Medical Detecti

From sleuthing the causes of rare kidney diseases to developing creative learning tools to help others do the same, Outstanding Young Alumnus, Kenar D. Jhaveri, MD '04, is working to advance the field of nephrology.

2024 Award Winner

As a nephrologist at Northwell Health, the largest healthcare provider in New York state, Kenar D. Jhaveri, MD '04, knew he was seeing something unusual. It was March 2020, during the first wave of the COVID-19 pandemic, and there were an alarming number of patients with acute kidney injury (AKI) in the hospital, at least double the norm.

Nearly every COVID-19 patient who was intubated developed AKI, a sudden episode of kidney failure or damage, preventing waste from being filtered within the body. "This was not normal," he says.

Jhaveri and a team of investigators at the Feinstein Institutes for Medical Research analyzed the electronic health records of hospitalized COVID-19 patients between March 1, 2020, and April 5, 2020, and determined that 36.6 percent developed AKI—rates higher than reported in China—with 15 percent requiring dialysis. The study revealed risk factors for developing AKI, including age, diabetes mellitus and cardiovascular disease, hypertension, and need for ventilation and vasopressor medications. Researchers also found that Black patients were at increased risk for developing AKI.

Their results were published in *Kidney International*, the first and largest study of its kind. "We knew we had to let the world know to potentially improve survival rates for COVID-19 patients," Jhaveri says.

A subsequent study published in the *American Journal of Kidney Disease (AJKD)* analyzed outcomes of adult patients hospitalized with COVID-19 at 13 metropolitan area hospitals at roughly the same time frame. That study reported an AKI incidence rate of 38.4 percent, confirming that AKI in hospitalized patients with COVID-19 was associated with significant risk for death.

Yet another study, published in *Clinical Kidney Journal*, examined kidney biopsies and autopsies to better understand the pathology of COVID-19-associated kidney injury, with a goal to better manage AKI and improve survival rates.

That Jhaveri emerged as a leading expert in COVID-19-associated kidney injury should not be surprising. Already a leader in the field of glomerular kidney disease, he is drawn to the detective work of cracking tough medical cases.

"I like the rare diseases in nephrology because there's no template treatment and there's not much research being done," he says. "You really have to assess each patient individually to solve the mystery."

PROBLEM SOLVER

Jhaveri has always enjoyed solving puzzles, from crosswords to *Jeopardy*. Growing up on Long Island with physician parents—his mother is a pathologist and his father a radiologist—he was naturally drawn to medicine. But he majored in computer science as a New York University undergraduate while taking all of the pre-medical sciences. "I really enjoyed programming," he says. "It made me think in a different way."

During his medical studies at Upstate, Jhaveri says he was particularly influenced by renal pathologist Paul Shanley, MD. "He was a great teacher and one of the first who instigated

ve

Jhaveri in his office at Northwell Health

an interest for me in being a medical detective in making a diagnosis," he says.

As an internal medicine resident at Yale New Haven Hospital, Jhaveri found that the mentors he was drawn to were all nephrologists. "I noticed while I was rounding that the tough cases were solved by nephrologists," he says. "They were really sharp and knew their medicine very well. They knew the patient very well."

During a nephrology fellowship at New York Presbyterian Hospital/Weill Cornell Medical Center, Jhaveri rotated at Memorial Sloan Kettering Cancer Center, where he observed toxicities to the kidney that patients experienced as a result of cancer treatment. "Those six months were my favorite," he says. "It was such an interesting mix of nephrology and oncology."

Jhaveri began writing his observations in several publications, and ultimately co-edited the textbook, *Onconephrology: Cancer, Chemotherapy and the Kidney*, which established the field of onconephrology. "Onco specialists are a whole blooming field now," he says. "Many cancer centers now want an onco-nephrologist, cardio-oncologists, onco-endocrinologist—a specialist in any area impacted by cancer."

After fellowship, Jhaveri returned to Long Island to accept a faculty appointment at the Donald and Barbara Zucker School of Medicine at Northwell/Hofstra and as a nephrologist at Northwell Health. In addition to onconephrology, he focuses on glomerular diseases, rare diseases that occur when the network of blood vessels in the kidney that filter waste become damaged, allowing proteins and red blood cells to leak into urine.

"Because there is no standard treatment for many of these diseases, it allows me to use my expertise and work one-on-one with each patient," he says. "I'm not a big fan of checklists—everybody gets the same treatment and then you send them home. So, it's a good fit. And there's a lot of room to move the field forward."

Jhaveri was attracted to joining Northwell Health in large part because of the institution's role in launching a new medical school with Hofstra University. He served as the inaugural internal medicine clerkship director for the first few classes and continues to teach medical students, residents who rotate in nephrology, and nephrology fellows.

In 2023, Northwell Health received a $1.25 million endowed gift to fund creation of the Galdi Fellowship in Onco-Nephrology and Glomerular Kidney Diseases. The program launched in July 2023 with Jhaveri as fellowship program director. The first advanced fellow graduated in June 2024.

ACTIVE LEARNING

But Jhaveri's involvement in nephrology education extends beyond his own institution. A visual learner himself, he has created numerous creative teaching tools to make nephrology a fun and exciting field. "My whole interest has been in innovation and education in nephrology. I don't really like lecture-based education and always thought, 'Why are we stuck with this one way of teaching?'" he says. "Why can't we make teaching more engaging?"

Jhaveri began experimenting, using crossword puzzles, anagrams, comic strips, blogs, and other social media methods to expand ways to teach nephrology. "If I see something in another part of science or another field of medicine, I try to bring it to nephrology," he says. "It keeps me excited about it, too."

Initially, Jhaveri shared those concepts through his own teaching blog, nephronpower.com. In 2011, he became the inaugural editor of the *AJKD* blog, and two years later, used that as a launching pad for NephMadness. A take-off on March Madness, it was the first online game in medicine and has grown to become a friendly competition between nephrologists nationwide, as well as copied by other medical specialties. "There's now OncMadness, RheumMadness, and others," he says.

Jhaveri with his wife Mital and sons Darshil and Sahil after being honored by the National Kidney Foundation

Another teaching tool in a game he created is Case-Based Debates, which pits teams of first and second-year nephrology fellows against each other to solve cases in a debate format. "That's become an annual event at national nephrology conferences with different fellowship programs competing against each other," he says.

Jhaveri also is the creator and longtime editor of the popular *Kidney News* column "Detective Nephron," which features a Sherlock Holmes-type master clinician helping a budding nephrologist form diagnoses for interesting cases. Jhaveri devised the idea himself and pitched it to the magazine.

The cases discussed in Detective Nephron are written by Jhaveri, some based on actual patients, some written to include trends in nephrology, and others gathered from colleagues.

But it's not all fun and games. "Every time we develop something new, we try to look at the outcomes through quantitative analysis to determine if the method is actually changing anything," says Jhaveri, who is currently experimenting with WhatsApp channels and other social media platforms as a way to teach nephrology. He has published widely on different methods and conducted numerous faculty development seminars to share these techniques.

Jhaveri, who became editor in chief of *ASN Kidney News* in 2021, says his efforts are two-fold. First, he doesn't believe the current generation of medical students has the attention span for two-hour lectures. He's also trying to make nephrology more appealing to increase interest in the field.

"Interest in pursuing fellowship training in nephrology continues to decline in the United States, especially among U.S. medical graduates," he says. "It's a nonprocedural field so the reimbursement is lower than some other specialties. I'm hoping that as more medical schools become tuition free, students will choose fields they truly enjoy rather than based on reimbursement."

There has been an uptick in nephrology fellowship applicants since the pandemic. "Nephrologists were on the front lines supervising dialysis being given to COVID-19 patients, and residents and students saw us being the consultants who were needed in the time of a crisis," he says. "That was the silver lining of COVID-19 for nephrology."

Jhaveri divides his time between his administrative roles as associate chief of the Division of Kidney Disease and Hypertension, director of

> "Upstate is a phenomenal place for learning and gave me a very strong foundation in medicine. I'm trying to pay that forward in my field by developing novel ways of sharing information that can make an impact on all fronts: with physicians, allied health staff, and patients."

the new fellowship program, and co-director of the Glomerular Center at Northwell Health, but says he still spends more than half of his time on direct patient care at Northwell as a glomerular disease specialist and onconephrologist.

"I really enjoy the patients but that's also how I gain the experience to help move the field," he says. "If I wasn't seeing patients, I wouldn't have new questions to explore or observations to share with the world."

ADVANCING NEPHROLOGY

Jhaveri's current research projects include studying kidney toxicities of targeted anti-cancer agents and immunotherapy; kidney disease after hematopoietic stem cell transplantation; glomerular diseases in cancer patients; the use of immunotherapy in kidney transplant patients; as well as COVID-19-related kidney disease. He is also leading national industry funded trials as lead investigator for IgA Nephropathy, a rare glomerular disease.

Jhaveri is a founding member and past co-president of the American Society of Onconephrology and a founding member of the International Society of Glomerular Diseases. He serves on the editorial boards of *CJASN*, *AJKD*, *Kidney International*, *Nephrology Dialysis Transplantation*, *Clinical Kidney Journal*, and the *Journal of Onconephrology*. In 2021, he was honored with the National Kidney Foundation's New York-Excellence in Care Award. In 2023, he received the American Society of Nephrology Distinguished Leader Award for his dedication to clinical research, leadership, and advancing the field of nephrology. And in 2024 he was honored by the Upstate Medical Alumni Foundation with the Outstanding Young Alumnus Award for his accomplishments.

"I really cherish the time I was in Syracuse. I made life-long friends and had really great mentors," he says. "Upstate is a phenomenal place for learning and gave me a very strong foundation in medicine. I'm trying to pay that forward in my field by developing novel ways of sharing information that can make an impact on all fronts: with physicians, allied health staff, and patients."

—Renée Gearhart Levy

Outside of work, Jhaveri enjoys cycling, running, pickle ball and soccer, as well as his sons' sports activities.

Jhaveri receiving his Outstanding Young Alumnus Award, pictured with Upstate President Mantosh Dewan, MD, Norton College of Medicine Dean Lawrence Chin, MD, and Barbara Anne Morisseau, MD '98, president of the Upstate Medical Foundation board of directors