children's Memorial Service, and participated in interviews with local newspaper outlets, radio and television stations.

EDUCATION

Our Departments of Psychiatry and Pediatrics faculty continued to provide clinical training for Child Psychiatry Fellows and Clinical Psychology Practicum Students. Dr. Maron presents an annual lecture in the medical students Generations Course, and general and child psychiatry seminars. Dr. Alexandra Thomsen provided clinical supervision and training to community mental health center providers in cognitive-behavioral therapy and conducted a reflective rounds seminar with Dr. Robert Macauley for medical students. Dr. Courtney Fleisher presented at Pediatric Grand Rounds and weekly pediatric teaching rounds. Dr. Rebecca Ruid presented at the Vermont Association of Diabetes Educators and Champlain College Department of Education.



Dr. Courtney Fleisher

INNOVATION

In 2012 Dr. Fleisher established a psychological screening and referral system for pediatric oncology patients at Vermont Children's Hospital. Dr. Ruid collaborated on developing a proactive model for Pediatric Endocrine Clinic to minimize problems with adherence.

Dr. Maron culminated administration of a 10 year co-location and truly integrated behavioral and primary care program in 2012. Funded by VCHIP in collaboration with the Vermont Departments of Health and Mental Health, the Child Mental Health Initiative (CMHI), directed by Dr. Maron, was one of the first and most ambitious private-public coordinated efforts designed to improve access to mental health care for children in our region, particularly those enrolled in Medicaid programs. On-site services and consultation were made available to several area primary care practices. Access to mental health care for children continues to be a struggle. The Pediatric Psychology Service continues to collaborate with state agencies to improve access and availability of high quality mental health services for children, adolescents, young adults and families.

pediatric neurology, orthopedics, pathology & radiology

PEDIATRIC NEUROLOGY

PETER BINGHAM, MD, Division Chief

The Pediatric Neurology Division has grown with the recruitment of two renowned pediatric epilepsy specialists during 2013: Gregory Holmes, MD, who also serves as chairman of a newly-expanded Department of Neurological Sciences; and Rod Scott, MD. A member of many professional society boards, Dr. Holmes' research focuses on the effects of seizures and status epilepticus on brain development. He has received many awards for his research and work in childhood epilepsy. Dr. Scott also holds appointments at Great Ormond Street Hospital, and the University College London, Institute of Child Health, and studies impacts of early life seizures and developmental brain abnormalities on children's cognitive development.

Together with Division Chief Peter Bingham, MD, these clinicians continue to serve children with a broad range of known or suspected neurological problems over a wide geographic area (Vermont, Northern New York). 2013 has seen the continued growth of our multi-disciplinary Neuromuscular Clinic, supported by representatives of the Muscular Dystrophy Association. This clinic serves dozens of children with muscular dystrophy, hereditary neuropathy, and spinal muscular atrophy (among other conditions), and is staffed by pediatric physicians specializing in pulmonary medicine, cardiology, and rehabilitation medicine, as well as neurology. Over the past year, growing regional demands for care of children and families affected by pediatric headache has triggered educational outreach efforts for families and pediatricians dealing with this common problem. The section of pediatric neurology also continues with mentoring and shadowing opportunities with area high school students through the Area Health Education Centers and UVM undergraduates who have an interest in pediatric neurology as a career. Through a Fulbright Scholar Award received

by Dr. Bingham, the Pediatric Neurology Division now has continuing collaborations and improvement projects with Armenian pediatricians and neurologists in Yerevan, Armenia. The Division, and the children of Vermont, benefitted from the care of Dr. Stella Legarda, who joined us temporarily during Dr. Bingham's foreign sabbatical last spring.

PEDIATRIC ORTHOPEDICS

JENNIFER LISLE, MD, Division Chief

Bone, joint, and muscle problems in children require specialized, expert care to ensure a child's healthy growth and development. At the Vermont Children's Hospital, a team of experienced pediatric orthopedic specialists are trained to provide the full range of treatments, with family-centered care that brings a personal approach to every child and family we see.

Pediatric Orthopedic Services provides advanced care for children and adolescents with all types of musculoskeletal problems, including scoliosis, bone tumors, upper and lower extremity problems, neuromuscular disorders and other orthopedic conditions. We also treat children with cerebral palsy, myelomeningocele, muscular dystrophy and other neuromuscular disorders through the Vermont Department of Health.

As a university hospital, our treatments are backed by research-based expertise, and patients have access to the latest pediatric orthopedic treatments and therapies available. Our physicians are board-certified orthopedic surgeons with additional specialty training in pediatrics. They're also University of Vermont faculty members and are involved in research and in the education of University of Vermont College of Medicine students and orthopedic surgery residents.

PEDIATRIC PATHOLOGY

BRENDA WATERS, MD, Division Chief

The spectrum of diseases in children is significantly different than those affecting adults. Complications of preterm delivery, developmental and metabolic derangements all require a unique approach to diagnosis, treatment and predictions for recurrence in the family. Pediatric pathology contributes to these efforts both in the chemistry laboratory, with reference ranges specific for children, as well as in the surgical pathology laboratory, where understanding of human embryology help to explain anatomic malformations of multiple organs.

Children are susceptible to an array of benign and malignant tumors very different than those of adults. For the benign tumors, which are fortunately far more common, their behavior is unique in that some disappear on their own, some will enlarge and some, considered malformations, will grow with the growth of the child. Here the pediatric pathologist can discern the character of the lesion, predict its behavior and thus direct appropriate treatment. Malignant tumors affecting children are also unique, with most of them very rarely affecting adults. In this setting, the pediatric pathologist works closely with the pediatric oncologist. The tumor must be identified as to its organ of origin, and portions of the tumor are submitted for special studies performed at a large pediatric tumor repository. Information gained from these efforts of the pediatric pathologist is used to assess the child's overall risk and thereby provide guidance for appropriate therapy.

These efforts are under the auspices of the Children's Oncology Group, a National Cancer Institute which is the world's largest organization devoted exclusively to childhood and adolescent cancer research. The Children's Oncology Group has turned children's cancer from a virtually incurable disease 50 years ago to one that now has a combined 5-year survival rate of 80%. Not only has survival improved, but treatments have been modified such that good response of the tumor is achieved, but with fewer side effects. These achievements are firmly founded on the efforts of pediatric pathologists who diagnosis the tumors and procure tumor tissue for further analysis.



PEDIATRIC RADIOLOGY

TIMOTHY HIGGINS, MD, Division Chief

Pediatric radiology deals with infants and children, who present different imaging challenges and risks than adults. Standard evaluation techniques in the acutely ill pediatric population have in the past been radiographs, fluoroscopy, ultrasound and computed tomography, especially in the investigation of abdominal complaints. MRI has more often been reserved for evaluation of central nervous system disorders and musculoskeletal problems due to motion constraints precluding its use for abdominal pain. The most exciting recent development in pediatric radiology has been the use of MRI in the acutely ill child with suspected appendicitis. While ultrasound is the initial test of choice, it is not always diagnostic.

These children would therefore in the past have needed to undergo CT scanning, which involves a small amount of inherent ionizing radiation. With the advent of newer coils and scanning techniques, MRI scanning can now be performed in the investigation of acute abdominal pain in children as young as 5 years old. At Fletcher Allen Health Care, we have been using MRI in the emergency room to evaluate children and young adults for appendicitis with success over the past few years. This allows us to often avoid a CT scan by substituting MRI, which uses no ionizing radiation. In addition, children with inflammatory bowel disease and prior abdominal cancers are now being evaluated and followed with MRI, instead of the multiple CT scans which they would have received in the past.

pediatric surgery & surgical specialties

FACULTY

Susan Durham, MD, MS
Associate Professor of Surgery
Pediatric Neurosurgery

Richard N. Hubbell, MD
Professor of Surgery and Pediatrics
Pediatric Otolaryngology

John Lawrence, MD, FACS
Associate Professor of Surgery
Pediatric Surgery

Donald Laub, MD
Professor of Surgery and Pediatrics
Plastic Surgery

Gerald Mingin, MD
Associate Professor of Surgery
Pediatric Urology

Kennith Sartorelli, MD, FACS
Professor of Surgery and Pediatrics
Division Chief Pediatric Surgery

Bruce Tranmer, MD, FACS
Professor of Surgery
Cordell E. Gross Green & Gold Professor in Neurosurgery

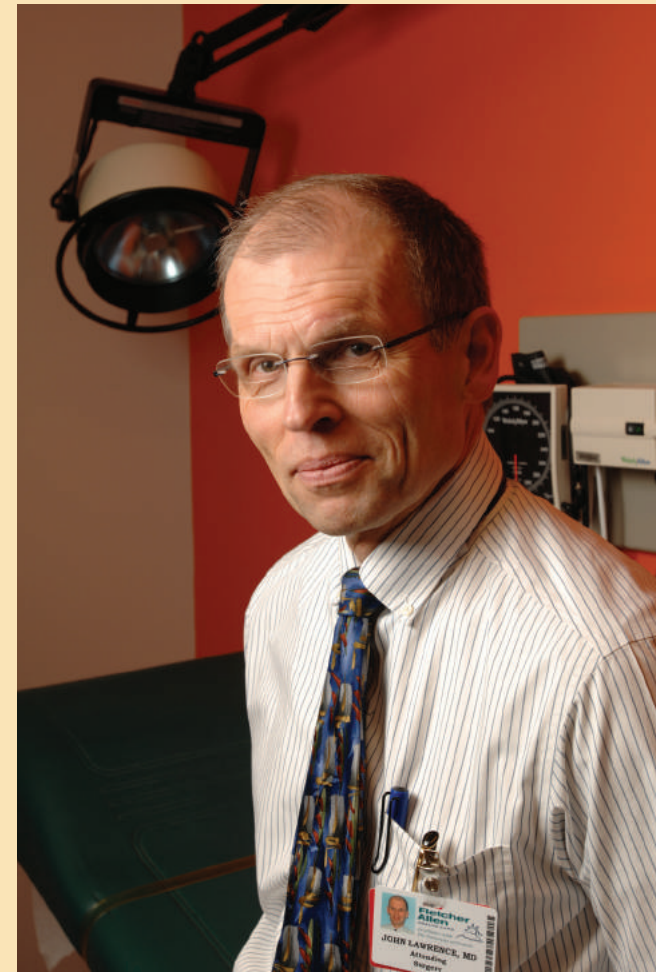
Dr. Kennith Sartorelli



The Department of Surgery conducts teaching and research activities, and provides surgical care to children from birth to adolescence as part of its mission to support the activities of the Vermont Children's Hospital.

General Pediatric Surgery

The Division of Pediatric Surgery is staffed by two board certified pediatric surgeons, Dr. Kennith Sartorelli and Dr. John Lawrence. The spectrum of conditions we treat range from surgical disorders in the smallest of premature infants to correction of chest wall deformities in teens and also includes treatment of congenital anomalies of the head and neck, chest, and abdomen; care of acute surgical problems throughout childhood; surgical management of pediatric tumors; and coordination of trauma care for children. Our Division performs around 600 operative procedures each year and additionally oversees the care provided to approximately 110 pediatric trauma admissions each year.



Dr. John Lawrence

Neurosurgery

Our highly trained and knowledgeable University of Vermont Medical Group surgeons provide specialized care for infants, children, adolescents and young adults with neurological issues. Some of the many conditions we treat include hydrocephalus, brain tumors, spina bifida, tethered spinal cord, and traumatic brain injuries. Given the complex nature of many pediatric neurosurgical conditions, children's evaluation and treatment will involve a team of specialists. Dr. Bruce Tranmer has also been extensively involved in the education of our neurosurgery medical students and is the Neurosurgery Residency Program Director. This year we welcomed a new pediatric neurosurgeon, Dr. Susan Durham. She works closely with pediatric neurologists and neuroradiologists in order to provide the most comprehensive care.

Otolaryngology

The Division of Otolaryngology, Head and Neck Surgery in the Department of Surgery provides comprehensive care for pediatric otolaryngologic problems. We work closely with our colleagues in other pediatric subspecialties. Richard Hubbell MD, the only fellowship-trained pediatric otolaryngologist in Vermont, spearheads this effort. Dr. Hubbell sees more than 5000 children in clinic and performs more than 800 operative procedures per year. He also provides otolaryngologic care for the multidisciplinary pediatric aerodigestive disorders clinic. Board-certified neurotologist Mark Whitaker, MD, provides specialized surgical care for children with hearing loss and directs our cochlear implant program. He, together with audiologist Margret Sicotte, AUD, CCC-A, performed 11 cochlear implant procedures in children in 2012 and helped manage their aural rehabilitation. Rhinologist Gary Landrigan, MD works with children with cystic fibrosis to help manage their sinonasal problems. We also provide other specialized services such as Botox injections with ultrasound guidance to help manage drooling problems in some children. Our education programs support medical students as well as residents in both otolaryngology and pediatrics training programs.



Dr. Richard Hubbell

pediatric surgery & surgical specialties

Plastic Surgery

Donald Laub, Jr., MD, is a Professor in both the Department of Surgery and the Department of Pediatrics. He is a member of the American Association of Pediatric Plastic Surgeons, the Pediatric Hand Study Group of the American Society for Surgery of the Hand, the Velocardiofacial Education Foundation, and the American Cleft Palate-Craniofacial Association. He currently serves as the medical director of the Vermont State Children with Special Health Needs (CSHN) Cleft Palate/Craniofacial Clinic. Dr. Laub has been performing cleft surgery since 1993. He has completed the New York University workshop on nasolabial molding (NAM) technique for preoperative management of children with cleft lip and palate. Dr. Laub also has trained in the treatment of congenital hand differences at the Lucille Packard Children's Hospital in Palo Alto, California.

Dr. Laub has participated in many volunteer reconstructive surgical missions to Ecuador, Honduras, Vietnam, Brazil and Guatemala with Interplast, Inc., and Hospital de la Familia Foundation. This experience has allowed him to help hundreds of afflicted people in the third world, and to work with many of the masters of cleft surgery. Dr. Laub is a member of the American Cleft Palate/Craniofacial Association (ACPA) and the Vermont State CSHN Cleft Palate/Craniofacial Clinic is an ACPA affiliated clinic. In 2005, Dr. Laub presented a paper at the annual ACPA meeting describing the unique format of the Vermont CSHN cleft palate/craniofacial clinic where patient and family satisfaction was shown to be 95%. Dr. Laub was invited by the Arbeitsgemeinschaft für Osteosynthesefragen, (Association for the Study of Internal Fixation) to be a visiting professor at the Morriston Hospital Maxillofacial and cleft surgery unit in Swansea Wales, UK.

Dr. Laub currently is editing a multi-author textbook on congenital hand anomalies. He is also working with Dr. Scott Benjamin and Dr. Peter Bingham on developing a new multidisciplinary clinic for treatment of children with cerebral palsy.

Dr. Gerald Mingin



Urology

The Pediatric Urology effort is provided by Gerald Mingin, MD, who has been on full-time faculty at the University of Vermont since 2007. Dr. Mingin provides comprehensive care for all pediatric urologic conditions including the most complex reconstructive surgeries as well as offering procedures that make use of the latest technologies including robotically assisted surgery. As the only Board Certified Subspecialty Pediatric Urologist practicing in the State of Vermont, his efforts and expertise are central to the recently reaccredited Urologic Residency Training Program, an essential effort to ensure Vermont has a source of urologists available for service to surrounding communities in the future. Dr. Mingin is also very involved in research and is currently contributing by way of his innovative and highly clinically relevant work looking at social stress and the contribution it may have in voiding dysfunction in children. This work, done in concert with the Departments of Neurological Science and Pharmacology, is federally funded through the K-08 mechanism and has been widely acclaimed nationally. Dr. Mingin's clinical efforts to the State's children with urological disorders are further supported by his fellow adult urologic faculty, the pediatric and urology residents, as well as a dedicated and experienced nurse clinician.

pediatric anesthesiology

Each year, over 3,000 children receive anesthesia care from the Department of Anesthesiology. Care is provided for a wide variety of procedures including relatively minor outpatient procedures and highly complicated major surgical interventions. The patient population is extremely diverse ranging from sick premature infants to otherwise healthy older children, with each type of patient presenting unique challenges in the perioperative environment. Anesthesia and sedation services are provided in a multitude of locations including the Operating Room, Comfort Zone, Interventional Radiology, MRI scanner and the Children's Specialty Center to name only a few. The entire Department of Anesthesia supports and provides anesthetic care for children. A subgroup of anesthesia attendings with specialized training and expertise in neonatal and pediatric anesthesia is available for more complicated patients and procedures.



Dr. J. Christian Abajian

THE VERMONT INFANT SPINAL REGISTRY

The Department of Anesthesia at UVM has long been a leader in the use of regional anesthesia in children, particularly infants. The use of spinal anesthesia for surgery in infants was pioneered at UVM in the 1980's and caused a resurgence in interest in spinal anesthesia in children. Since that time, every child receiving spinal anesthesia has been prospectively entered into a unique database entitled the Vermont Infant Spinal Registry (VISR). The VISR database is far and away the largest in the world and now includes nearly 2,500 children. Examination of records from the VISR database has allowed critical examination of the role of spinal anesthesia and resulted in numerous academic publications in the anesthesia, surgical and pediatric literature.

PEDIATRIC ANESTHESIA NEUROTOXICITY

Serious concern has been mounting over the past decade concerning the long term safety of general anesthesia in children. Laboratory and human epidemiological evidence has determined that there is an association between the administration of general anesthesia and the later development of learning difficulties. However, currently available research methodology does not permit us to understand if anesthesia is causative or merely an associational factor in postoperative cognitive dysfunction. Examination of children anesthetized with an alternative to general anesthesia should separate the effects of the anesthesia from the demographics of the patient population. The unique VISR database, consisting of hundreds of previously healthy children undergoing spinal anesthesia, will play a critical role in understanding this controversy. Departmental research activities in this field include an ongoing partnership with Columbia University comparing outcomes of children anesthetized at the two institutions with different techniques as well as a partnership with The James Jeffords Center and the Vermont Department of Education to examine cognitive outcome of Vermont children previously anesthetized with spinal anesthesia.

pediatric research

Vermont Child Health Improvement Program (VCHIP)

JUDITH SHAW, EDD, MPA, RN, Director

The Vermont Child Health Improvement Program (VCHIP) is a population-based maternal and child health services research and quality improvement program of the University of Vermont. Formalized in 1999, VCHIP is actively collaborating on numerous health care quality improvement (QI) projects locally and nationally and focuses on providing expertise and support, whether to local clinicians interested in implementing changes in their office systems, to state policy leaders looking to make informed decisions, or to national organizations seeking system-wide transformation. Our current work impacts many areas of child health, including autism and developmental screening, prenatal care, newborn and childhood preventive services, chronic diseases like asthma and diabetes, opiate-exposed newborn care, adolescent health, suicide prevention, and managing transitions to adulthood. Visit www.vchip.org for more information.

CHILD HEALTH ADVANCES MEASURED IN PRACTICE (CHAMP)

Through CHAMP, VCHIP is building a network of primary care practices interested in working together on an on-going basis to improve the quality of health care provided to Vermont children and families. Since 2012, 37 pediatric and family medicine practices have enrolled in CHAMP. Each fall CHAMP introduces a new content area that will be the focus of that year's QI activities. The 2013 CHAMP project targeted immunization coverage rates in Vermont primary care practices and data analysis from these practices indicated that immunization rates improved. Future content areas are: adolescent depression (2014); asthma (2015); and obesity (2016).

NATIONAL IMPROVEMENT PARTNERSHIP NETWORK (NIPN)

In addition to our Vermont-based work, VCHIP provides leadership and expertise to other states looking to build their own VCHIP-like programs, called "Improvement Partnerships (IPs)". IPs use measurement-based efforts and a systems approach to improve the quality of children's health care and draw from the collective expertise of their partners to create a unified vision around issues related to child/adolescent health care and health outcomes and to develop concrete, measurement-based efforts to achieve that vision. The NIPN is a network of more than 20 states that have developed IPs to advance quality and transform health care for children and their families. Visit www.nipn.org for more information.

Vermont Oxford Network

JEFFREY HORBAR, MD, Director

The mission of the Vermont Oxford Network is to improve the quality and safety of medical care for newborn infants and their families through a coordinated program of research, education, and quality improvement. Comprised of health professionals at over 950 hospitals around the world, the Vermont Oxford Network is recognized as a leader in health care quality improvement and research for newborn medicine.

In support of its mission, the Vermont Oxford Network maintains databases for high risk infants cared for at its member hospitals. These databases provide hospitals with detailed confidential performance reporting for use in quality improvement and provide the foundation for research at the University of Vermont. The Network's database for very low birth weight infants is the largest in the world and currently includes over 80% of such infants born in the U.S. each year. The numerous peer reviewed research articles resulting from the Databases have contributed to the international reputation of the Department of Pediatrics in the College of Medicine as a leader in newborn medical research.

The vision of the Vermont Oxford Network is to support a worldwide community of practice dedicated to providing every newborn infant and family with the highest quality medical care. The Department of Pediatrics in the College of Medicine at the University of Vermont has played a key role in supporting this vision. Together the University of Vermont and the Vermont Oxford Network are helping to improve the lives of newborn and their families around the world. Learn more at www.vtoxford.org.

ImproveCareNow

RICHARD COLLETTI, MD, Director

ImproveCareNow is a collaborative chronic care network of 58 care centers where clinicians, researchers, patients and families are working together to transform the health, care and cost for 17,000 children and adolescents with Crohn's disease and ulcerative colitis. ImproveCareNow is creating a community of supporters to establish a sustainable, widely disseminated program. Our 5-year plan is to engage 170 centers with 50,000 patients.

The proportion of our patients in remission has increased from 50% in 2007 to 75%. This data suggests that if all children and adolescents in the U.S. with Crohn's disease and ulcerative colitis were participating in ImproveCareNow, over 10,000 more would be in remission now.

The ImproveCareNow network has developed the Model Care Guideline, defined key measures to assess performance, built a robust database, created rigorous reports to identify gaps in care and produced a set of effective tools to improve the quality of care. As a result, the way care is delivered now has improved dramatically; the reliability of disease assessment increased from 40% in 2007 to 90%. In addition, children classified with unsatisfactory growth decreased by 60%, and children taking prednisone decreased by 30%.

ImproveCareNow is making a difference in the care of children and offers an exciting model for using quality improvement tools for addressing other illnesses. With

federal funding, ImproveCareNow is creating a Collaborative Chronic Care Network of patients, families, clinicians and researchers to improve the care of children with chronic illness and building a national informatics network to advance quality improvement and comparative effectiveness research. To learn more, visit www.improvecarenow.org.

Metabolism, Obesity, and Type 2 Diabetes

C. LAWRENCE KIEN, MD, PHD, Director

The major theme of the lab of Dr. Lawrence Kien for the last 12 years has been the metabolic effects of the two most prevalent, saturated and monounsaturated fatty acids in the diet, respectively palmitic acid (PA) and oleic acid (OA). Principal collaborators here in Vermont have included Dr. Bunn, Dr. Poynter, Dr. Fukagawa, and Dr. Matthews, with assistance from Dr. Galbraith and the Clinical Research Center. Since 2003, Dr. Kien also has maintained a strong collaborative tie to the Stedman Center at Duke University (principally Dr. D. M. Muoio). Although the results from these studies, funded by three NIH grants, are certainly relevant to children, we have utilized adult volunteers as a model because the strict dietary control and minimally invasive research procedures (e.g. muscle biopsy) required for these studies cannot be practically employed in children. This work has largely focused on the dietary antecedents of obesity and type 2 diabetes, and recently has included studies showing that the Western diet, rich in palmitic acid, may be detrimental to both insulin secretion and sensitivity in young women via effects on inflammatory and oxidant stress. Interestingly, with the assistance of Drs. Tompkins and Dumas, we also discovered that the Western diet fat composition lowered habitual physical activity and affected mood (increased anger). Pilot studies now in progress with Dr. Dumas are utilizing functional magnetic imaging and indicate that PA and OA differentially affect cognitive centers in the brain; therefore, further work, if funded, will explore cognitive function in the elderly, cognitive regulation of emotion in young obese subjects, and executive functions and physical activity in sedentary, obese subjects.

pediatric education

Medical Student Education

WILLIAM RASZKA, MD, Clerkship Director

Medical student education is a core mission of the Department of Pediatrics, and faculty participate in all aspects of the Vermont Integrated Curriculum. In the Foundations level of the curriculum, pediatric faculty members direct courses (Introduction to Clinical Decision Making and Attacks & Defenses), facilitate small group discussions in the year long course Professionalism, Communication and Reflection, precept new students in their first pediatric clinical experiences, and lead seminars and small group discussions throughout Foundations. In the past two years, Pediatric faculty have been awarded Basic Science Teacher of the Year and The Golden Apple for excellence teaching the basic sciences.

The Pediatric Clerkship is seven weeks long, with inpatient and outpatient experiences at the Vermont Children's Hospital at Fletcher Allen Health Care or at one of three affiliate sites: St. Mary's Hospital in West Palm Beach, Florida, Eastern Maine Medical Center in Bangor, Maine and Danbury Hospital in Danbury, Connecticut. Sharing the same curriculum across the sites, the clerkship is consistently one of the highest ranked clerkships in the Clerkship Year. In the past two years, Pediatric faculty have won Clinical Teacher of the Year (twice) and Clinical Department of the Year. All residents were nominated for Resident Teacher of the Year award.

During Advanced Integration, the Department offers one-month acting internships at the Vermont Children's Hospital in Neonatology and General Inpatient Pediatric Medicine. These have been much sought after as the acting interns are integrated into the resident team. A host of electives in primary care, pediatric subspecialty, research, medical journalism, and teaching are also available. Faculty work with the student-directed Pediatric Special Interest Group hosting a variety of events and activities related to pediatrics and child health.

Pediatrics remains a very popular field at the College of Medicine with more students consistently matching in Pediatrics than any other speciality.

Dr. Joseph Nasca, left and medical student Joshua Price, examine a young patient.



Pediatric Residency Program

ANN GUILLOT, MD, Director

Jerry Larrabee, MD, Associate Director

The UVM Pediatric Program has a long history of teaching excellent general pediatrics within a collaborative community of pediatricians both within our full time Department and across our whole region. Pediatric residents now come from all over the United States seeking a rich learning environment and mentoring within this community. This program has gained national stature as one of the most outstanding smaller-sized academic residency programs in the U.S.

The curriculum includes the whole range of types of patient care – primary, secondary and tertiary. It also includes innovative training in advocacy and quality improvement, which are longitudinal experiences. Every resident spends time in primary care, with a block rotation in each of the training years, one of which is in a rural pediatric practice.

In keeping with the Department's belief that every child deserves a medical home, residents learn to understand and work with the various practices and communities from which their patients come, and learn to be part of the collaborative pediatric community. And in keeping with the Department's long-standing commitment to Family Centered Care, residents work closely with patients and their families both in the inpatient and the outpatient environments to provide the best health care possible.

Residents are involved throughout the program in academic pursuits, including development of their teaching skills, designing their advocacy and QI projects, grant submission and administration, and reporting their work both nationally and locally.

This continues to be a residency that holds that sound general pediatric training is the best platform for any pediatric career. Indeed, residents go on from here to post-residency positions in excellent primary care practices both rural and more urban, to very competitive subspecialty fellowships, as well as to pursue careers in global health and other unique and important areas of pediatrics.

Fellowship Program

MARIE BERG, MD, Director

The Neonatal-Perinatal Medicine Fellowship Program is an integrated part of the Pediatric Residency Program. Our goal is to foster the development of neonatologists for academic and clinical practice through an outstanding, evidence-based clinical education. To that end, we believe in an apprenticeship model, with supported fellow immersion in attending-level teaching and clinical activities, as well as active mentoring.

Over 500 infants are admitted to our NICU yearly for a wide variety of medical and surgical problems. Fellows obtain experience with critical patients, including those requiring high frequency ventilation, nitric oxide, therapeutic hypothermia, transport stabilization, and surgical and subspecialty care. Experience with cardiac surgery and ECMO is provided during a one month CICU rotation at Boston Children's Hospital. Fellows are involved in follow-up for high-risk patients as well as prenatal consultation.

Our faculty members have extensive research experience, and are involved with efforts such as the Vermont Oxford Network and the Cochrane Collaboration. We hope to foster research interests that contribute to long-term academic careers. As such, fellows are able to tailor research interests to career goals, and recent efforts have included clinical and outcomes research, quality improvement, as well as environmental, educational, and family-centered care-based research. Recent fellows have published in high-impact journals and have presented at national conferences.

Fellows attend a series of core lectures and mock codes, as well as regular interdisciplinary meetings such as perinatal conferences and ethics conferences. In addition, fellows are encouraged to pursue formalized teaching at the University of Vermont Center for Clinical and Translational science.

Overall, the program provides comprehensive training in Neonatal-Perinatal Medicine: graduates obtain extensive research experience and are well prepared for either academic or clinical practice. For more information, prospective candidates are encouraged to visit gme.fletcherallen.org.

pediatric philanthropy

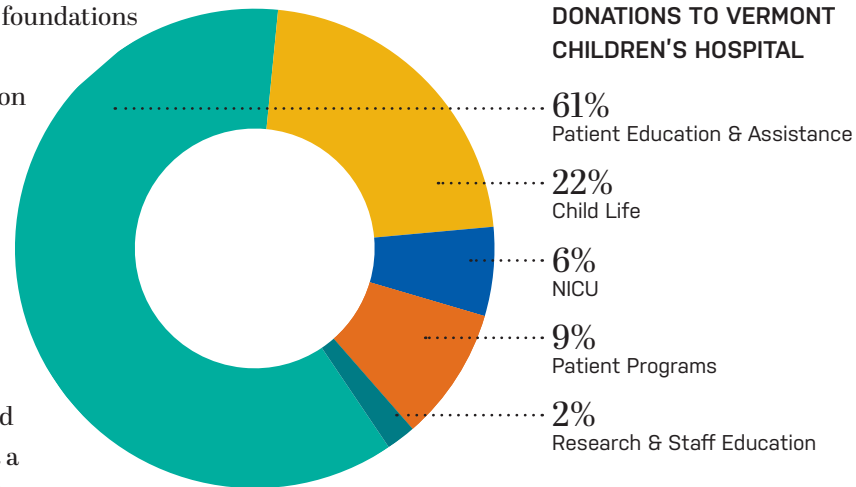
Over 2,700 individuals, groups, corporations, foundations and others gave generously in the past year collectively contributing more than \$1.1 million enabling Vermont Children's Hospital to provide the best possible care to thousands of children and their families.

SPECIAL EVENTS

The 7th Annual Big Change Roundup showcased radio personalities from WOKO and brought together schools, businesses, and individuals to make a difference "one dime at a time." As our largest signature event it brought in over \$200,000 in support of patients and families at Vermont Children's Hospital. The 24th Annual Fletcher Allen Golf Tournament raised over \$80,000 with proceeds benefitting Vermont Children's Hospital.

CORPORATE & FOUNDATION GIVING

Over \$635,000 was given by corporate supporters including Maplefields, New England Federal Credit Union, as well as



Children's Miracle Network partners like Walmart, Rite Aid and Kinney Drug. Another \$171,000 was contributed by family and private foundations, including the 98 Mile Foundation gift of \$75,000 in support of Cystic Fibrosis and the Francis T. & Louise T. Nicols Foundation gift of \$13,000 towards the purchase of a Giraffe Isolette in the Neonatal Intensive Care Unit.

Honoring the Legacy of Pediatric Leaders

The Department of Pediatrics saw great support from faculty, staff, and the community in the past year, particularly towards efforts to honor the lives of two of the Department's legendary figures, R. James McKay, MD (left) and Richard M. Narkewicz, MD'60.



The R. James McKay Green & Gold Professorship was established in 2007 by friends and colleagues of Dr. McKay with the goal of maintaining and enhancing the excellence in pediatric medical education, clinical care and research that Dr. McKay embodied so deeply as the founder and first chair of the Department of Pediatrics from 1950-1983. This fund is fully endowed and continues to grow, as does its impact.

Richard M. Narkewicz, MD'60, was a beloved alumnus, Vermont community pediatrician, and national leader and advocate in

pediatrics. In 1997 the College, joined by colleagues, friends and patients of Dr. Narkewicz, named the Richard M. Narkewicz Visiting Lectureship in Community Pediatrics and Child Advocacy. This endowed fund brings a lecturer to campus each year to advance knowledge, understanding and action in the areas of child health prevention and advocacy. The College seeks additional support for this fund to enhance its impact and that of Dr. Narkewicz to the benefit of the College's inspirational community of pediatric health care providers.

ENDOWED FUNDS IN PEDIATRICS:

- Peter and Patricia Bove Fund for Pediatric Medical Education
- Barbara Bailey Heinz and Gayl Bailey Heinz Fund
- Jerold F. Lucey, MD, Chair in Neonatal Medicine
- R. James McKay, MD, Green & Gold Professor Fund
- Richard M. Narkewicz, MD'60, Visiting Lectureship Fund
- Harry W. Wallace Professorship in Neonatology Fund

community faculty

- | | |
|---------------------------|-------------------------------|
| Allison Adams, MD | Joseph F. Hagan Jr., MD |
| Denise Aronzon, MD | Jerry Steve Hale, MD |
| David Beguin, MD | Debra Hartswick, MD |
| Laura Bellstrom, MD | Carol Hassler, MD |
| Thomas Bolduc, MD | Molly Hastings, MD |
| Johana Brakeley, MD | Lynn Herzog, MD |
| Jennifer Carlson, MD | Breena Holmes, MD |
| Harold Chaskey, MD | Frederick Holmes, MD |
| Emanuele Chiappinelli, MD | James Hughes, MD |
| Anthony Ching, MD | Elizabeth Jaffe, MD |
| Jean Coffey, PhD, ARPN | Elizabeth Jillson, MD |
| David Cohen, MD | Sandra Kapsalis, MD |
| Rebecca Collman, MD | Barbara Kennedy, MD |
| Gregory J. Connolly, MD | Edward Kent, MD |
| Kristen Connolly, MD | Clark Knutson, MD |
| P.M. Costello, MD | Marshall Land, Jr., MD |
| Morris Earle, Jr., MD | Daniel Larrow, MD |
| Monica Fiorenza, MD | Margaret van Dijk Lindsay, MD |
| Bradley Friesen, MD | John G. Long, MD |
| William Gaidys, MD | Indra Lovko, MD, FAAP |
| Anthony Garami, MD | Heidi Ludwig-Zvolensky, MD |
| William Gerson, MD | Lynn Luginbuhl, MD |
| Deanna Haag, MD | Roya Mansoorani, MD |

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| Delight Wing, MD |



Dr. Lewis First with Victoria Grace Reed, the 2013 Champion for Vermont Children's Hospital.



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