

**UC DAVIS  
HEALTH**

**CHILDREN'S  
HOSPITAL**

2020-2021  
year in Review  
Annual Report

**For breakthrough discoveries and healthier families**



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# At a glance

## Select highlights from UC Davis Children's Hospital

- This past year UC Davis Medical Center received the Platinum Level ELSO Award for Excellence in Life Support from the Extracorporeal Life Support Organization (ELSO) for its Extracorporeal Life Support Program, which provides life-saving care for failing organ systems in infants, children and adults.
- UC Davis Medical Center was named to *Newsweek's* 2021 list of Best Maternity Care Hospitals, which recognizes facilities that have provided exceptional care to mothers, newborns and their families, as verified by the 2020 Leapfrog Hospital Survey.
- Our Neonatal Intensive Care Unit (NICU) is now the 12<sup>th</sup> in the U.S. to receive a gold-level Beacon Award for Excellence from the American Association of Critical-Care Nurses (AACN). We are the only hospital in Northern California to receive this honor.
- A long-standing affiliation with the UC Davis MIND Institute and Dignity Health has expanded access to our genetic counselors and round-the-clock genomic telemedicine services for pediatric patients throughout our region.
- In 2021, UC Davis Children's Hospital partnered with the Sacramento County Health Center to establish a Comprehensive Integration of Resilience into Child Life Experiences (CIRCLE) clinic to address the effects of Adverse Childhood Experiences (ACEs) in foster care children.
- Our Pediatric Heart Center's Pediatric Echocardiography Laboratory was the only site in Sacramento to be re-accredited by the Intersocietal Accreditation Commission (IAC) in pediatric transthoracic, pediatric transeophageal and fetal echocardiography.
- Our unique multidisciplinary Fetal Care and Treatment Center recently opened a newly consolidated center within UC Davis Children's Hospital to perform comprehensive diagnostic, medical and surgical interventions for pregnant women.

*UC Davis pediatrician Christopher Kim provides care during an annual exam while wearing a photo button to help ease patient's fears of providers in COVID-19 personal protective gear.*



# Welcome

As we've continued to face the COVID-19 pandemic, we are thankful and proud of the unique contributions our world-class faculty members and providers have accomplished on the frontlines.

From pioneering telemedicine expertise to rolling out the nation's first approved coronavirus vaccine, our teams have never given up during this historic time. They have continued to bring together expertise and the latest advancements in research to our shared community and beyond.

During this past year, we've drawn more national recognition in patient care, research and quality improvement initiatives. Recognition is important to our mission, but what we are most proud of is the extraordinary care and comfort we continue to provide children and their families throughout the region.

Here are some of the reasons our care resonates both nationally and locally. We were once again ranked in four pediatric specialties and among the Best

As always, thank you for your support and partnership!

Children's Hospitals in America by *U.S. News & World Report*. Our hospital was also named one of *Newsweek's* Best Maternity Care Hospitals, and our NICU became the 12<sup>th</sup> in the U.S. and the only one in Northern California to receive a gold-level Beacon Award for Excellence from the American Association of Critical-Care Nurses.

In addition, we received the Platinum Level ELSO Award for Excellence in Life Support from the Extracorporeal Life Support Organization for our Extracorporeal Life Support Program, which provides life-saving care for failing organ systems in infants, children and adults.

This year, our partnerships with outlying and community hospitals have also continued to flourish. We have neonatologists working from Yuba City to Lodi, and pediatric heart specialists in community clinics from Redding to Stockton. Our peer-to-peer virtual Pediatric Acute Care Education Sessions (PACES) program has also been a beacon of support for clinicians on topics ranging from COVID-19 treatments to pediatric IV placement.



For referring providers and families in our 33-county, 65,000-square-mile service area, we hope the above highlights and others in this report will continue to affirm the trust you place in us.

As always, thank you for your support and partnership!

**Satyan Lakshminrusimha, M.D.**  
Pediatrician-in-Chief, UC Davis Children's Hospital

**Diana Farmer, M.D.**  
Surgeon-in-Chief, UC Davis Children's Hospital



# Cancer

## Cancer Center to help improve national guidelines

The UC Davis Comprehensive Cancer Center has been elected the newest member institution of The National Comprehensive Cancer Network® (NCCN®), a nonprofit alliance of 31 leading cancer centers that helps to create national clinical practice guidelines. As part of NCCN, the cancer center will now appoint subject matter experts to join more than 1,600 multidisciplinary members across 60 panels responsible for more than 80 clinical practice guidelines (NCCN Guidelines®).

## Decrease in youth smoking thanks to rise in tobacco sales age

UC Davis Comprehensive Cancer Center researchers Melanie Dove, Susan Stewart and statewide tobacco-cessation program leader Elisa Tong examined the impact of smoking patterns before and after California implemented one of the first tobacco 21 (T21) policies in 2016. The findings published in *Preventive Medicine* showed that the new T21 law was associated with a greater decrease in smoking, at least when it came to daily smoking, in 18-20-year-olds compared to 21-23-year-olds in California. Our experts continue to educate children, teens and parents on the dangers of smoking and addiction.

## Learn & Lounge series empowers adolescents, young adults

This past February, the UC Davis Comprehensive Cancer Center's Adolescent and Young Adult (AYA) program teamed up with the UCLA Health AYA program to create a Learn & Lounge series, a virtual meetup that convenes monthly. The series provides support and a safe space for patients and survivors to connect and discuss topics such as relationships with family and friends, school struggles, career goals and fertility problems.

## Cancer risk higher in children with Down syndrome

Researchers at UC Davis Health and UC San Francisco have found that the risk of childhood acute myeloid leukemia (AML) is higher than expected in children diagnosed with Down syndrome. The new large-scale study published in *The Journal of Pediatrics* showed a higher risk of AML before age 5 and a higher risk of acute lymphoblastic leukemia (ALL) regardless of age. With these findings, researchers have urged parents with Down syndrome children to keep an eye for signs of leukemia.



**“We take care of children with cancer the same way we would like our families to be taken care of.”**

*Marcio Malogolowkin, chief of the Division of Pediatric Hematology-Oncology*

“The team at UC Davis has been awesome. The doctors and nurses take very good care of Xavier when he is in the hospital or just having a routine appointment.”

*Jessica Mendoza, about her son's care at UC Davis Children's Hospital after he was born with hypoplastic left heart syndrome.*



# Cardiology and heart surgery

## **UC Davis' Pediatric Heart Center re-accredited by national organization**

In 2021 our Pediatric Heart Center's Pediatric Echocardiography Laboratory was the only site in Sacramento to be re-accredited by the Intersocietal Accreditation Commission (IAC) in pediatric transthoracic, pediatric transesophageal and fetal echocardiography. The accreditation showcases our center's ongoing commitment to providing high-quality care for children and pregnant women.

## **Building a medical home for congenital heart disease patients**

Frank Ing, chief of pediatric cardiology and co-director of the UC Davis Pediatric Heart Center, and pediatric cardiologist Radhika Bukkapatnam are partnering to develop a medical home at UC Davis Health to improve care delivery and outcomes for Northern California patients with congenital heart disease. The quality improvement project is designed to create a comprehensive Adult Congenital Heart Disease program that helps pediatric patients transition to adult health care environments.

The accreditation showcases our center's ongoing commitment to providing high-quality care for children & pregnant women.

## **New pediatric electrophysiologist**

Last year we secured the services of expert pediatric electrophysiologist Dan Cortez. He offers the complete range of pediatric electrophysiology services currently provided by UC Davis, as well as unique and emerging contributions informed by his high-volume clinical experience, extensive clinically-focused research, and doctoral training in non-invasive electrophysiology. Cortez is board certified in pediatric cardiology and adult congenital cardiology, and a certified cardiac device specialist via the International Board of Heart Rhythm Examiners.

# COVID-19

## Unique COVID-19 clinic for people with autism

To reduce large, noisy spaces for children with neurodevelopmental conditions, the UC Davis MIND Institute created a new clinic that offers a calm, sensory-friendly experience for children receiving the COVID-19 vaccine. Funded in part through a \$68,000 grant from the Centers for Disease Control and Prevention to the MIND Institute's Center for Excellence in Developmental Disabilities, the clinic is a safe space that contains a VECTA sensory and distraction station, complete with a calming tube of bubbles, lights, aromatherapy and a projector that displays images on the ceiling.

## Bereavement Art Group fills gap in grieving process during pandemic

To help young adults process their grief in a healthy way, UC Davis Hospice and UC Davis Children's Hospital created the one-of-a-kind Young Adult Bereavement Art Group. Since launching in 2009 the art group has benefited 129 young adults, especially during the COVID-19 pandemic, and provides a variety of activities, including creating masks to explore evolving identities, drawing maps to identify difficult emotions and assembling memory boxes to remember loved ones.

## Virtual group supports children through a caregiver's illness

The UC Davis Child Life and Creative Arts Therapy Department launched Coping Together, a new virtual support group for children and adolescents who have a parent or caregiver with a serious illness. Using art materials, the group provides opportunities for sharing, self-expression and coming together to explore coping strategies.

## Our continued response to the coronavirus

UC Davis Health has played important roles both locally and nationally in responding to the novel coronavirus pandemic. Our teams have continued to conduct studies to better understand the virus and how it impacts people's health and community.

## Some of our current pediatric clinical studies include:

- Understanding the presence and lifespan of SARS-CoV-2 in infant stool after infection.
- The characterization of multisystem inflammatory syndrome (MIS-C) in children, its relationship to Kawasaki disease, and how the body responds to inflammation caused by Kawasaki disease and MIS-C in relation to COVID-19.

*UC Davis Health opened a COVID-19 vaccine clinic for 12- to 15-year-olds in May 2020.*



“The pediatric endocrinology team is truly responsible for giving Scarlett the life she has today. We just have so much gratitude. It is priceless for a mother to feel such confidence in the medical care that her child receives. If you’re lucky enough to pair with this team, they will become family!”

*Angela Hershey, on the care and support her daughter Scarlett has continuously received after she was diagnosed with panhypopituitarism shortly after birth.*



# Diabetes and endocrinology

## **New link to diabetic ketoacidosis, kidney and brain injuries**

UC Davis researchers have identified a pattern of multiple-organ injury in children with diabetic ketoacidosis. The multi-center research study published in *JAMA Network Open* showed that children who showcased these injuries more frequently were also more likely to experience subtle cognitive impairment and demonstrate lower IQ scores. Together, these findings strongly suggest an underlying physiological cause that connects these injuries across the body.

Our endocrinologists provide children the latest diagnosis and treatment options and offer education on how to properly manage their glucose levels.

# Gastroenterology/ GI Surgery

## **Pediatric gastroenterology (GI) services, closer to home**

Young patients and their families now have access to world-class GI care closer to home through our Carmichael/Citrus Heights clinic. The expansion of services includes treatment for biliary tract disease; Crohn's disease; celiac disease; short bowel syndrome; pediatric liver disease and more.

## **Motility testing for pediatric GI patients**

UC Davis Children's Hospital has added rare esophageal manometry and anorectal manometry capabilities through the expertise of Maheen Hassan. The services are helpful for diagnosis around severe but non-specific symptoms, and for decisions about medical management versus surgery.

Expansion of our intestinal rehabilitation program has provided unique care to families in the central valley and Northern California.

## **Intestinal rehabilitation program expands**

Our intestinal rehabilitation program led by a comprehensive multidisciplinary GI team that is unique to the Central Valley and Northern California has expanded to include a dedicated clinical nurse practitioner, two pediatric home health nurses, two dietitians and a social worker. The program focuses on nutrition, growth and development for short bowel syndrome and TPN-dependent children, while also providing education for parents on how to care for their kids at home after being discharged from the hospital.



**“The UC Davis team saved Piper’s life, but it didn’t stop there. The aftercare we received was fabulous. It’s the best medical experience we’ve ever had.”**

*Courtney Gengler, whose daughter was diagnosed and treated for celiac disease.*



**“The nurses were not only professional, but also friendly and warm. The entire medical team took time to listen to my wishes and provide the best care for myself and my daughter. I am returning to UC Davis Medical Center to give birth to my second baby with a sense of confidence and trust, knowing we will continue to receive the highest level of care and the staff will treat my family as they would their own.”**

*UC Davis Health employee Katie Lorain, on the world-class maternity care she received during her two pregnancies.*

# Maternity

## **A Newsweek Best Maternity Care Hospital**

UC Davis Medical Center was named to *Newsweek's* 2021 list of Best Maternity Care Hospitals, which recognizes facilities that have provided exceptional care to mothers, newborns and their families, as verified by the 2020 Leapfrog Hospital Survey. Best Maternity Care Hospitals meet Leapfrog standards for lower rates of C-sections, early elective delivery, and episiotomy, as well as for assuring bilirubin screening for all newborns and blood clot prevention techniques for mothers delivering via C-section.

## **Obstetric anesthesia service named Center of Excellence**

UC Davis Medical Center's obstetric anesthesia service was one of 17 globally to be designated as a Center of Excellence by the Society for Obstetric Anesthesia and Perinatology (SOAP). The SOAP Center of Excellence designation sets a benchmark for expected care that helps improve national standards by providing quality metrics for institutions that offer obstetric anesthesia care.

## **Blue Distinction Center for Maternity Care**

Last year, our hospital was recognized as a Blue Distinction Center for Maternity Care. The designation demonstrates our expertise and commitment to quality care for vaginal and C-section deliveries; better overall patient satisfaction; and a lower percentage of early elective deliveries.

## **Baby-Friendly Hospital designation**

In 2020, we earned the highly prestigious Baby-Friendly designation by Baby-Friendly USA, demonstrating adherence to the highest standards of breastfeeding care built on evidence-based practices recommended by the World Health Organization and the United Nations International Children's Emergency Fund.

## **Gold safe sleep champion**

UC Davis Children's Hospital was recognized in 2020 by the National Safe Sleep Hospital Certification Program as a gold safe sleep champion for its commitment to best practices and education on infant safe sleep. The National Safe Sleep Hospital Certification Program was created by Cribs for Kids®, the only national infant safe sleep organization.

# Neonatology

## NICU gold-level Beacon Award for Excellence

Our Neonatal Intensive Care Unit (NICU) is now the 12<sup>th</sup> in the U.S. to receive a gold-level Beacon Award for Excellence from the American Association of Critical-Care Nurses (AACN). We are the only hospital in Northern California to receive this honor. The Beacon Award for Excellence — a significant milestone on the path to exceptional patient care and healthy work environments — recognizes caregivers who successfully improve patient outcomes and align practices with AACN's six Healthy Work Environment Standards. These standards are skilled communication, true collaboration, effective decision making, appropriate staffing, meaningful recognition and authentic leadership.

## DAISY Foundation honors nurse leader

NICU nurse manager Sheryl Ruth was the individual award recipient for the DAISY Nurse Leader Award in 2021. She has been recognized for her dedication, advocacy and support in improving processes throughout our Neonatal ICU. Sheryl and her team successfully implemented solutions and improved bedside practices that helped our hospital obtain Gold Level National Safe Sleep certification.

## New chief of neonatology

Steven McElroy joined UC Davis Children's Hospital as the new chief of neonatology in 2021. His long-standing interests include understanding the injury and repair mechanisms of the developing small intestine and how it specifically relates to neonatal necrotizing enterocolitis.

## Level IV NICU

The UC Davis Neonatal Intensive Care Unit (NICU) is a level IV-designated nursery (the highest possible rating) for the Sacramento region, providing clinical care for infants throughout Northern California and conducting research on health problems facing infants, including those who are born very prematurely, are extremely ill, or require surgery.

## Nationally ranked

Our neonatology program ranked 29<sup>th</sup> nationally in the 2021–2022 *U.S. News & World Report* Best Children's Hospitals survey.

Our NICU is the 12<sup>th</sup> in the U.S. to receive a gold-level Beacon Award for Excellence.

**“We’re so fortunate that Alana received the amazing care that she got during her stay. We always tell everyone who’ll listen to go to UC Davis Children’s Hospital for everything. This hospital is simply the best. I mean that from the bottom of my heart.”**

*Faith and Eric Bender, on their daughter Alana spending 119 days in the NICU after she was born at 25 weeks and weighed 1 pound, 10 ounces.*



# Nephrology and kidney transplantation

## **Nationally ranked**

Our pediatric nephrology program ranked 25<sup>th</sup> nationally in the 2021–2022 *U.S. News & World Report* Best Children's Hospitals survey.

## **Second pediatric kidney stone clinic opens**

Our newly opened pediatric kidney stone clinic provides a specialized multidisciplinary team approach including pediatric nephrologists, endourologists and pediatric registered dietitians for children with kidney stone disease. The secondary clinic is a one-stop shop to help manage patients who are at high-risk for kidney stone recurrence, and emphasizes imaging surveillance and dietary and medical prevention for recurrent kidney stone disease.

## **Unique dialysis service provides bridge to transplant**

To better serve children waiting for a kidney, our program continues to be the region's only outpatient peritoneal dialysis service for patients under 10 years of age.

**“We’ve built really great relationships with the team and they have provided as much support as I needed.”**

*Angela Lasseter, on the team support her daughter Aija received after starting home dialysis before receiving a kidney transplant.*

# Neurology and Neurosurgery

## Neurology chair receives Ambassador for Epilepsy Award

Amy Brooks-Kayal, chair of the UC Davis Department of Neurology, has received the Ambassador for Epilepsy Award from the International Bureau for Epilepsy and the International League Against Epilepsy. Brooks-Kayal is one of 12 individuals around the world to receive this award, which is given every two years to clinicians and researchers who have made outstanding contributions to activities advancing the cause of epilepsy internationally or with international impact. Brooks-Kayal was nominated by the American Epilepsy Society (AES), of which she has been a member for more than 30 years, including in leadership roles.

## New way to measure brain blood flow with light

A new, noninvasive method for measuring brain blood flow with light has been developed by biomedical engineers and neurologists at UC Davis, and used to detect brain activation. The new method, functional interferometric diffusing wave spectroscopy (fiDWS) offers a less expensive way to assess how well the brain regulates blood flow and could be used for evaluating brain injuries.

## First LITT procedure at UC Davis Health

Our pediatric neurosurgery team successfully completed the first pediatric Laser Interstitial Thermal Therapy (LITT) procedure in our level I Children's Surgery Center and MRI suite. The technique treats brain tumors that can be difficult to reach through surgery, and provides faster recovery times and improved outcomes for pain management.

## Highest accreditation for epilepsy program

UC Davis Medical Center's Comprehensive Epilepsy Program earned accreditation as a level 4 epilepsy center, the highest rating awarded by the National Association of Epilepsy Centers (NAEC). The program is recognized as providing more complex forms of intensive neurodiagnostic monitoring, as well as more extensive medical neuropsychological and psychosocial treatment.

Improving outcomes and faster recovery times.

"We are extremely thankful to the medical staff at UC Davis. Together, these people and God saved Kyle's life."

*Sharon Benton, whose son Kyle sustained major injuries, including traumatic brain injury, after a longboarding accident.*



“From the diagnosis, to treatment options, to our daily living, the UC Davis team has helped us through it all!”

*Stacy Rider, on son Mason’s care and treatment after he was diagnosed with Duchenne muscular dystrophy.*

# Orthopaedics and Rehabilitation

## Promising gene therapy for Duchenne muscular dystrophy

UC Davis researchers are using a unique micro-dystrophin gene therapy approach to treat Duchenne’s muscular dystrophy, a progressive genetic disorder that mostly affects boys. Craig McDonald, one of the world’s leading experts on the disease and national principal investigator on the clinical trial HOPE-2, is hopeful that the transformational therapy will significantly restore motor function and show improvement in cardiac and pulmonary functions.

The transformational therapy will significantly restore motor function in young boys with Duchenne muscular dystrophy.

## Seeking to reduce brachial plexus birth injury (BPBI)

A team of researchers led by Mary Claire Manske, pediatric orthopedic surgeon and director of the Brachial Plexus Birth Injury Center, are working to identify factors that could predict brachial plexus birth injury. The team is currently developing a predictive risk model of maternal and hospital factors associated with the condition. Insights from the study could shape prevention strategies; allow hospitals to implement quality improvement initiatives to decrease BPBI risk; and may also help health care providers counsel women more accurately regarding their risk and address modifiable risk factors.

## Nationally ranked

*U.S. News & World Report* ranked our pediatric orthopedic program 22<sup>nd</sup> nationally in 2021–2022, in collaboration with Shriners Hospitals for Children – Northern California, our longstanding partner on orthopedic disorders and spinal injuries.

# PULMONOLOGY

## **New insights in diagnosing malnutrition in kids with cystic fibrosis**

A UC Davis study explored the use of mid-upper arm circumference (MUAC) in diagnosing and classifying malnutrition in children with cystic fibrosis. The study, published in *Nutrition in Clinical Practice* found that MUAC and body mass index (BMI)/weight for length (WFL) z-scores were highly correlated in diagnosing malnutrition, but had poor agreement in categorizing malnutrition. MUAC z-scores identified more children in the undernourished category than BMI/WFL z-scores, with sensitivity to the mild and moderate malnourished category.

We have invested significantly in our Cystic Fibrosis Foundation-accredited Pediatric Cystic Fibrosis Care Center, and offer families top expertise from a multidisciplinary team including pediatric GI specialists, dietitians, respiratory therapists and more.



**“The pulmonary team is awesome. They go above and beyond for the patients.”**

*Alexandria Brown, whose son had bronchiolitis and required help from the UC Davis pulmonary team.*

# Surgery

## Treating the first patient in a historic spina bifida trial

Diana Farmer, our Children's Hospital surgeon-in-chief and chair of UC Davis Health's Department of Surgery, in collaboration with stem cell scientist Aijun Wang, developed and launched the world's first human clinical trial using stem cells to treat spina bifida before birth. In September 2021, the first baby was delivered at UC Davis after becoming the first to receive the one-of-a-kind fetal treatment as part of the CuRe Trial (Cellular Therapy for In Utero Repair of Myelomeningocele). The team anticipates seeing improvements for those born with the most severe form of spina bifida, myelomeningocele, with the ultimate hope of helping them boost motor function and walk independently.

## Level I Children's Surgery Center

UC Davis Children's Hospital is verified as a level I Children's Surgery Center by the American College of Surgeons (ACS), the world standard bearer for surgical quality. Level I centers have children's surgeons in every discipline, with pediatric anesthesiologists and dedicated operating rooms for children available 24 hours a day. They also train future leaders in education and research and participate in community outreach.

## Farmer president-elect of American Surgical Association

Diana Farmer is the new president-elect of the American Surgical Association (ASA) for the 2021–22 year. Farmer is the first surgical leader from the UC Davis School of Medicine and the first woman from UC Health to be named to the position, and only the third woman elected to the position in the association's 141-year history. Farmer is a fellow of the Royal College of Surgeons of England and a member of the Institute of Medicine of the National Academies.

## Spokelt improves speech for children

Travis Tollefson, director of facial plastic and reconstructive surgery at UC Davis Cleft and Craniofacial Clinic, and UC Davis senior speech-language pathologist Christina Roth have partnered with UC Santa Cruz researchers for more than seven years to provide expert feedback and testing of Spokelt, a UC Santa Cruz developed kid-friendly video game designed to improve speech for children with cleft palates. The innovative technology has shown positive results and continues to be a resource for families who don't have access to speech therapy.

## New Fetal Care and Treatment Center for complex pregnancies

In 2021, we opened a newly consolidated Fetal Care and Treatment Center within UC Davis Children's Hospital that performs comprehensive diagnostic, medical and surgical interventions for pregnant women. Our clinical team offers specialized services, before, during and after birth, that include specialized prenatal co-management and delivery planning services; fetal echocardiography; fetal MRI; and clinical trials, including CuRe — Cellular Therapy for In Utero Repair of Myelomeningocele (spina bifida) using stem cells, the first of its kind in the U.S.



# Telemedicine



*Stephanie Crossen uses telehealth technologies to improve care delivery and outcomes for patients with type 1 diabetes.*

## **Genomic medicine partnership expands care in our region**

A long-standing affiliation with the UC Davis MIND Institute and Dignity Health has expanded round-the-clock genomic telemedicine services for pediatric patients at Mercy San Juan and Methodist Hospital of Sacramento. With state-of-the-art telemedicine robots equipped with high-quality cameras, MIND Institute specialists and exceptionally trained genetic counselors can provide consultations to patients 24 hours a day.

## **Tele-physiatry program for rural children**

Northern California children with cerebral palsy, spina bifida, spinal cord injuries and other physical disabilities have access to UC Davis physical medicine and rehabilitation physicians, thanks to our STARS telehealth program. Funded by a \$2 million, five-year grant from the Agency for Healthcare Research and Quality, the School-Based Tele-Physiatry Assistance for Rehabilitative and Therapeutic Services (STARS) program serves children who receive support through California Children's Services' Medical Therapy Program. The telehealth program provides physical therapy, occupational therapy, and durable medical equipment to children at designated school-based Medical Therapy Units without sacrificing quality care and doctor-patient interactions.

## **Webcam program positively impacts parents**

FamilyLink, a NICU webcam program created by neonatologist Kristin Hoffman, allows off-site families to be constantly connected to their infants 24 hours a day through a home computer, tablet or cellphone. Webcams and flexible tripods are mounted on infant isolettes, warmers and cribs in all 49 NICU beds and now features an upgraded web portal with increased security and a user-friendly interface for parents.

## **Improving access to pediatric telehealth**

A UC Davis study published in *Pediatrics*, the official journal of the American Academy of Pediatrics, found that robust, comprehensive telehealth coverage is critical to improving pediatric access and quality of care and services, particularly for under-resourced populations. Researchers have noted that addressing barriers such as language, digital literacy, disability, and access to and payment for technology infrastructure, is required to avoid furthering disparities.

*Pioneering leaders  
in telehealth.*

# Trauma and emergency

## Level I pediatric trauma center for 65,000 miles

UC Davis Medical Center is a level I trauma center, the highest level possible, as verified by the American College of Surgeons. It is the only level I trauma center for both adults and children in inland Northern California, and one of only two in California.

Our hospital and trauma center serve a 33-county, 65,000-square-mile area with the help of the most comprehensive children's hospital transport team in Northern California. The program travels 24-7 by ambulance, helicopter or fixed-wing aircraft. The hospital received 2,378 transfers this past year, some from hundreds of miles away. In all we saw more than 10,944 pediatric emergency department visits in fiscal year 2020–21.

## An ER waiting room designed just for kids

Our pediatric patients and their families can now benefit from a new private, family focused, pediatric emergency waiting room. The 500-square-foot room offers on-site child life specialists who provide activities for kids, while guiding and assisting families as they cope with urgent situations.

## 2021 ENA Lantern Award

UC Davis Health's emergency department received the 2021 Lantern Award from the Emergency Nurses Association (ENA). The recognition demonstrates nurses, technicians, and all of our ancillary staff's commitment to exceptional and innovative performance in leadership, evidence-based practices, education, advocacy and research.



**“We are forever grateful with the exquisite care we received from all the nurses, doctors and staff at UC Davis. Their pediatric expertise helped us get through this difficult journey. We are also thankful to the many people around the world who love Claire and offered prayers for her healing and recovery.”**

*Leizl Villarosa, on the pediatric expertise her daughter Claire received after she was rushed to the UC Davis Pediatric Emergency Department following a car accident.*

Home to the only level 1 trauma center for both adults and children in inland Northern California.



# Urology

## Nationally ranked

U.S. News & World Report consistently ranks the pediatric urology program at UC Davis Children's Hospital among the best in the nation. In the 2021–2022 Best Children's Hospitals survey, our program ranked 37<sup>th</sup> nationally, in collaboration with Shriners Hospitals for Children – Northern California, our longstanding partner in caring for children with urological issues.

## 3D models provide road map to cloacal repairs

In addition to serving a busy surgical practice, our clinicians are also evaluating quality-of-life issues, outcomes data and new technologies to improve treatments for children.

Thanks to cloacagrams, three-dimensional models created in the 3D PrintViz Lab at UC Davis Health, pediatric surgeons now have a veritable road map to help teams plan for cloacal surgery in children. Osama Raslan, associate professor of radiology and co-founder of the lab, has partnered with pediatric surgeon Payam Saadai and chief of pediatric urologic surgery Eric Kurzrock to provide the custom models needed to help surgical teams visualize the complexity of the anatomy, plan for surgeries and anticipate complications. The unique technology has benefited many patients and enhanced surgical timing and outcomes.

The new 3D models created in the PrintViz Lab provide surgeons with a veritable road map to help teams plan for cloacal surgery in children.

**"I listened to the specialists at UC Davis. Everything they explained to me came with a dose of humanity. It was comforting during a difficult time."**

*Adrianna Brogger, whose son was born with spina bifida. In 2021, Benjamin graduated from high school.*

# Nursing

UC Davis Medical Center is currently the only medical center in Sacramento to have earned Magnet® recognition.

## Nation's highest recognition for nursing excellence

UC Davis Medical Center has long been identified as a U.S. center of nursing excellence devoted to optimal, collaborative and evidence-based care. We are privileged to have been granted Magnet® recognition status by the American Nurses Credentialing Center. Only about 8 percent of hospitals in the nation carry Magnet® designation, and UC Davis Medical Center is currently the only medical center in Sacramento to have earned the recognition.

## IHI and DAISY Foundation honor nurses

Unit clinical nurse specialist Christa Bedford-Mu is the individual award recipient at this year's 2021 DAISY Awards for Extraordinary Nurses in Patient Safety, presented in collaboration with the Institute for Healthcare Improvement (IHI). A trained wound treatment associate, Bedford-Mu has collaborated with several surgical units across UC Davis Medical Center to spread standardized approaches to multiple types of complex wounds and skin integrity issues. Her work has contributed to significant post-operative improvements. Nurse educator Michelle Linenberger received honorable mention for her commitment to a relationship-based culture, advocacy for peer support, and contributions to care in underserved communities.

## New training enhances critical thinking skills in asthma scenarios

A new immersive, hands-on escape room activity has helped PICU nurses improve and enhance their respiratory assessment skills and nursing interventions for patients with bronchiolitis, septic shock and asthma. Held by the UC Davis Center for Professional Practice of Nursing at the UC Davis Center for Simulation and Education Enhancement, the training session helps learners problem-solve and hone their skills through the use of various infant, child and adolescent-sized mannequins.

## First virtual UC symposium for nurse managers

In 2021 UC Davis Children's Hospital developed and hosted the first annual UC women's and children's virtual leadership symposium. More than 100 nurse leaders specializing in the care of women and children from the University of California were given the opportunity to share best practices, experiences, and challenges in health care.



Neonatologist Kristin Hoffman and NICU clinical nurse specialist Christa Bedford-Mu provide virtual visits for families with complex medical needs.

# Community outreach

Every year, we participate in, partner with or sponsor over 200 community events and programs.

## **MAARY bags help foster youth reacclimate after hospitalization**

For the past year UC Davis Children's Hospital pediatric social workers have organized MAARY (Marginalized and At Risk Youth) duffle bags for foster youth to help with their difficult transition after being discharged from the hospital. Each bag — funded through public donations made to the UC Davis Patient Assistance Support Fund — is filled with personal items including a blanket, socks, toiletries and a night light for toddlers.

## **First-of-its-kind clinic for foster children opens**

In 2021, UC Davis Children's Hospital partnered with the Sacramento County Health Center to establish a Comprehensive Integration of Resilience into Child Life Experiences (CIRCLE) clinic to address the effects of Adverse Childhood Experiences (ACEs) in foster care children. The clinic offers comprehensive, trauma-informed, culturally-sensitive care by UC Davis pediatricians; mental health services in partnership with the UC Davis CAARE Center; connections to community resources; and more.

## **Intervention program helps foster care children**

Young foster care children showed fewer behavior problems after participating in PC-CARE, a seven-week intervention program pioneered at the UC Davis CAARE (Child and Adolescent Abuse Resource and Evaluation) Center, a nationally recognized program for the evaluation and treatment of child maltreatment. Supervised and co-developed by psychologist Brandi Hawk, PC-CARE has showcased child improvement in behaviors, trauma symptoms, self-regulation, relationships, and placement stability.

## **Rapid whole genome sequencing leads to better outcomes for babies**

A state-funded Rapid Precision Medicine program yielded life-changing outcomes for critically ill infants at five California hospitals while significantly reducing health care costs. UC Davis Children's Hospital and the UC Davis MIND Institute were key participants in the research, which was published in the *American Journal of Human Genetics* and outlined the success of Project Baby Bear, a real-world quality improvement program designed to test the value of rapid Whole Genome Sequencing (rWGS®) to diagnose and guide treatment for unexplained rare disease.

## **Home away from home**

The Oak Park Rotary House uses charitable support to offer free, long-term accommodations close to UC Davis Children's Hospital for families who have traveled significant distances to seek treatment for a child. As a beacon of hope for more than eight years, the house includes a book that gives each family a chance to share their story and connect with others.

## **COVID-19 webinars continue to help community hospitals**

The Pediatric Acute Care Education Sessions (PACES) program offers free peer-to-peer virtual webinars and roundtable discussions to support clinicians caring for pediatric patients at rural community hospitals. The sessions provide education and clinical guidelines for a wide range of topics, such as treatment of pediatric patients with COVID-19; multisystem inflammatory syndrome in children; and physician morale and wellness.



*The Oak Park Rotary House has been a beacon of hope for families for more than eight years.*

Facility dog Daniels provides support for children in the Pediatric Intensive Care Unit.



# Patient-centered care

## Facility dog Daniels doles out affection for young patients

Pediatric Intensive Care patients and their families now have an extra dose of support from a furry friend while going through treatment. Thanks to Canine Companions, Daniels, a two-year-old yellow Labrador Retriever, joins the child life team along with Huggie, Zeebee and Paloma as they reduce fear and anxiety during patient procedures and long hospital stays.

## Minimizing needle pokes, anxiety for patients

Our compassionate staff work hard to provide comfort and pain management solutions to minimize trauma and anxiety for our pediatric patients. Thanks to a new portable ultrasound machine funded by Children's Miracle Network Hospitals (CMN), our care teams have guided access to tiny veins during lab draws and IV placements which helps reduce needle placement attempts, and more importantly, lessens stress and pain for tiny patients.

## Wireless monitoring for PICU/PCICU patients

Thanks to new wireless technology funded by Children's Miracle Network Hospitals (CMN), patients in the Pediatric Intensive Care Unit and Pediatric Cardiac Intensive Care Unit (PICU/PCICU) can now experience a little freedom away from their bed and enjoy the playroom while being safely monitored.

## Sib Sacks help siblings cope with hospitalization

In 2021 child life specialists created Sib Sacks, a program designed to help siblings feel special and better cope with their brother or sister's hospitalization. Each sack includes a zippered mouth stuffed monster that encourages siblings to write down their fears and place them in the monster's mouth to be eaten up and other fun supplies. The inclusive, family-centered experience aims to improve our high-quality care and has been well received by patient families.

## Patients shine at Creative Arts Festival

Our continued partnership with BayKids Studios allows hospitalized children to express their imaginations by becoming directors, actors, and heroes of their own stories. At this year's Creative Arts Festival held at Sacramento's West Wind Drive-In Theater, families gathered to view patient-centered artwork and movies on the big screen. The evening highlighted 19 pieces of art followed by a screening of 17 patient-made films. Each artist received an award photo book and filmmakers received personalized Oscars called "The Greatest Davis Awards."

# Philanthropic Support

## Donut Dash raises funds for Child Life

This year's 13<sup>th</sup> annual Donut Dash raised \$45,000 for the UC Davis Child Life and Creative Arts Therapy Department. Donut dashers ran or walked a one-mile loop and then enjoyed six doughnut holes from Marie's Donuts. The funds raised have been used to purchase video games, iPads, art supplies, games, toys and more for our hospitalized children.

## Virtual Toy Drive raises over \$21,000

In 2020, every hospitalized child at UC Davis Children's Hospital, UC Davis Comprehensive Cancer Center's pediatric infusion room and children served by the UC Davis CAARE Center were provided free toys for the holidays. Additional funds were used in 2021 to provide toys, art and music supplies, treasure box prizes and giveaways during hospitalizations as well as visits to the Comprehensive Cancer Center and MIND Institute. Children who celebrated their birthday in the hospital also received gifts, thanks to the generosity of donors.

## Children's Miracle Network Hospitals Child Champion

UC Davis Children's Hospital is a proud member of the Children's Miracle Network Hospitals (CMN), an international nonprofit dedicated to raising funds for, and awareness of, children's hospitals. Donations create miracles by funding medical care, research, equipment and programs that save and improve the lives of our children, including this year's Sacramento Children's Miracle Network child champion Casey Dyke.



Casey was born with a congenital heart defect and needed a series of 12 surgeries to repair it. Now as a 16-year-old, he lives a normal teenage life as

he pursues photography, engineering and a promising future. Every year, 170 Children's Miracle Network Hospitals identify a "champion" in each of their communities to serve as the face for children treated at their local children's hospital.

This year's Donut Dash raised \$45,000 for hospitalized children at UC Davis.



Patient Taylor Hurst  
with her doll Lucy Davis.

# By the Numbers



The Central Valley's only **level I** pediatric trauma center, with **116,230 clinic visits**, **6,241 hospital admissions** and **10,944 emergency department visits** this year.



**The West Coast's first level I children's surgery center** as verified by the American College of Surgeons, with 4,984 children's surgeries this year.



**Designated children's hospital beds**

- Neonatal Intensive Care Unit (NICU) – **49**
- Pediatric and Cardiac Intensive Care Unit (PICU) – **24**
- General Pediatrics – **48**
- Pediatric Emergency Department – **13**
- Children's Surgery Center – **7** operating rooms, **1** procedure room, **24** pre-op/post-op beds



**Nationally ranked in 4 specialties:** neonatology, nephrology, orthopedics and urology



Provides care for children in **33 counties**, covering **65,000-square-miles**, with over **2,378 transfers** accepted from referring institutions.

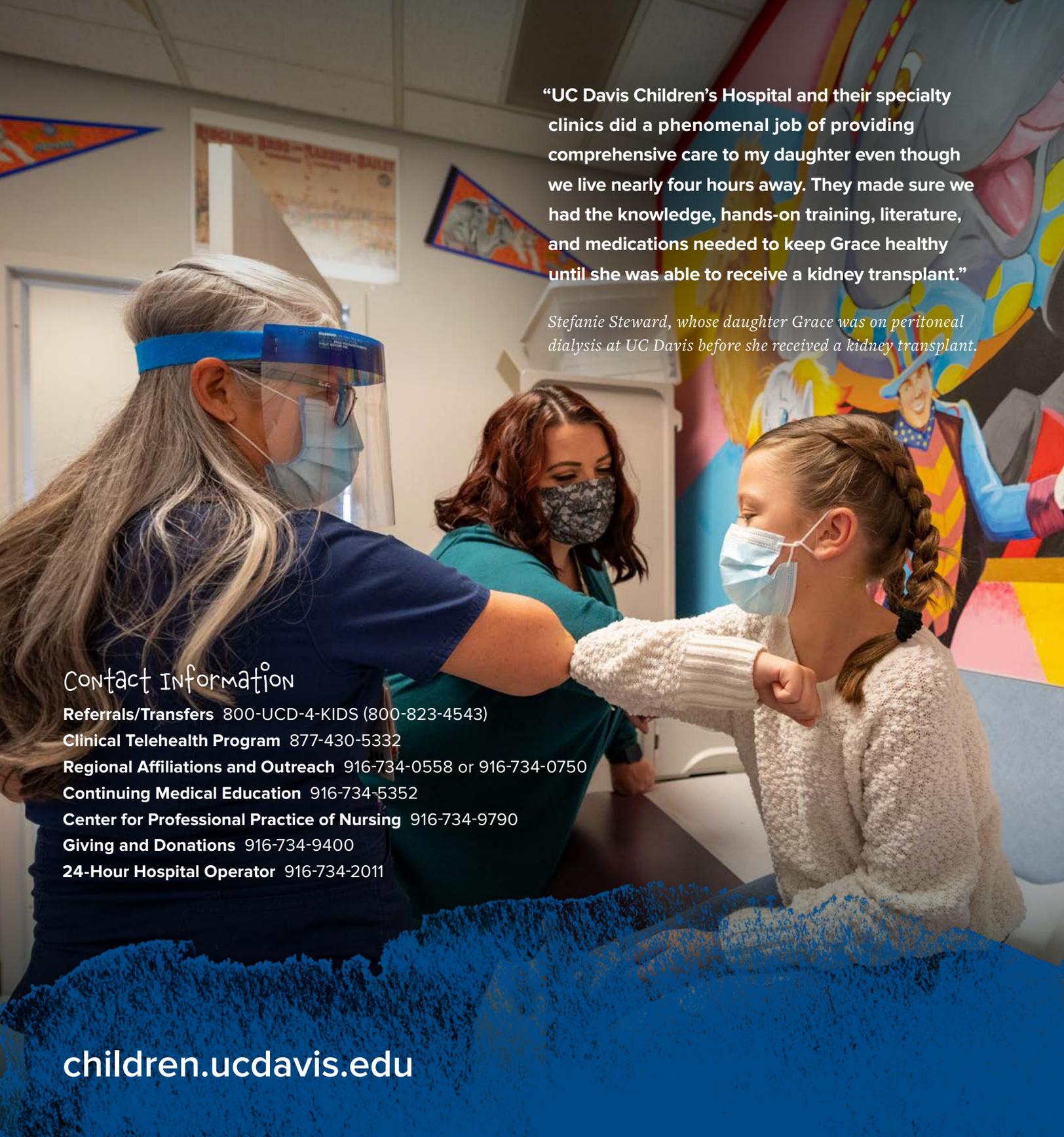


**850 members of our all-R.N. nursing staff have been trained to care for children**

- Granted **Magnet®** recognition status by the American Nurses Credentialing Center
- **90%** of UC Davis nurses hold a B.S.N. degree or higher
- **17%** hold advanced degrees
- **58%** of UC Davis nurses have obtained a specialty certification through the American Nurses Credentialing Center



**Physicians across more than 30 subspecialties** (the region's greatest diversity of pediatric subspecialties)



“UC Davis Children’s Hospital and their specialty clinics did a phenomenal job of providing comprehensive care to my daughter even though we live nearly four hours away. They made sure we had the knowledge, hands-on training, literature, and medications needed to keep Grace healthy until she was able to receive a kidney transplant.”

*Stefanie Steward, whose daughter Grace was on peritoneal dialysis at UC Davis before she received a kidney transplant.*

## Contact Information

**Referrals/Transfers** 800-UCD-4-KIDS (800-823-4543)

**Clinical Telehealth Program** 877-430-5332

**Regional Affiliations and Outreach** 916-734-0558 or 916-734-0750

**Continuing Medical Education** 916-734-5352

**Center for Professional Practice of Nursing** 916-734-9790

**Giving and Donations** 916-734-9400

**24-Hour Hospital Operator** 916-734-2011

[children.ucdavis.edu](http://children.ucdavis.edu)