Welcome to the 2013-2014 annual report. As I reflect on the past year, I am awed by how vibrant and diverse our department has become. We span 24 locations and are engaged in a wide range of activities that impact the health of our community.

Our department experienced a great year. Despite the challenges presented by changes to healthcare and NIH constraints, we exceeded our budget goals and substantially increased our research grants and contracts. We expanded our portfolio of clinical research and continue to develop infrastructure to assist our faculty in their scholarly pursuits. This past year, a large number of USF students chose a career in pediatrics, and we recruited an outstanding class of pediatric and medicine-pediatric residents. Like previous graduating classes that have made us proud, our graduates went on to exceptional fellowship programs and general practices. In Tampa Bay, USF Pediatrics continued to contribute to the community in big and small ways, whether by providing leadership and expertise to improve policies or by participating in health fairs, outreach to schools and community education.

This year, we have chosen to highlight some of our clinical programs, patients and providers that make us unique. We also want to give many thanks to our partners in this healthcare journey: Tampa General Hospital for their collaboration and support of a number of programs, including the NICU Follow-Up Program and a recent commitment to the Metabolic Genetics Program. Also, All Children’s Hospital-Johns Hopkins Medicine for providing the infrastructure for our clinicians to care for some of the region’s sickest children, and for the opportunities to expand translational research.

We are bound on this journey by our history, the legacy of our department’s founders, and their common passion. This year we lost our founding chair, Dr. Lewis A. Barness, but we will not forget the values he exemplified every day — to strive for excellence, embrace the joy of learning, and commit to improving the lives of children.

Together we are ready to take on another year and make a difference in our community — one child, one student, at a time.
For over 40 years, our department has worked to advance children's health in our community through educating future pediatricians, providing exceptional clinical care, investigating key children's health issues and advocating for our profession and our patients. In the past year, we provided clinical care and educational opportunities in Hillsborough, Pinellas, and the five surrounding counties at our 24 different clinical locations and through our mobile medical clinic, the Ronald McDonald Care Mobile. We supported our various programs in the community such as the Early Steps Program, the Newborn Screening Program, the Hillsborough County Child Protection Team, and the Ybor Youth Clinic. We substantially increased our research grants and contracts due in part to several faculty who are expanding their efforts in the area of clinical research. Due to their efforts, our department has embarked on important and potentially life changing studies in various fields, which will advance the healthcare of children. Our faculty also provided countless hours of training to our many learners and continue to prioritize education through their participation in national conferences, poster presentations, and quality initiatives. Here in the Department of Pediatrics we wear many hats – we are educators, we are community leaders, we are learners and researchers. While we may be dispersed and varied in our day-to-day work, we are bound by a common vision – to advance the care of children.

This annual report serves as an overview of the 2013-2014 academic year. Our department's best work cannot be experienced on these pages, but we hope this provides a snapshot of the many accomplishments of our faculty and staff throughout the year.
The USF Department of Pediatrics provides outstanding pediatric medical education to students, residents, and fellows. USF Pediatrics strives to foster the knowledge and clinical experience necessary to develop basic skills to care for infants, children and adolescents. Education at USF Pediatrics is supported by a strong team of dedicated professionals and faculty leaders.

**Third Year:** Pediatric third-year clerkships are integrated with several other core medical specialties to provide excellent inpatient and outpatient educational experiences. These include an 8 week rotation, Maternal, Newborn, and Pediatric Inpatient Care, and an 8 week Primary Care experience. These separate exposures help medical students gain an understanding of the importance of both acute and preventive care. At the end of their third-year, they have a broad understanding of both the inpatient and outpatient realms of pediatrics.

**Fourth Year:** The Department of Pediatrics offers USF medical students, as well as visiting students, a broad selection of elective courses and multiple acting internship opportunities that are available in a variety of settings, including 2 different academic institutions and many community-based locations. Our fourth-year specialty electives in inpatient and outpatient environments give students a chance to learn about primary care and subspecialty medicine in diverse clinical settings. Students work alongside engaged USF faculty who provide excellent teaching along with superb medical care. Students with an interest in pediatrics, family medicine, emergency medicine, or combined internal medicine-pediatrics are encouraged to take part in pediatric acting internships for an autonomous, comprehensive inpatient clinical experience.
PEDIATRIC RESIDENCY
For over 40 years, the Department of Pediatrics has trained residents and produced leaders in medicine. The department’s pediatric residency program is fortunate to have two strong academic partners, Tampa General Hospital and All Children’s Hospital-Johns Hopkins Medicine in St. Petersburg. Residents participate in hospital rotations on the inpatient ward services, the newborn nursery, the neonatal and pediatric intensive care units, and emergency departments, in addition to taking numerous electives in the hospitals, clinics and many community locations. USF Pediatrics has an excellent history of placing residents at a variety of top fellowship programs. Graduates have pursued careers in primary care, hospital medicine and pediatric subspecialty care in the Tampa Bay area as well as throughout the country.

The pediatric residency program is committed to providing a strong foundation in pediatrics that is individualized to each resident's needs. There is great emphasis on individualized learning, and each resident participates in one of four education tracks: general pediatrics-hospitalist, general pediatrics-ambulatory, subspecialty, and procedure-based subspecialty. Each resident develops an individualized learning program driven by their career goals and chosen track.

MEDICINE-PEDIATRICS RESIDENCY
In partnership with the Department of Internal Medicine, the Department of Pediatrics offers a combined Internal Medicine & Pediatrics residency program. The Med-Peds residency is a four-year program in which residents alternate training assignments to complete two full years of each discipline. Training sites include Tampa General Hospital, All Children’s Hospital-Johns Hopkins Medicine, Moffitt Cancer Center, and James A. Haley Veterans Administration Hospital. The program offers a variety of educational environments and a wide spectrum of clinical pathology that prepare residents to care for patients at every stage of life. Residents have weekly continuity care clinics at USF’s Med-Peds clinic in South Tampa and a wide array of subspecialty rotations. Upon completion, residents are board-eligible in both Internal Medicine and Pediatrics. Graduates have pursued careers in outpatient primary care, as hospitalists, or continued training in a variety of fellowship programs.

FELLOWSHIP PROGRAMS
NEONATAL-PERINATAL MEDICINE
The Neonatal-Perinatal Medicine Fellowship Program is a fully accredited program that is closely integrated with other pediatric divisions and the Department of Community and Family Health at the College of Public Health. The program is designed to provide the neonatal fellow with the analytical, clinical, and leadership skills required to manage complex problems in neonatal-perinatal medicine.

PEDIATRIC ALLERGY & IMMUNOLOGY
The Allergy and Immunology Fellowship Program at the University of South Florida/All Children’s Hospital-Johns Hopkins Medicine, accredited since 1988, provides an in-depth, enriched, and complementary education to our allergy and immunology fellows. Every year, two to four fellows are trained in our fellowship program and, to date, over 50 fellows have graduated from the program.

PEDIATRIC DIABETES & ENDOCRINOLOGY
The fully accredited Pediatric Diabetes and Endocrinology Fellowship Program focuses on training participants in the clinical aspects of pediatric endocrinology. Fellows in the program are educated in the research aspects of this discipline and are trained to implement an investigative and critical approach to problems in pediatric endocrinology and to their solutions.

Both programs are committed to providing residents the educational tools necessary to excel in their fields. Both the pediatric and medicine-pediatric residency programs include hands-on teaching from faculty, computer-based modular education and many didactic and interactive conferences (e.g., morning report, noon conference, board review, night curriculum, evidence-based medicine journal clubs, cost-effective care conference.) Most importantly, all residents are educated in a caring, supportive yet challenging environment.
It is unlikely that Tim and Angel Lane will ever move from Tampa. At least, not in the next couple of decades.

Their proximity to a network of experts who care for their son Jameson is too important to risk trying to find something similar elsewhere.

Jameson has a genetic form of hypotonia, meaning he has muscle weakness throughout most of his body. Both he and his twin brother Walker were born with hypotonia, turning their expected healthy birth – albeit an early one – into a dire emergency. Having little to no muscle control at birth meant the babies could not breathe on their own or suck or swallow.

“There was a great deal of stress from the get-go,” Tim said, recalling the intensity of everyone in the delivery room. “We were all on pins and needles, even the doctors,” Angel said.

The Lanes’ first experience with the Doctors of USF Health was when their twin boys were transferred to the Jennifer Leigh Muma Neonatal Intensive Care Unit (NICU) at Tampa General Hospital when they were 3 months old. They were in need of more advanced care and it was in the Muma NICU that the Lanes met a team of experts from the USF Health Morsani College of Medicine.

USF neonatologists, pediatric surgeons, pediatric radiologists, pediatric cardiologists, pediatric neurologists, geneticists, and many other health care specialists surrounded the twin boys over the many months they stayed in the NICU and followed the boys as they progressed to the pediatric intensive care unit and through many visits to TGH’s emergency room, both in the Children’s Medical Center at TGH. Even for ongoing visits, it’s a team of USF Health pediatricians who check progress and address issues.

By connecting with USF Health, the Lanes found an integrated team of experts within one group, providing seamless care to Jameson and Walker. But what the Lanes also found was a medical home – a patient-centered approach to delivering primary care that allows families to rely on only one group of health care providers.

“USF’s medical home concept made caring for our boys so much better,” Tim said. “There is an entire team of professionals here who knew the nuances of their condition. We have to be advocates for our children, who needed very specialized care. And to do that, we need help from top experts in uncommon conditions, as well as an integrated approach. That level of coordinated care means Jameson’s history is known by everyone on the team.”
“Without that transition from NICU to USF Health, I don’t know how successful we would have been in caring for our boys,” Angel said.

“Our goal with acting as a medical home for patients really starts with the needs of the patients and their families,” said Cristina Pelaez, MD, assistant professor of pediatrics and director of the Medical Home Program for USF Health Pediatrics. “Medical homes provide families with a support system of experts who work with each other and talk with each other.”

Many different diseases and disorders cause the symptoms of hypotonia. But diagnosing the disease or disorder causing the problem can be challenging.

For the Lanes, not knowing the underlying problem meant they had to take it day by day, with round-the-clock monitoring of their breathing and oxygen intake and feeding them through a feeding tube.

“They were amazing and prepared us before we took the boys home,” Tim said. “When we were discharged from the NICU, we went home with a full entourage. That’s the scariest thing you face, is leaving. Before discharge came along they started working with us, showing how to use the pulse ox (pulse oximetry, used for monitoring oxygen saturation) and how to suction to clear their airways.”

But even with that level of attention, Walker developed influenza and pneumonia and died in February 2013, just shy of his second birthday. The Lanes, still unaware of the root cause of the hypotonia, weren’t sure what the future held for Jameson.

After multiple blood tests, biopsies and neurological evaluations ruled out more common conditions, a specially trained metabolic geneticist, Amarilis Sanchez-Valle, MD, determined Jameson’s root problem. Dr. Sanchez-Valle is assistant professor of pediatrics in the USF Health Morsani College of Medicine and the only board-certified medical biochemical geneticist in the region.

What Dr. Sanchez-Valle found for the Lanes was that Jameson has nemaline myopathy, a congenital, hereditary neuromuscular disorder. Children born with nemaline myopathy often gain strength as they grow, and those with mild forms eventually walk independently, although often at a later age than their peers.

The firm diagnosis for the Lanes means they will worry a bit less — nemaline myopathy is not progressive so Jameson’s condition will not worsen – and are in a better position to help their son grow.

Jameson is walking. He’s even running around and playing, chasing his older brother Braden. Physical and occupational therapy are helping him learn to swallow and helping with his speech. Individuals with NM are usually highly sociable and intelligent, so on-going therapy will help him thrive.

“Jameson continues to flourish,” Tim said. “He would not be without help from TGH, and USF, and Dr. Pelaez. She really took our boys under wing. We did not want for anything. Here, we are listened to, we are heard, and get to weigh in on decisions. The team put us in the best possible position for success.”

Thousands of babies who are born too early benefit from the generosity of Pam and Les Muma. In 2006, the Mumas provided a transformational gift to USF Health to establish a highly specialized neonatal intensive care unit in the heart of Tampa General Hospital’s Children’s Medical Center. Their gift, one of the largest in Florida to support research and care for newborns, resulted in obtaining matching gifts which more than doubled their commitment.

The Jennifer Leigh Muma Neonatal Intensive Care Unit was created in partnership with TGH and USF Health to provide leading-edge treatment, training and research. After the loss of their daughter, Jennifer, the Mumas fulfilled their dream to create a place that is integrated to provide the best care in a healing and family-friendly environment. With more than 50,000 square feet, the entire space is designed with a baby’s family in mind, from the colors of the corridor walls to the placement of telephones in each patient room. The NICU features 80 single-family rooms, a procedure room, and a semi-private area for 12 transitional babies. Light switches are placed strategically and bulbs angled to ensure the babies will not be startled by unintended bright light in the softly lit atmosphere. Even the hallways keep babies in mind with acoustic ceiling tiles that absorb excess noise.

Teaching and research are also key components of the NICU mission and environment, transforming patient care here, as well as advancing the study of neonatology in medical and academic institutions around the world. Neonatology fellows, pediatric residents and nurse practitioner students learn together, with a majority of teaching taking place bedside, patient to patient. The partnership between TGH and USF is the key to those efforts.

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The Breakthrough Kid

Elijah Lindall calls himself the Breakthrough Kid. The name refers to a point in some clinical trials when a medical treatment proves to be so effective it can be made available to all patients in need.

Elijah is taking part in USF clinical trials for medications that might ease symptoms of Tourette syndrome. There is currently no cure for Tourette syndrome. Some medications have some positive effects on some patients, but truly effective medications remain elusive. He knows it’s an ongoing process, possibly taking years. But he’s hopeful that he is part of the study that finds “the one.”

“I’m kind of nervous about how long it might take, but excited that I can help,” Elijah said.

Elijah was 4 when his parents suspected something was wrong and 7 when the family finally found out why he wrung his hands throughout the day, repeated phrases, and had nearly constant tics.

Elijah has Tourette syndrome, a neurological disorder characterized by repetitive, involuntary movements and vocalizations called tics. Early symptoms of Tourette's are typically noticed first in childhood, usually between the ages of 3 and 9, and occur in all ethnic groups. Males are affected about four times more often than females.

“We saw five doctors before we got a diagnosis,” his mother Maria Robinett said. “Until then, we hadn’t found anyone who could tell us definitively what was going on.”

As comforting as it was to finally know Elijah’s condition, his diagnosis, it did not equate to treatment and three more years passed. The moment when real hope appeared, Maria said, was at a local event aimed at raising awareness for Tourette's. That was when they met Dr. Murphy.

Tanya Murphy, MD, is professor of pediatric psychiatry and director of the USF Rothman Center for Pediatric Neuropsychiatry. She is an expert on Tourette syndrome and part of...
an interdisciplinary team of healthcare professionals specially trained in pediatric neuropsychiatry. The Rothman Center, located in St. Petersburg, is at the forefront of treatment and research for Tourette's, as well as other psychiatric conditions affecting children (see side bar).

In essence, connecting with Dr. Murphy put Elijah at the epicenter of Tourette's research in the region.

Tourette's has historically been understudied, Dr. Murphy said, but recently there's been an increased interest.

“We're wrapping up several trials and several more are coming up, so things are taking a turn for the better,” she said. “It's only when there is a concerted focus to find answers that we begin to make greater strides forward and help the most patients.”

In addition to the potential for finding a medication that would ease, or even stop, his symptoms, the expert team at the Rothman Center also helped arm Elijah with ways to manage his nearly constant tics, using habit reversal therapy techniques to steady his hand as he writes school assignments and control his drive to repeat phrases over and over.

Seeing improvement in how he gets through his day, Elijah has been inspired to take a more active role in educating others about Tourette's. He gives talks about his condition to other children and plans to apply to become a youth ambassador for the Tourette Syndrome Association.

“Elijah is a great advocate for Tourette's and the consequences for people who have it,” Dr. Murphy said. “He and a couple of other patients have committed to the program to find new treatments. They are both giving beyond themselves and doing it for themselves.”

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Elijah is doing well in school. At one point, the hand wringing got in the way of his writing, so he found a solution by asking teachers if he could type most of his work. Math remains an encumbrance that he's working to improve.

He also continues to play defense in soccer and third base in baseball. Now in his 11th year of baseball, he's playing up, meaning he's good enough to play with a high school team even though he's in middle school.

Although improved since finding the Rothman Center at age 10, his arms still twitch and he continues to repeat words and phrases frequently, so he continues with appointments at the Rothman Center. Like most people with Tourette's, Elijah also has obsessive-compulsive disorder and anxiety, although his are not severe. Because the Rothman Center has an interdisciplinary team, he sees other clinicians for his associated disorders.

What Dr. Murphy and the Rothman Center were able to provide Elijah was access to clinical trials, improvement in managing his symptoms and hope.

“Elijah has said he will probably tic forever, but we know he really wants it to go away,” Maria said.

“We've been very happy coming here. It was a relief to find such a great resource for families like ours.”

Dr. Murphy continues to meet with Elijah as part of clinical trials and to help manage his symptoms.

The USF Rothman Center

Thelma Rothman and her family have been long-time supporters of our community's children. Mrs. Rothman, who passed away in October 2014, joined the ACH Hospital Board in 1982 and later served as its chair. She was the first chairperson of the All Children's Foundation Board and later chaired the All Children's Hospital Health System Board of Directors. She and her late husband, Maurice Rothman, had a strong interest in children's developmental and learning problems. They established the Rothman Chair to promote research as well as early interventions and treatment in these areas.

Dr. Tanya Murphy holds the ACH/USF Maurice A. and Thelma P. Rothman Endowed Chair in Developmental Pediatrics and directs the Rothman Center, which is in dedicated space in the All Children's Child Development and Rehabilitation Center.

A specially trained team of experts at the Center helps provide a range of services, including cognitive-behavioral therapy, habit-reversal training and pharmacological and medical management of an array of disorders, including autism spectrum disorders. Habit reversal training, a behavioral method for managing tics or hair pulling behaviors, has shown promise in Tourette syndrome patients.

The Rothman Center has a significant research focus on patients with Tourette syndrome, obsessive-compulsive disorder, autism spectrum disorders and trichotillomania (hair pulling).

The USF Health Morsani College of Medicine was recently selected as a Tourette Center of Excellence by the Tourette Syndrome Association as part of the Southeast Regional Center of Excellence Network. In addition, the Rothman Center is a member of the USF Neuroscience Collaborative, an ambitious program designed to accelerate progress in USF neuroscience research.
Annie’s Story: Living with a Metabolic Disorder

With sun shining on her red curls, Annie called to her cat Meow from atop the perch of her backyard play set. Her mother Lindsay Baker stands next to her, holding her hand and guiding her as she climbs up the play set. Her grandmother Donna Sheppard looks on.

The scene is sweet, and hardly conveys the reality this family lives strictly monitoring Annie's diet and policing her interaction with other people to reduce her risk of getting sick.

Annie is 2 years old and has glutaric acidemia type I (GA-I), an inherited metabolic disorder that won’t allow her body to process certain proteins properly. She has inadequate levels of an enzyme that helps break down the amino acids lysine, hydroxylysine, and typtophan, which are building blocks of protein. Excessive levels of these amino acids and the byproducts they produce can accumulate and cause damage to her brain, particularly the region that helps control movement.

The severity of GA-I varies from mild to severe. In most cases, signs and symptoms first occur in infancy or early childhood, but can first appear in adolescence or adulthood. While some babies are born with some of the more common signs of GA-I (unusually large head, difficulty moving, spasms, jerking, rigidity, decreased muscle tone), some do not yet show signs of trouble.

For Annie, there were no apparent signs of a problem when she was born. The only indication was found in her newborn screening. Annie, like all newborns, underwent screening for genetic metabolic disorders – with one pin prick, babies are screened for 36 genetic disorders, giving advanced notice to many families of conditions that might not appear obvious in the early days, or even years, after birth but will appear at some point and affect these children for the rest of their lives.

Annie’s test came back indicating GA-I.

“It’s a day we’ll never forget,” Sheppard said, speaking of the day Annie’s diagnosis was confirmed.

But it was early screening that helped the Bakers know how important it was, and still is, to limit Annie’s protein. Not needing that proximity to expert care is why the Bakers moved from their home in the middle of the state to one near downtown Tampa, the home of the USF Health South Tampa Center for Advanced Healthcare and Tampa General Hospital.

Story by: Sarah Worth
Photos by: Rebecca Hagen
knowing would have been disastrous.

“GA-I can have significant neurologic implications, even life-threatening,” said Amarilis Sanchez-Valle, MD, assistant professor of pediatrics in the USF Health Morsani College of Medicine and the only board-certified medical biochemical geneticist in the region.

“Finding out early is the key to reducing complications later. Annie has avoided complications because we caught it early. Because of screening, her family knew to take careful steps in monitoring her protein consumption and to keep her well to avoid a life-threatening crisis.”

How much more vulnerable is Annie with infections?

“Even a fever could cause a stroke in patients with GA-I,” Dr. Sanchez-Valle said.

When people get sick, Dr. Sanchez-Valle explained, their bodies release amino acids, the same three that Annie can’t break down. For Annie, getting sick means she must get to the hospital quickly to begin intravenous fluids, which helps her overcome the metabolic decompensation.

Needing that proximity to expert care is why the Bakers moved from their home in the middle of the state to one near downtown Tampa, the home of the USF Health South Tampa Center for Advanced Healthcare and Tampa General Hospital.

“We really needed to be closer to the USF team and Tampa General,” Baker said. “There is a strict protocol for when Annie gets sick and we have to act fast. If we hadn’t moved closer, we would have been an hour away. And that’s not ok.”

From the beginning, the Bakers have worked closely with the team in the USF Health Metabolic Genetics Clinic, including Donna O’Steen, MS, RD, CSP, CNSC, a metabolic dietitian, who offered the Bakers day-to-day advice on Annie’s diet and still helps the family as they make adjustments as Annie grows.

“They followed the guidelines completely and were able to get on track early for Annie,” O’Steen said. “Babies live much better lives in that first year if families are adamant about monitoring protein consumption.”

Even at age 2, Annie takes a specialized formula, one that requires careful measurement to ensure she gets the correct amount of amino acids. The daily measuring of powdered formula and mixing it with distilled water is part of the family routine.

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The other half of the equation is keeping Annie well. The entire family knows of her condition, even her six young boy cousins, Baker said.

“They’re always watching out for her and they know to ask if she can have certain foods before letting her have anything,” Baker said.

Beyond family, there is limited interaction with other children for Annie. There is no day care. But she’s not locked in a bubble either, like some parents might do as they panic about exposing a child to germs. Annie plays in the yard, pets her cat and hugs her generous and loving family.

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As Annie grows, she will learn why her diet is so rigidly monitored. She will learn to do her own measuring of foods. And she will learn to take seemingly extreme measures to avoid getting sick. As she ages, her risk of having a crisis goes down a bit but she will always need to protect her brain through life-long monitoring.

In her two years, she has met all her milestones and is starting physical therapy and speech therapy. She has improved greatly and doesn’t really know any different. She is a happy, funny 2-year-old.

Baker is emphatic in her thanks for USF Health.

“I’ve never had a relationship with doctors like we have with Dr. Sanchez-Valle and Donna,” she said.

“They have helped us so much. And by being so careful now, she has a greater chance of living a normal childhood and life later. That’s our goal – that’s what we want for her.”