ASN American Society of Nephrology

Kidney News

August 2026 | Vol. 18, Number 8

Innovative Approaches Needed to Advance Studies on Pediatric Kidney Diseases

By Bridget M. Kuehn

https://doi.org/10.62716/kn.003892026

It can take 13 years after clinical trial results to show that a therapy is safe and effective in adults before the drugs are tested and approved for pediatric use (1).

"It can feel really unfair if there are good treatments available for adults that are going to take 13 years before they reach the patients in front of you," explained Louise Oni, MBChB, MRCPCH, MA, PhD, professor of pediatric nephrology at the University College London Centre for Kidney and Bladder Health, UK.

That long gap puts pediatric patients, their parents or caregivers, and their pediatric nephrologists in a bind as they determine whether to consider off-label use of medications. Oni said that it can be challenging to explain the limited data on safety and efficacy for pediatric patients to family members, and physicians often must extrapolate dosing from adult data. "Sometimes there's shock, and sometimes they're so desperate for treatment that they would accept anything, but it puts a lot of pressure [on the clinician]," she said. "Off-label use is dependent on which clinicians would be willing to take that responsibility and allow that treatment to be used."

Rona Smith, MA, MB BChir, MD, associate professor of nephrology at the University of Cambridge and an adult nephrologist consultant at Cambridge University Hospitals, UK, noted that such off-label use may not be covered by insurance or included as an approved medication in some insurance plans, making access uneven and often inequitable. If off-label use becomes more widespread, it can also make conducting a trial more difficult, Smith noted.

With a growing number of new medications on the horizon for kidney diseases, there is an urgent need to overcome these challenges, close the gap between adult and pediatric research, and ensure that pediatric patients can benefit from new therapies sooner. Organized efforts are underway around the world to close the gap by leveraging data from adult trials, building research infrastructure to study often rare pediatric kidney diseases, using novel data analysis methods, and including pediatric patients earlier in the testing of new medications.

"There's a need to really unite the kidney community, make the pediatric trial infrastructure more efficient," Oni

Continued on page 3

KHI Calls for More Tolerable Immunosuppression Drugs for Kidney Transplant Recipients

By Karen Blum

https://doi.org/10.62716/kn.004002026

As a three-time kidney transplant recipient and one-time pancreas transplant recipient, Precious McCowan, PhD, MS, is well familiar with the ups and downs of immunosuppression medications and their side effects: brain fog and memory issues that slow down her ability to work, diabetic gastroparesis, nausea and vomiting, and swelling and weight gain.

With only a handful of drugs from which to select—most with side effects—McCowan and others who have received kidney transplants frequently find themselves in a tough place, wanting to preserve their graft while fighting to maintain their activities of daily living. "Most of us deal with them because we are happy that we have a kidney transplant," she said. "However, the side effects to these medications interfere with our quality of life."

At a workshop in May during the Kidney Health Initiative's (KHI's) Kidney Innovation Conference in Washington, DC, McCowan and other transplant recipients and care partners shared their struggles with about 50 to 60 audience members including nephrologists, members of industry, representatives from other kidney organizations, and the US Food and Drug Administration (FDA). First, they played a game with audience members, describing two

Continued on page 4

Inside

ASN American Society of Nephrology

KidneyNews

ASN Kidney News is published by the American Society of Nephrology
1401 H Street, NW, Suite 900, Washington, DC 20005. Phone: 202-640-4660

www.asn-online.org

ASN Kidney News is the authoritative source for analysis of trends in medicine, industry, and policy affecting all practitioners in nephrology. The statements and opinions expressed in *ASN Kidney News* are solely those of the authors and not of the American Society of Nephrology (ASN) or the editorial policy of the editors. The appearance of advertisements in *ASN Kidney News* is not a warranty, endorsement, or approval of the products or services advertised or of their effectiveness, quality, or safety. The American Society of Nephrology disclaims responsibility for any injury to persons or property resulting from any ideas or products referred to in the articles or advertisements. It is the policy of *Kidney News* to publish relevant disclosures of authors.

The American Society of Nephrology is organized and operated exclusively for scientific and educational purposes, including enhancing the field of nephrology by advancing the scientific knowledge and clinical practice of that discipline through stimulation of basic and clinical investigation, providing access to new knowledge through the publication of journals and the holding of scientific meetings, advocating for the development of national health policies to improve the quality of care for people living with kidney diseases, cooperating with other national and international societies and organizations involved in the field of nephrology, and using other means as directed by the Council of the Society.

Postmaster: Please send address changes to *ASN Kidney News*, c/o Customer Service, American Society of Nephrology, 1401 H Street, NW, Suite 900, Washington, DC 20005.

Publications mail agreement No. 40624074.

ASN Kidney News (ISSN print 1943-8044 and online 1943-8052) is an official publication of the American Society of Nephrology, 1401 H Street, NW, Suite 900, Washington DC 20005, and is published monthly 11 times a year except November. Periodicals postage paid at Washington, DC and at additional mailing offices. Subscription rates: $12 per year. To order, please email bhenkel@asn-online.org. Subscription prices subject to change. Annual ASN membership dues include $20 for *ASN Kidney News* subscription.

★ WINNER OF 5 DESIGN AWARDS ★

CORPORATE SUPPORTERS 2025

ASN gratefully acknowledges the Society's Diamond and Platinum Corporate Supporters for their contributions in 2025.

DIAMOND LEVEL

Akebia Therapeutics
ardelyx
NOVARTIS
novo nordisk®
Otsuka
TRAVERE THERAPEUTICS
Vantive
vera therapeutics
VERTEX

PLATINUM LEVEL

AstraZeneca
FRESENIUS MEDICAL CARE
Genentech
A Member of the Roche Group

Innovative Approaches Needed to Advance Studies on Pediatric Kidney Diseases

Continued from cover

said. "It needs to have everybody's involvement—that includes academics, patients, parents, industry partners, anybody in the pipeline to advocate for children—and hopefully then we'll start to see the gap closed."

Closing the gap

Results on the benefits of renin-angiotensin-aldosterone system inhibition in adult patients with immunoglobulin A (IgA) nephropathy were published in the mid-1990s, but the drugs did not become widely used in pediatric patients until a small trial of 100 pediatric patients was published in 2007 (1). Significant delays in testing newer therapies in pediatric patients persist, with no data yet on sodium-glucose cotransporter-2 (SGLT2) inhibitors—again, a 13-year gap—despite their wide use in adult patients with kidney diseases. Pediatric trials on SGLT2 inhibitors have just begun and will likely take a few more years to produce data, Smith noted.

Oni said that the 13-year gap represents some progress, but there is a need to better track the delay and overcome hesitance to launch pediatric trials earlier. She said that although some may worry that therapies in clinical trials are risky or experimental, in the currently heavily regulated clinical trial environment, often the drugs being tested may be the best option for patients, especially those with rare diseases.

Smith explained that structural factors also contribute to this gap. She noted that the number of pediatric patients is small, creating a smaller potential market for drugmakers. Cal Robinson, MBChB, PhD, FRCPC, FASN, a clinician-scientist and pediatric nephrologist at The Hospital for Sick Children in Toronto, Ontario, Canada, said that many pediatric patients have rare or congenital forms of kidney diseases, with only a few patients at each center. This requires coordination among many centers to amass enough patients to launch a trial. Smith noted that there may also be distinct disease processes occurring in pediatric patients, and not all endpoints in adult trials are relevant in pediatric patients. There are also stricter regulations on pediatric trials, which typically do not begin until after a drug has been proven safe and effective in adults, Smith said.

"All of those steps take a really long time," Smith said. "Children ultimately miss out on drugs that potentially will benefit them. Often, they have the most to gain—they are young, they have many years of life ahead, and if we can slow the decline in kidney function, that is very important."

There also has not been the same level of investment from funders in pediatric trials as there is in adult trials, Robinson noted. Researchers seeking grants for pediatric trials often compete with those studying adult kidney diseases that affect larger populations. Pediatric trials also often rely on surrogate outcomes because outcomes such as progression to kidney failure may not occur for many years, yet many alternative outcomes for pediatric patients have not yet been validated and adopted by regulatory agencies such as the US Food and Drug Administration (FDA) or the European Medicines Agency. But Oni said that regulators, including in the United States, are recognizing the need for and the complexity of pediatric nephrology and are leveraging their expertise to work with investigators. "There is a need for a whole library of endpoints suitable for rare kidney disease that particularly favor the pediatric population and earlier endpoints," Oni explained.

Moving the needle

Robinson noted that there are many reasons for optimism. "There are a lot of new therapies that have been approved for adult glomerular diseases and chronic kidney diseases that probably are relevant for pediatric kidney diseases as well," he explained. "There is growing recognition amongst regulators of the need to study these treatments in children."

New surrogate endpoints have been approved by regulators for glomerular diseases and chronic kidney diseases (CKDs) that may be useful in pediatric trials. In April, FDA approved sparsentan for children aged 8 years and older with focal segmental glomerulosclerosis (FSGS) based on the inclusion of 35 patients younger than 18 years in the phase 3 DUPLEX trial (NCT03493685), which used proteinuria as a surrogate biomarker (2). There are also a host of new therapies for IgA nephropathy that may be useful in children as well as adults. Smith noted that the gap appears to be narrowing somewhat for newer IgA nephropathy therapies, which are now approved for adults, with about 15% of the trials listed in ClinicalTrials.gov including pediatric patients.

Howard Trachtman, MD, FASN, an adjunct clinical professor of pediatrics in the Division of Pediatric Nephrology at the University of Michigan, noted that the case for including pediatric patients with FSGS and IgA nephropathy is clear, given the similarities between pediatric and adult glomerular disease and the severity of these conditions. Progress is also being made in studies for the 40% to 50% of pediatric patients with kidney diseases who have congenital kidney anomalies, Trachtman said. He noted that congenital disease often progresses more slowly in this cohort, which may reduce the sense of urgency to include them in trials of new medications. Oni and Trachtman are currently coinvestigators in the EMPA-KIDNEY Kids randomized controlled trial (NCT07107945), which also uses proteinuria and glucosuria as a combined surrogate endpoint and is currently underway to test the effects of the SGLT2 inhibitor empagliflozin in pediatric patients with CKD of any etiology (3). "The endpoints that are being evaluated in these trials are accessible and may not be perfect, but they clearly point in the direction of efficacy," Trachtman said. "It is an important thing that's making clinical trials more feasible in pediatric chronic kidney disease."

Innovative approaches

Pediatric trial networks around the world are also creating the infrastructure to conduct high-quality pediatric trials, Trachtman relayed. Investigators are also leveraging extrapolation and other methods to derive information from adult trials or observational studies to aid pediatric patients and accelerate pediatric trials, he noted.

Oni leads The LifeArc-Kidney Research UK Centre for Rare Kidney Diseases, which is conducting age-inclusive research on rare kidney diseases (4). The project received $10 million from the nonprofit company LifeArc and is working with 13 pediatric nephrology clinics across the UK. Oni and her team are leveraging the National Health Service's data infrastructure to follow patients from childhood through adulthood and are building a national biobank of adult and pediatric samples. "We have incredible infrastructure that follows patients across their life course," she said. "That ability is strengthened by our universal health system. We do not lose patients, and we can track their kidney outcomes and other hard outcomes to determine if treatments have a significant impact on the natural history of disease," Oni explained.

The project has developed master protocols for collecting samples from pediatric and adult patients, including patients with specific disease subgroups, to equitably facilitate research on all rare kidney diseases. It is also working to harmonize care across the 13 participating pediatric centers. Oni said she believes the model could be adapted for use in other countries and other health systems.

Robinson, who coleads the Canadian Childhood Kidney Disease and Blood Pressure Trials Network (KIDBP-Trials), is similarly leveraging Canada's national health system infrastructure and collaborations with other trial networks across Canada and around the world to facilitate pediatric trials. He is also leveraging existing observational data to emulate clinical trials comparing existing therapies for pediatric kidney diseases (5). He noted that the variability in current practice is facilitating this and that he and his colleagues adjust for potential biases and confounders. He said that emulated trials can provide valuable information on the comparative efficacy of currently used therapies, helping facilitate shared decision-making with parents or caregivers. "It's much more efficient and feasible to do," Robinson explained. "In pediatrics, we do have a lot of observational data and long-term outcome data available, and [the data] can overcome some of the limitations of traditional observational analyses."

Last year, the Kidney Health Initiative hosted a workshop on extrapolating data from adult clinical trials to pediatric populations (6). Trachtman noted that FDA is encouraging this approach. "If you can show that the natural history of a disease and the general response to therapy [are] similar, it has significant implications for the ability to limit the amount of research that needs to be done to prove the efficacy of novel therapies in pediatric kidney disease compared to adults," he explained.

Robinson noted that it is no longer ethically defensible to exclude pediatric patients from clinical trials. Smith and Oni urged adult nephrologists to advocate for the inclusion of pediatric patients in clinical trials to sustain ongoing progress.

Trachtman said he is also optimistic because, despite some distinct challenges in conducting clinical trials in this population, there is growing recognition of the need, collaboration in the field, and the use of innovative approaches to maximize the use of existing data to facilitate trials.

"People are recognizing that the cost of kidney failure in pediatrics is profoundly underestimated and that there's a real urgency to address the topic so that thoughtful policies can be developed that will facilitate the conduct of clinical trials," Trachtman explained. "These are all favorable steps to make the performance of clinical trials in pediatric nephrology part of the landscape."

References

1. Oni L, et al. Bridging the 13-year evidence gap: A time for age-inclusive research. *J Am Soc Nephrol* 2024;35:502–504. doi: 10.1681/ASN.0000000000000301
2. Campbell P. FDA approves sparsentan for pediatric FSGS. *Contemporary Pediatrics*. April 13, 2026. https://www.contemporarypediatrics.com/view/fda-approves-sparsentan-for-pediatric-fsgs
3. Oni L, et al. WCN26-9365: Pharmacokinetics, safety and efficacy of empagliflozin in paediatric patients with chronic kidney disease: Design of the EMPA-Kidney Kids randomised controlled trial. *Kidney Int Rep* 2026; 11:105789. doi: 10.1016/j.ekir.2026.105789; https://www.sciencedirect.com/science/article/pii/S2468024926020206
4. The LifeArc-Kidney Research UK Centre for Rare Diseases. Kidney Research UK. Accessed June 4, 2026. https://www.kidneyresearchuk.org/research/information-for-researchers/rare-and-paediatric-kidney-diseases/lifearc-centre
5. Robinson CH, et al. Target trial emulation in paediatric research: How can causal effects be estimated from observational data? *Lancet Child Adolesc Health* 2025; 9:663–672. doi: 10.1016/S2352-4642(25)00131-2
6. Trachtman H, Creighton C. Using extrapolation to accelerate clinical trials in pediatric nephrology. *Kidney News*, October 2025; 17(10/11):45. doi: 10.62716/kn.001172025; https://www.kidneynews.org/view/journals/kidney-news/17/10/11/article-p45_44.xml

KHI Calls for More Tolerable Immunosuppression Drugs for Kidney Transplant Recipients

Continued from cover

fictitious immunosuppressant medications with side effects and letting the audience members vote on the best one for each patient's situation.

Some audience members expressed frustration that they only had two drugs from which to choose, each with unpleasant side effects, and neither would be right, said McCowan, a national kidney disease patient advocate and member of KHI's Patient and Family Partnership Council (PFPC). "That's the point," she said. "We don't have many drugs to select from, so that's why we need more therapies" for better patient choice.

Panelists also shared results of a recent survey by the American Society of Transplantation that assessed transplant recipients' perceptions of unmet immunosuppressant needs (1). Among 10,091 adult and pediatric respondents, nearly all (92%) reported at least one side effect, with the majority (54%) of side effects rated as having a "moderate" or "great deal" of impact on daily life. As KHI is a partnership between ASN and FDA, "We're hoping that in the near future [the FDA considers] this information we shared about symptoms and side effects as [it is] making new developments," McCowan said, such as potentially altering ingredients of drugs to target patient concerns.

KHI's goal in this focus is to help create a pathway for developing better immunosuppressive therapies that reduce the long-term burdens that patients face, including cardiovascular complications, malignancies, and other treatment-related side effects, said Sejal Patel, MD, FASN, CCRP, a pancreas and two-time kidney transplant recipient and member of KHI's PFPC.

"Studying immunosuppression in transplantation is challenging because there is always concern about exposing a patient to risk," noted Patel, a medical science liaison at the Mayo Clinic in Arizona. "Even though we have become much better at managing rejection, the possibility of a patient losing a transplanted organ is something no one takes lightly. At the same time, many patients are willing to accept some degree of risk if it means the opportunity for better long-term outcomes and fewer treatment-related side effects."

The group hopes to identify meaningful patient-reported outcomes and other patient-centered endpoints that can be used in future research, Patel said. "By generating stronger data around what matters most to patients, we hope to encourage industry, researchers, and regulators to support clinical trials focused on improving immunosuppression while reducing treatment burden by putting patients' voices first in this process."

It has been well over a decade since the last approval of an immunosuppressant for kidney transplant recipients (belatacept in 2011), said Ogo Egbuna, MD, MS, MSc, FASN, a member of KHI's board of directors and vice president of clinical development for genetic and autoimmune kidney disease at Vertex Pharmaceuticals in Boston, MA. Ninety-plus percent of patients are being treated with just three drugs—tacrolimus, mycophenolic acid, and steroids—and "the pipeline is very, very meager," he said. However, there have been some efforts in delayed graft function and in antibody-mediated rejection.

"There is a renaissance in nephrology, where we understand the immune system a whole lot better," Egbuna shared. "Lots of other drugs that work on the immune system are being designed and developed for other kidney diseases, but not for kidney transplantation, primarily because it's hard in the current regulatory framework to design a trial that's not too big and too long for sponsors."

The primary endpoints for immunosuppressant trials have shifted over time, from patient survival, to graft survival, to a composite of patient and graft survival, he explained. As graft survival improved, investigators looked at rejection rates and loss to follow-up. However, Egbuna said, "There are lots of other things that matter beyond whether you're alive or dead, you've lost your graft or not…. We need to broaden the framework for what is used to assess the benefit and risk of a drug in kidney transplantation, and it just hasn't happened."

In the cancer field, there is a well-established effort to use a framework to measure tolerability of oncology drugs, Egbuna noted. He and others at KHI aim to create something similar to assess safety and tolerability of immunosuppressant drugs. "We're working with some really good people [who] have worked in the oncology space and think that there's a good way to translate that learning in the kidney space as well," he said.

Meanwhile, Patel, McCowan, and others with KHI are bringing the message to a larger audience. In June, they moderated a panel discussion on the need for immunosuppression development through the patient lens at the American Transplant Congress's annual meeting in Boston. Additionally, Patel presented an abstract summarizing 10 areas of immunosuppression-related side effects that are concerning to patients: gastrointestinal issues, sexual and fertility concerns, bone weakness, swelling and weight change, neurologic and psychological problems, hematologic abnormalities, nephrotoxicity, infection susceptibility, malignancy risk, and cardiovascular complications.

Even as a nephrologist who has worked with patients, Egbuna said he learned so much from the workshop. "There are signs and symptoms that even physicians or health care [practitioners] in general take for granted" or feel like patients should just deal with, he said. "I think they helped highlight that...we should try for better." ■

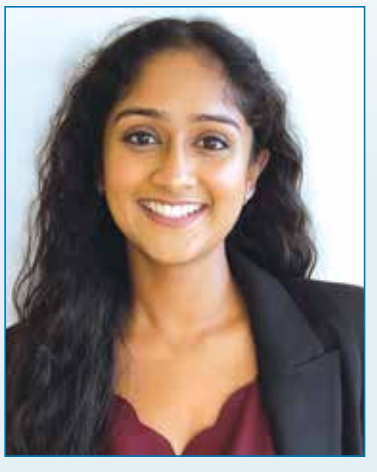
Reference

1. Taber DJ, et al. Therapeutic needs in solid organ transplant recipients: The American Society of Transplantation patient survey. *Am J Transplant* 2025; 25:2565–2577. doi: 10.1016/j.ajt.2025.07.2474

Congratulations to the 2026–2028

ASN Kidney News Editorial Fellows!

Priscilla Koirala, MD
Columbia University Irving Medical Center, New York, NY



Susan Jeevana Thanabalasingam, MD
The Ottawa Hospital, University of Ottawa, Ontario, Canada

Samiddhi Weerasiri, MD
Duke University Hospital, Durham, NC

Read their visions for nephrology training on pages 24–25.

KIDNEY WEEK 2026

October 21–25 | Denver, CO

Register Now for the World's Premier Nephrology Meeting

Join more than 12,000 kidney professionals from across the globe at ASN Kidney Week in Denver, CO.

Discover the latest scientific and clinical advances, learn from leading experts, and connect with the nephrology community.

SAVE UP TO $200.
Early registration rates end on Wednesday, September 9, at 11:59 p.m. EDT.

Register Today

www.asn-online.org/register

ASN President's Update

In DC, They Know ASN

By Samir M. Parikh

https://doi.org/10.62716/kn.003982026

Since the 1980s, ASN headquarters has been in Washington, DC. ASN's staff and leadership largely hail from the "DMV"—which for me had meant the Department of Motor Vehicles, where I waited hours for my first driver's license photo, but now understand it refers to the DC-Maryland-Virgina metro area. Every year, ASN hosts numerous events, meetings, and conferences in the District of Columbia.

Our nation's capital may seem like an obvious choice for a professional organization's headquarters, but that is not a given. For example, the American Medical Association (AMA) is based in Chicago, IL. The American Academy of Family Physicians is based in Leawood, KS, otherwise famous for being the purported location of Travis Kelce's marriage proposal to Taylor Swift.

Your ASN does not go to DC. Your ASN is DC.

During my first 6 months as ASN president, I visited DC often. ASN Council convenes in person for one weekend every winter and every spring at ASN headquarters to supplement our regular videoconferences. In April, I undertook my first set of visits to "the Hill." When you are "inside the Beltway," the Hill is Capitol Hill, the halls of the US Congress. As an aspiring physician–scientist for nearly 2 decades, my closest brush with federal influence had been the bucolic campus of the National Institutes of Health (NIH)—hilly for sure, but also not *the* Hill.

ASN logs time on the actual Hill for much of the year. When ASN is not on the Hill, it is communicating with congressional staffers; replying to requests for comments emanating from agencies within the Department of Health and Human Services (HHS), including the Centers for Medicare & Medicaid Services (CMS); interacting with other important agencies like the Department of Veterans Affairs; and coordinating policy and legislative priorities among ASN Council, committees, and staff and with sister organizations concerned with kidney health. There are more than 30 such groups, and some, such as ASN and the National Kidney Foundation (NKF), now have impactful advocacy teams.

Events like "Hill Day" bring ASN members, who serve on the society's policy-related committees, to the Hill every March during peak appropriations season (and sometimes in the fall as well). But the work of cultivating trust-based relationships among ASN's professional staff and legislators, congressional and agency staff, and policymakers unfolds every day.

ASN was not always *going* to DC despite always being in the DMV. In the 1970s, ASN deferred to the Physicians for Renal Replacement Therapy, which later became the Renal Physicians Association (RPA), around the new Medicare End-Stage Renal Disease (ESRD) Program (1). In the 1980s and 1990s, ASN focused its advocacy efforts on funding for kidney research by NIH. By the early 2000s, ASN was ready to engage in policies to advance kidney care, research, and education.

After establishing a public policy board—chaired by then-future ASN President Jonathan Himmelfarb, MD, FASN—to lead these efforts in 2006, the ASN Council hired Tod Ibrahim as executive director in 2008. Having started his career as a congressional staffer, Tod worked as a lobbyist (first on behalf of hospitals and hospital associations and then on behalf of academic internal medicine) before becoming the founding executive vice president of the Alliance for Academic Internal Medicine.

ASN's concerted investment in advocacy has yielded rapidly expanding dividends for our entire community, and ASN has partnered meaningfully with other members of the kidney health community every time it pursues one of the industry's important policies.

Highlighting each annual policy win is instructive because earning trust takes time, and trust can have a compounding effect. One of the "wonkier" indicators of trust for me has been the frequency with which ASN's proposed language on a new policy idea shows up in the final official policy.

The first 6 months of this year may have represented a new highwater mark for ASN's effectiveness on the Hill (Table). ASN championed advocacy to pass the Honor Our Living Donors Act into law, ASN supported the Expanding Support for Living Donors Act, and ASN convinced CMS to "indefinitely delay" the transition of research studies into the Chronic Conditions Warehouse Virtual Research Data Center (CCW VRDC). The Table lists other ASN policy accomplishments during the first 6 months of 2026.

During the second half of the year, I expect that ASN and the rest of the kidney community will continue to work together to advance policies that will improve the lives of millions of people living with kidney diseases. ASN Kidney Week 2026—taking place October 21st to 25th in Denver, CO—will feature a session on "Transformation Underway: Taking Stock of Transplant System Changes." Comoderated by ASN Transplant Policy Committee Chair Roslyn B. Mannon, MD, FASN, and RPA President Gary G. Singer, MD, FASN, this session will include the Christopher R. Blagg, MD, Endowed Lectureship in Kidney Diseases and Public Policy, and Priti Patel, MD, MPH, will present on "Transplant System Reform: A Congressional Perspective."

Despite this remarkable progress by ASN since the fledgling public policy board of 2006, some have mischaracterized the society as the "gown to the rest of nephrology's town." And yes, of course, ASN cares deeply about research and education. How else would innovation change the lives of millions of people living with kidney diseases, and where else would the workforce be trained? At the same time, ASN's mission centers on the care of the patient, the predominant share of which unfolds in the community. And the ASN Strategic Plan forcefully addresses the urgent need to assert the value of the clinical care we deliver (2).

On the Hill for 2 days, I observed the level of trust that members of Congress and their staff have in ASN. I was also impressed by how passionate members of Congress and their staff are about improving the nation's kidney health. As a result of many years of bipartisan engagement by ASN and others in the kidney community, kidney health issues are widely perceived as important and common sense areas for fruitful legislative collaboration across the aisle. I left the Hill assured that these observations and lessons reflect ASN's many years of hard work, intense focus, and compounding trust earned inch by inch. Together, ASN and the entire kidney advocacy community are making real progress.

In communications to its members, AMA refers to itself as "Your AMA." I doubt ASN will adopt the same possessive adjective, but I see the appeal. This year, Your ASN has gone everywhere: major media markets (3), major press outlets (4), and yes, even to Washington, DC. ■

Building the foundation: A decade of ASN policy "wins"

1. **2016** – Participate in the White House Organ Summit
2. **2017** – Secure a congressional request for the Government Accountability Office report on "Kidney Disease Research Funding and Priority Setting"
3. **2018** – Partner with HHS to launch KidneyX: The Kidney Innovation Accelerator
4. **2019** – Influence the Executive Order on Advancing American Kidney Health, particularly the Comprehensive Kidney Care Contracting and ESRD Treatment Choices care models
5. **2020** – Secure the passage of the "Comprehensive Drug Coverage for Kidney Transplant Patients Act"
6. **2021** – Work with the dialysis organizations to ensure COVID-19 vaccine distribution in dialysis centers
7. **2022** – Advocate for CMS to re-evaluate the Medicare ESRD program's monthly capitation codes and to elevate relative value units for certain outpatient dialysis management services
8. **2023** – Work with Congress to enact the Securing the US Organ Procurement and Transplantation Network (OPTN) Act and the administration to launch the OPTN Modernization Initiative
9. **2024** – Collaborate with the CMS Innovation Center (or the Center for Medicare and Medicaid Innovation) to influence the design of the Increasing Organ Transplant Access Model and to secure universal dental coverage for Medicare ESRD beneficiaries
10. **2025** – Preserve baseline funding for the National Institute of Diabetes and Digestive and Kidney Diseases and protect continued investments in KidneyX

Samir M. Parikh, MD, FASN, is a professor of internal medicine and pharmacology and the Chair of the Department of Internal Medicine at The University of Texas Southwestern Medical School, Dallas, and ASN president.

References

1. Blagg CR. *From Miracle to Mainstream: Creating the World's First Dialysis Organization: Early Years of Northwest Kidney Centers*. Northwest Kidney Centers; 2017. https://www.nwkidney.org/from-miracle-to-mainstream
2. Parikh SM. Hope in nephrology. *Kidney News*, January 2026; 18(1):6–7. doi: 10.62716/kn.002292025; https://www.kidneynews.org/view/journals/kidney-news/18/1/article-p6_4.xml
3. American Society of Nephrology. Love Your Kidneys! February 14–March 12. https://www.asn-online.org/loveyourkidneys
4. Parikh SM. Opinion. Letters. The many gifts of kidney donation. *The New York Times*. February 22, 2026. https://www.nytimes.com/2026/02/22/opinion/kidney-donation.html

Table. Selected ASN policy achievements, January to June 2026

Month	Achievements
January	▸ Comments on 2025 Measures Under Consideration ▸ Urges congressional leaders to support NIH and pass appropriations bill ▸ Comments on CY2027 Medicare Advantage Proposed Rule ▸ Responds to PTAC "Improving Multi-Payer Alignment in Value-Based Care" RFI
February	▸ Opposes Battelle's PQM "New Status for Measure Deferrals Beyond 6 Years" proposal ▸ Commends CMS's decision to indefinitely delay research studies using RIFs to CCW VRDC ▸ Commends enactment of the Honor Our Living Donors Act ▸ Submits comments on alternative payment model updates and the Increasing Organ Transplant Access Model ▸ Is featured in *The New York Times* on transplant issues ▸ Comments on CY2027 Medicare Advantage Advance Notice ▸ Commends congressional action on legislation to protect living donors
March	▸ Urges Congress to fully fund the Agency for Healthcare Research and Quality ▸ Urges Congress to provide $51.3 billion to NIH in FY2027 ▸ Supports the "Chronic Kidney Disease Management Act" of the Republic of Korea ▸ Urges Congress to support kidney community funding priorities in FY2027 ▸ Requests robust funding for NIAID and NIH ▸ Advocates for kidney health on Capitol Hill ▸ Releases new resources to protect people living with kidney failure ▸ Urges Congress to fund the Department of Veterans Affairs ▸ Testifies before House Ways & Means Subcommittee ▸ Applauds Representatives Marilyn Strickland (D-WA) and Joe Wilson (R-SC) for leading bipartisan push for $1 billion in kidney research funding ▸ Encourages congressional leaders' call for increased FY2027 funding for KidneyX ▸ Encourages congressional leaders' call for increased FY2027 funding for Living Organ Donation Reimbursement Program ▸ Comments on CMS's Strengthening Domestic Supply Chain for PPE, Essential Medicines ANPRM ▸ Comments on proposed revisions to the Organ Procurement Organization Conditions for Coverage
April	▸ Encourages lawmakers to urge HHS to establish Officer of Kidney Health and Transplantation ▸ Opposes proposed NIH funding cuts for FY2027 ▸ Works with HHS to announce $4 million KidneyX EMPOWER Prize Challenge and Health Technology Project to Advance Living Kidney Donation ▸ Secures commitment from HHS to work on nephrology data standards and interoperability with ASN and the kidney community ▸ Makes recommendations to CMMI on Kidney Care Choices Model ▸ Produces NephroEconomics webinar ▸ Partners with community for congressional briefing on kidney health ▸ Urges administration to enforce the No Surprises Act
May	▸ Asserts nephrology's value to US News & World Report's "Best Hospitals Rankings and Ratings" ▸ Urges Congress to enforce the No Surprises Act ▸ Urges NIH to elevate kidney research in the FY2027 to FY2031 strategic plan ▸ Engages with the National Institute on Minority Health and Health Disparities ▸ Applauds House introduction of bipartisan home dialysis legislation ▸ Urges Congress to increase investment in kidney health in FY2027 ▸ Nominates Deidra Crews, MD, FASN, for USPSTF ▸ Hosts National Coordinator for Health Information Technology at the Kidney Innovation Conference ▸ Meets with CMMI to discuss the potential for an updated Kidney Value-Based Care Model ▸ Hosts (with NKF) meeting with industry leaders focused on xenotransplantation innovation and possible future payment pathways
June	▸ Requests meeting with NIH director to discuss "Transforming Kidney Health Research" report ▸ Produces Quality Committee's Exploring the Quality and Regulatory Landscape in Nephrology webinar ▸ Participates in the AMA Annual Meeting ▸ Secures historic focus on kidney research at NIDDK in funding bill from the US House of Representatives Labor, Health and Human Services Appropriations Committee, reflecting "Transforming Kidney Health Research" report ▸ Responds to Battelle's PQM Spring 2026 Endorsement and Maintenance comment period ▸ Unveils "ASN eGFR Toolkit 2.0" at Council of Medical Specialty Societies Encoding Health Equity Summit 2026

ANPRM, Advance Notice of Proposed Rulemaking; CMMI, Center for Medicare and Medicaid Innovation; CY, calendar year; eGFR, estimated glomerular filtration rate; FY, fiscal year; NIAID, National Institute of Allergy and Infectious Diseases; NIDDK, National Institute of Diabetes and Digestive and Kidney Diseases; PPE, personal protective equipment; PQM, Partnership for Quality Measurement; PTAC, Physician-Focused Payment Model Technical Advisory Committee; RFI, request for input; RIFs, research identifiable files; USPSTF, US Preventive Services Task Force.

ASN Works to Defend Research Across the Federal Government and Improve Care by Educating Patients and Primary Care Clinicians

By Paul Renner

https://doi.org/10.62716/kn.004182026

OMB proposed rule to fundamentally alter federal award framework

On May 29th, the Office of Management and Budget (OMB) published a proposed rule, "Regulation for Federal Financial Assistance" (1). If finalized, as proposed for the next fiscal year, beginning on October 1, 2026, this rule would make sweeping changes to federal grants and pose significant threats to the nation's research framework. ASN and its partners within the kidney community are deeply concerned that several provisions could undermine the stability, independence, and effectiveness of federally funded research—including research that drives advances in prevention and treatment of kidney diseases—and transplantation.

Among ASN's primary concerns are provisions that would require federally funded activities to align with administration priorities, require senior political appointees to review discretionary awards, and expand agencies' authority to terminate grants that are no longer considered consistent with agency priorities or the "national interest." Collectively, these provisions could weaken the peer-review process and introduce uncertainty into the federal research enterprise.

The review of grants by political leadership undermines the peer-review process. ASN believes funding decisions should continue to be guided by scientific merit through rigorous peer review. Expanding agencies' ability to terminate grants after they have been awarded could reduce the predictability that researchers need to pursue long-term scientific discoveries. This policy threatens scientific independence and introduces uncertainty that ASN is concerned will disincentivize talented professionals from pursuing research as a career.

Other sections of the proposed rule would limit federal funding from being used to defray the costs of publication fees, conference participation, professional engagement activities, and other activities essential to the dissemination of scientific knowledge. These limits not only harm researchers but also create new barriers to the critical collaboration process and slow the implementation of the findings. ASN believes these activities are essential components of the scientific process and critical to translating research discoveries into improvements in patient care.

The ASN Council, in coordination with the four relevant ASN policy committees (Health Care Justice, Policy and Advocacy, Quality, and Transplant Policy), drafted ASN's response to the proposed rule (2). ASN's comments highlight the proposed rule's potential impact on kidney research and patient care, while urging OMB to rescind the proposed rule or at least make significant revisions before its final enactment.

ASN also collaborated with the American Kidney Fund, the American Society of Pediatric Nephrology, and the National Kidney Foundation to submit a joint response (3) that similarly advocates that OMB rescind the proposed rule or make significant revisions before its enactment.

ASN is also actively coordinating with multiple broader medical and scientific research coalitions, including the American Medical Association, Research!America, The Ad Hoc Group for Medical Research, and the Coalition for Health Funding, to oppose the proposed rule and advocate for revisions that preserve scientific independence and strengthen the nation's research enterprise. ASN joined over 80 other organizations in urging Congress to pair robust, bipartisan funding with strong oversight to ensure research investments are implemented transparently and predictably (4).

Given the contents of the proposed rule, ASN anticipates either congressional intervention, or more likely, legal challenges once the rule is finalized. Also, it is crucial that OMB hears from both a large number and wide range of stakeholders that would be impacted by the policy changes, and ASN had encouraged the kidney community to submit individual responses by the July 13th deadline. Strong engagement from the kidney community will reinforce the importance of maintaining a federal research enterprise that is independent, predictable, and capable of advancing innovations that improve the lives of people living with kidney diseases. The society will continue to advocate for sustained, predictable research funding that is essential to accelerating progress toward ASN's vision of a world without kidney diseases.

Advancing kidney care and research through legislative engagement

In addition to its engagement with executive rulemaking, ASN has encouraged bipartisan congressional support for recently introduced legislation bolstering patient education and directing kidney research investment, while additionally advocating for the protection of critical National Institutes of Health (NIH) funding.

ASN voiced support for the bipartisan Kidney Disease Education Access Expansion Act of 2026 (HR 9509) (5), which would provide education to people at high risk for chronic kidney disease, enabling them to access treatment sooner, understand treatment options, and slow the progression of the disease. ASN President Samir M. Parikh, MD, FASN, stated, "The single most important thing we can do to treat kidney failure is to prevent it in the first place. The Kidney Disease Education Access Expansion Act substantially improves our ability to help Americans affected by kidney diseases never progress to kidney failure. I commend Rep. DelBene and Rep. Joyce for introducing this legislation."

ASN additionally endorsed the Bipartisan PKD [polycystic kidney disease] Cures Act (HR 9169) (6) and commends the bipartisan leadership involved in its markup. This promising bill has the potential to improve the lives of the 600,000 Americans living with PKD by developing a comprehensive roadmap for PKD research and directing NIH to expand this research across basic, translational, and clinical science.

In collaboration with The Ad Hoc Group for Medical Research (7) and the Coalition for Health Funding (8), ASN urged Congress to support the existing research framework in the Labor, Health and Human Services, and Education fiscal year 2027 appropriations process. These coalitions applauded Congress's rejection of proposed NIH cuts and highlighted the critical importance of funding scientific research while voicing concerns regarding disruptions to NIH and cuts to other agencies.

ASN Health Care Justice Committee updates eGFR Toolkit

With funding support from the Council of Medical Specialty Societies (CMSS) and the Doris Duke Foundation, the ASN Health Care Justice Committee revised and expanded the ASN eGFR [estimated glomerular filtration rate] Toolkit (9) to reflect the latest evidence, clinical guidance, and implementation resources related to the use of the race-neutral eGFR equation. Recognizing the critical role of primary care clinicians in the early identification and management of kidney diseases, the committee also tailored the toolkit to better meet their needs. The updated resource provides practical guidance and implementation tools to support the adoption of the race-neutral eGFR equation in primary care practice. The updated toolkit was featured at the 2026 Encoding Health Equity Summit (10), where ASN Senior Policy and Government Affairs Coordinator Lauren Ahearn participated in a panel discussion and presented a poster highlighting strategies to raise awareness, resolve misconceptions, and support the adoption of the race-neutral eGFR equation.

ASN will disseminate the updated eGFR Toolkit by using a comprehensive mix of print and digital channels. To reach beyond the kidney community, ASN will collaborate with organizations, such as CMSS, the American College of Physicians, and other health professional societies, so that the information and benefits of the updated toolkit are shared with the greater medical community, with an emphasis on targeting a primary care audience for earlier detection and better management of people with or at risk for kidney diseases.

Paul Renner is with the policy team at ASN.

References

1. National Archives. Regulation for federal financial assistance. *Federal Register*. May 29, 2026. https://www.federalregister.gov/documents/2026/05/29/2026-10817/regulation-for-federal-financial-assistance
2. American Society of Nephrology. Letter to the Honorable Russell Vought, Office of Management and Budget Re: Regulation for Federal Financial Assistance (RIN 0991-AC35). July 13, 2026. https://www.asn-online.org/policy/webdocs/ASN_OMB_ProposedRule2026_Final.pdf
3. American Kidney Fund et al. Letter to the Honorable Russell Vought, Office of Management and Budget Re: Regulation for Federal Financial Assistance (RIN 0991-AC35). July 13, 2026. https://www.asn-online.org/policy/webdocs/OMB_Proposed_Rule_2026_JointResponse_ASN_ASPN_AKF_NKF_Final.pdf
4. Academic Pediatric Association et al. Letter to the Honorable Mike Johnson and Honorable Hakeem Jeffries, US House of Representatives, and the Honorable John Thune and Honorable Chuck Schumer, US Senate. June 16, 2026. https://www.asn-online.org/policy/webdocs/NIH_Multisociety_sign_on_letter_6.16.26.pdf
5. US Congresswomen Suzan DelBene. Press release: DelBene, Joyce introduce bipartisan bill to expand patient understanding of kidney disease risks. June 26, 2026. https://delbene.house.gov/news/documentsingle.aspx?DocumentID=4368
6. Congressmen Emanuel Cleaver. Press release: Reps. Cleaver, Wasserman Schultz, Miller, Bacon introduce legislation to accelerate cures for polycystic kidney disease. June 5, 2026. https://cleaver.house.gov/media-center/press-releases/reps-cleaver-wasserman-schultz-miller-bacon-introduce-legislation
7. The Ad Hoc Group for Medical Research. Ad Hoc Group statement on NIH funding in the House Labor-HHS Appropriations Bill for FY 2027. June 10, 2026. https://www.asn-online.org/policy/webdocs/Ad_Hoc_Group_FY27_NIH_Funding.pdf
8. Coalition for Health Funding. For immediate release on House Appropriations Committee's fiscal year (FY) 2027 Labor-HHS-Education bill. June 10, 2026. https://www.asn-online.org/policy/webdocs/CHF_FY27_House_Bill.pdf
9. American Society of Nephrology, Excellence in Patient Care. ASN eGFR Toolkit. https://epc.asn-online.org/learning_course/egfr-toolkit/
10. Encoding Equity. Encoding Health Equity Summit 2026: Integrating Equity by Design. June 23, 2026. https://encodingequity.org/event/encoding-health-equity-summit-2026/=

Should We Continue ESAs in Patients With Cancer Undergoing Dialysis?

By Himabindu Yerneni and Arash Rashidi

https://doi.org/10.62716/kn.003542026

Anemia of chronic kidney disease (CKD) is characterized as a normocytic, normochromic, hypoproliferative anemia that develops as the glomerular filtration rate declines (1, 2). The introduction of erythropoiesis-stimulating agents (ESAs) has markedly improved the lives of people with CKD. The first recombinant epoetin alfa (EPO) was approved in the United States in 1989 (3). ESAs have decreased the need for blood transfusions, improved symptoms related to anemia, and likely improved patients' quality of life (3) (Figure).

Although a correlation has been established between ESAs and increased tumor growth among patients with cancer-related anemia, the association between ESA use and a higher incidence of cancer among patients undergoing chronic dialysis remains unclear (4). Trials from the early 2000s that targeted high hemoglobin levels suggested that recipients of ESAs had a higher risk of cancer progression, possibly related to higher ESA doses required to achieve these hemoglobin targets. Trials including Correction of Hemoglobin and Outcomes in Renal Insufficiency (CHOIR) (5) and Trial to Reduce Cardiovascular Events With Aranesp® Therapy (TREAT) (6) confirm risks above 13 g/dL (7).

A recent study by Kim et al. provides important new insights into the relationship between ESA dose intensity and cancer development among adults undergoing long-term dialysis (8). The analysis, based on Korean National Health Insurance Service data, included adults aged 19 years or older who received ESAs between 2006 and 2017. Eligible patients were followed from baseline to kidney transplant, cancer diagnosis, death, or the end of the study period. Average weekly exposure to short- and long-acting ESAs served as the primary measure of ESA use.

Researchers examined newly diagnosed cancers occurring within 6 months after the onset of long-term dialysis. Each cancer case was matched with four controls based on birth year, sex, follow-up duration, dialysis start year, and dialysis modality. Conditional logistic regression was used to assess the association between ESA exposure and cancer risk. Additional analyses evaluated ESA exposure during the 6 months preceding the cancer diagnosis and explored subgroup differences by age, sex, dialysis modality, ESA type, health care facility, diabetes, and hypertension.

With a median follow-up of 6.5 years, high-dose ESA use was more common among the cancer case group (53.8%) than the control group (48.8%). This relationship persisted across adjusted models and sensitivity analyses. The authors noted several limitations, including the absence of data on lifestyle risk factors such as smoking and alcohol use, incomplete information on functional iron deficiency and management of iron deficiency, and limited assessment of ESA administration routes.

These findings reinforce growing evidence that higher ESA dosing may carry additional risks for certain patients (8). Prior oncology trials such as the study of anemia treatment in head and neck cancer (ENHANCE) (9) and the Breast Cancer Erythropoietin Trial (BEST) (10) suggested similar concerns regarding ESA-related tumor progression, although results have varied across studies. The extended follow-up duration of this investigation provides a more comprehensive evaluation of cumulative ESA exposure and subsequent cancer risk. In the ENHANCE study, patients with head and neck cancer were treated to achieve hemoglobin levels of 14 to 15 g/dL, and the study demonstrated poorer progression-free survival among recipients of EPO (9). A Japanese study of patients with CKD stages 4/5 found no significant association between ESA treatment and cancer development (11). Notably, the average hemoglobin level in that study was 10.1 g/dL, which is relatively low. A *Cochrane* meta-analysis of 91 trials showed a greater mortality risk among participants with malignancy treated with ESA, restricted to those with baseline hemoglobin levels greater than 12 g/dL—levels that currently prohibit ESA initiation (12).

Huang et al. evaluated cancer risk in a population-based case-control study that included 7115 matched individuals with CKD or kidney failure who were using and not using ESAs (13). The risk of incident malignancy was 1.84 times higher with ESA treatment. Cancer risk increased with cumulative ESA dose, with the highest annual cumulative cohort showing the greatest risk (hazard ratio, 2.39). A Canadian study of 4574 patients newly on dialysis reported similar findings, with an increased risk of cancer among those with high-exposure ESA use (>70 µg per week) (14).

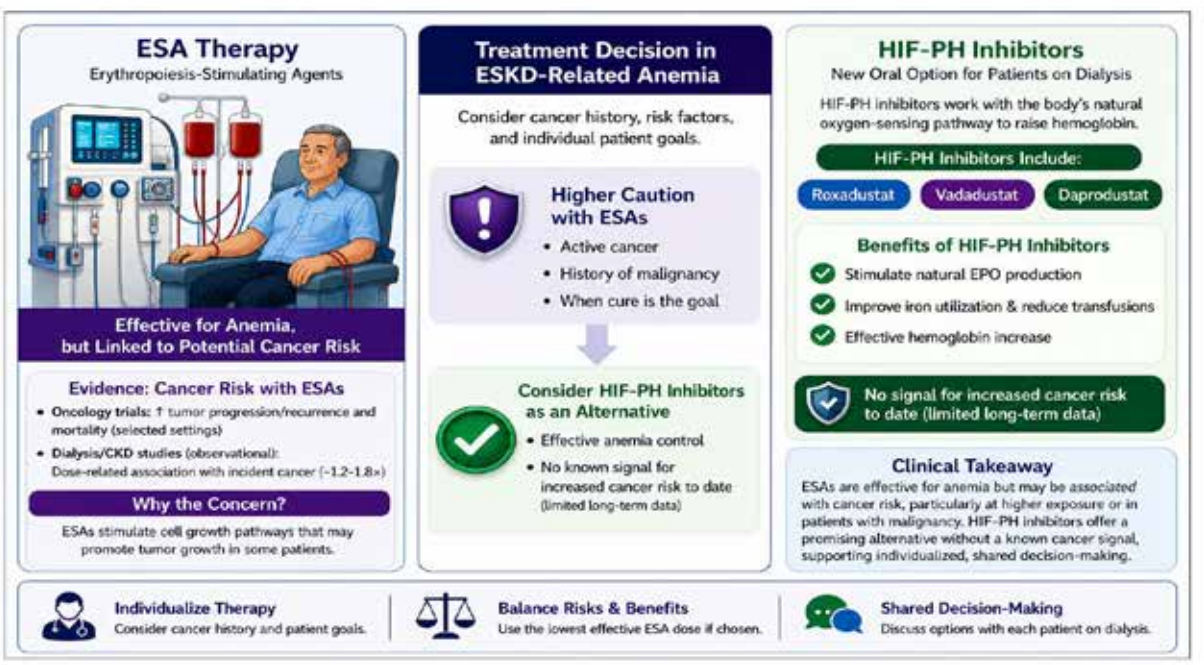
Taken together, current evidence suggests that a cumulative ESA dose, rather than ESA use alone, correlates more strongly with cancer risk. Despite limitations, this large population-based body of research underscores the need for careful risk-benefit evaluation when prescribing high-dose ESAs, particularly in older adults undergoing long-term dialysis.

Optimizing iron deficiency—particularly functional iron deficiency—in patients with cancer before initiating ESA therapy may reduce potential risk. There remains substantial opportunity for the development of novel therapies aimed at reducing inflammation and cancer risk in people with kidney failure. ■

Himabindu Yerneni, MD, and Arash Rashidi, MD, FASN, are with University Hospitals Cleveland Medical Center, Cleveland, OH.

The authors report no conflicts of interest.

Figure. Anemia treatment for patients on dialysis: Balancing benefits and cancer risk



Newer anemia treatments beyond iron supplementation include hypoxia-inducible factor prolyl hydroxylase (HIF-PH) inhibitors, which stimulate erythropoietin gene transcription in the kidney and liver, lower hepcidin, and enhance gastrointestinal iron absorption. Phase 3 trials demonstrate that roxadustat, vadadustat, and daprodustat are noninferior to conventional ESAs in hemoglobin maintenance and cardiovascular safety (15). A meta-analysis of daprodustat further supports their role in addressing the disordered iron homeostasis central to CKD anemia (12). Long-term safety data are limited, and adverse event profiles resemble those of traditional ESAs. Additional emerging strategies include sodium-glucose cotransporter-2 inhibitors, hepcidin-targeted therapies, and novel oral and intravenous iron formulations. ESKD, end stage kidney disease.

References

1. Bright R. *Cases and Observations Illustrative of Renal Disease, Accompanied With the Secretion of Albuminous Urine.* July 1, 1836:23–35. https://pmc.ncbi.nlm.nih.gov/articles/instance/5093576/pdf/medchirrev90201-0029.pdf
2. Badura K, et al. Anemia of chronic kidney disease—a narrative review of its pathophysiology, diagnosis, and management. *Biomedicines* 2024; 12:1191. doi: 10.3390/biomedicines12061191
3. Eschbach JW, et al. Correction of the anemia of end-stage renal disease with recombinant human erythropoietin. Results of a combined phase I and II clinical trial. *N Engl J Med* 1987; 316:73–78. doi: 10.1056/NEJM198701083160203
4. Babitt JL, et al.; Conference Participants. Controversies in optimal anemia management: Conclusions from a Kidney Disease: Improving Global Outcomes (KDIGO) conference. *Kidney Int* 2021; 99:1280–1295. doi: 10.1016/j.kint.2021.03.020
5. Inrig JK, et al. Effect of hemoglobin target on progression of kidney disease: A secondary analysis of the CHOIR trial. *Am J Kidney Dis* 2012; 60:390–401. doi: 10.1053/j.ajkd.2012.03.009
6. Pfeffer MA, et al.; TREAT Investigators. A trial of darbepoetin alfa in type 2 diabetes and chronic kidney disease. *N Engl J Med* 2009; 361:2019–2032. doi: 10.1056/NEJMoa0907845
7. Besarab A, et al. The effects of normal as compared with low hematocrit values in patients with cardiac disease who are receiving hemodialysis and epoetin. *N Engl J Med* 1998; 339:584–590. doi: 10.1056/NEJM199808273390903
8. Kim JY, et al. Erythropoiesis-stimulating agents and development of cancer among patients receiving dialysis. *JAMA Netw Open* 2026; 9:e260140. doi: 10.1001/jamanetworkopen.2026.0140 [Erratum: Wording change in Introduction. *JAMA Netw Open* 2026; 9:e269379. 10.1001/jamanetworkopen.2026.9379].
9. Henke M, et al. Erythropoietin to treat head and neck cancer patients with anaemia undergoing radiotherapy:

Randomised, double-blind, placebo-controlled trial. *Lancet* 2003; 362:1255–1260. doi: 10.1016/S0140-6736(03)14567-9
10. Leyland-Jones B.; BEST Investigators and Study Group. Breast cancer trial with erythropoietin terminated unexpectedly. *Lancet Oncol* 2003; 4:459–460. doi: 10.1016/s1470-2045(03)01163-x
11. Imai E, et al. Incidence of symptomatic stroke and cancer in chronic kidney disease patients treated with epoetins. *Clin Exp Nephrol* 2010; 14:445–452. doi: 10.1007/s10157-010-0308-x
12. Tonia T, et al. Erythropoietin or darbepoetin for patients with cancer. *Cochrane Database Syst Rev* 2012; 12:CD003407. doi: 10.1002/14651858.CD003407.pub5
13. Huang YS, et al. Erythropoiesis-stimulating agents and incident malignancy in chronic kidney and end-stage renal disease: A population-based study. *Clin Transl Sci* 2022; 15:2195–2205. doi: 10.1111/cts.13353
14. René É, et al. Association of erythropoiesis-stimulating agents and the incidence risk of cancer diagnosis among chronic dialysis patients: A nested case-control study. *Nephrol Dial Transplant* 2017; 32:1047–1052. doi: 10.1093/ndt/gfw268
15. Sharma N, et al. Therapeutic advancements in anemia of chronic kidney disease and end stage kidney disease. *Med Res Arch* 2024; 12. https://esmed.org/MRA/mra/article/view/5815

Breath Ammonia as a Biomarker: A New Frontier in CKD Detection

By Thomas Joseph and Holly Kramer

https://doi.org/10.62716/kn.003722026

The recent advancements in kidney disease treatments bring more urgency for the need to increase the detection and diagnosis of chronic kidney disease (CKD). Over 1 million individuals die from kidney failure each year due to lack of access to dialysis or kidney transplantation (1). Detection and diagnosis of CKD can facilitate the use of disease-modifying treatments that can delay or even prevent kidney failure and improve survival. However, diagnosis of CKD requires laboratory testing, which is expensive and not always accessible. A breath test for detecting kidney diseases could be a useful tool to identify individuals who need further laboratory testing to confirm and stage CKD. Breath tests have been used to estimate blood alcohol levels for suspected alcohol use while driving or to detect carbon monoxide to assess smoking cessation status in clinical or research settings (2). Other emerging areas of breath tests include screening for lung cancer or infections via detection of volatile organic compounds (2).

In advanced CKD, the accumulation of urea can lead to uremic fetor, a characteristic ammonia odor on the breath that can alert physicians to the presence of uremia, a clinical syndrome that occurs with kidney failure (3). In the 21st century, technology is transforming this historical observation of uremic fetor into a noninvasive diagnostic tool to quickly detect CKD. Ammonia is a byproduct of nitrogen metabolism that accumulates in the body (Figure). Because ammonia is toxic, especially to the brain, it must be converted to urea, a water-soluble metabolite excreted by the kidneys. When kidney function declines, urea levels in both serum and saliva increase. The urease in saliva and mouth bacteria converts urea into ammonia, which is eliminated in the breath (4). Urea breath levels in individuals with normal kidney function range from 120 to 530 ppb and from 710 to 10,400 ppb with reduced kidney function (5).

Chan et al. (6) evaluated the diagnostic accuracy of an ammonia breath test for detecting CKD, defined as an estimated glomerular filtration rate (eGFR) less than 60 mL/min/1.73 m^2. This study included 244 individuals living in Taiwan with all stages of CKD. The breathalyzer uses an organic channel semiconductor to detect ammonia. Whereas previous studies have examined breathalyzers for ammonia, this study showed that fasting for at least 4 hours improved the diagnostic performance of the urea breath test by 9% and increased the area under the receiver operating characteristic curve from 0.84 to 0.93.

Although this study shows a high accuracy for detecting an eGFR less than 60 mL/min/1.73 m^2, challenges for public health implementation remain (6). First, standardization of breath-sampling techniques is needed because breath ammonia levels could differ by the way a person breathes into the device. Ammonia levels can also be influenced by liver disease, mouth bacteria, and diet. As shown in this study, fasting may help mitigate the confounding by diet. More studies are also needed to establish reference ranges.

Overall, this recent study shows promise for a noninvasive method to detect CKD. A breath-based point-of-care approach could enhance screening of populations, especially in resource-limited settings, and efficiently determine who should receive further CKD testing. ■

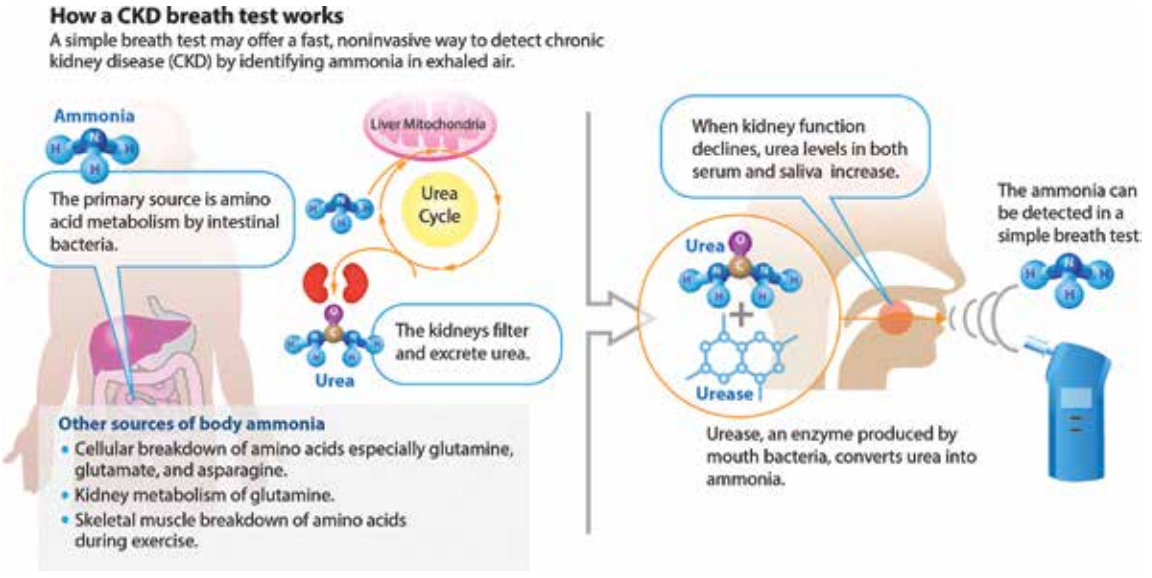
Thomas Joseph, MD, and Holly Kramer, MD, MPH, are with the Division of Nephrology and Hypertension, Department of Medicine, Loyola University Chicago, Maywood, IL.

Dr. Joseph reports no conflicts of interest. Dr. Kramer reports serving on Data Safety Monitoring Boards for Alexion Pharmaceuticals and being an educational consultant for Bayer Pharmaceuticals.

References

1. Liyanage T, et al. Worldwide access to treatment for end-stage kidney disease: A systematic review. *Lancet* 2015; 385:1975–1982. doi: 10.1016/S0140-6736(14)61601-9
2. Danforth KN, et al. Risk factors for urinary incontinence among middle-aged women. *Am J Obstet Gynecol* 2006; 194:339–345. doi: 10.1016/j.ajog.2005.07.051
3. Meijers B, et al. A historical perspective on uremia and uremic toxins. *Toxins (Basel)* 2024; 16:227. doi: 10.3390/toxins16050227
4. Bevc S, et al. Measurement of breath ammonia for detection of patients with chronic kidney disease. *Clin Nephrol* 2017; 88:14–17. doi: 10.5414/CNP88FX04
5. Bayrakli I, et al. Applications of external cavity diode laser-based technique to noninvasive clinical diagnosis using expired breath ammonia analysis: Chronic kidney disease, epilepsy. *J Biomed Opt* 2016; 21:87004. doi: 10.1117/1.JBO.21.8.087004
6. Chan MJ, et al. Breath ammonia test for chronic kidney disease screening: Impact of fasting on diagnostic accuracy. *Clin Kidney J* 2026; 19:sfag064. doi: 10.1093/ckj/sfag064

Figure. Breath analysis process for detecting CKD



Detective Nephron

Detective Nephron, world-renowned for his expert analytic skills, trains budding physician-detectives in the diagnosis and treatment of kidney diseases. Mackenzie Ula Densa (Mac), a budding nephrologist, plans to present a new case to the master consultant.

https://doi.org/10.62716/kn.004212026

Charts, lab slips, and a cup of black coffee lie in front of Detective Nephron. Mac enters, holding a thick folder, with nervous excitement.

Mac Detective, I've brought you a puzzling case.

Nephron (*sipping coffee*) Ah, my favorite. Let's see if this mystery is worthy of our time.

Mac (*flipping through the chart*) A 60-year-old woman with a remote, eight-pack-year history of smoking received a diagnosis of clinical stage III adenocarcinoma of the lung with a *RET* fusion who presents with AKI.

Nephron You are trying to make this about onconephrology. It seems like that is becoming a popular thing these days at all programs. Everyone loves this new field—which, frankly, is 20 years old—even more than cardio-oncology.

Mac (*winking*) But you know how cardiologists love to put themselves before everyone else—even in the name: *cardio-oncology* versus *onconephrology*.

Nephron (*leaning in*) So, tell me more about this patient of ours, while we digress.

Mac (*smirking*) Okay. So, she really has no past medical history, and she is not being treated with any medications except aspirin. She did not undergo any contrast imaging.

Nephron (*raising a brow*) But what is the renal issue?

Mac You mean the "kidney" issue?

Nephron Don't even get me started on the *renal* versus *kidney* nonsense.

Nephron tickles his fingers as he paces.

Mac The serum creatinine level increased from 0.62 to 0.96 mg/dL, and the eGFR decreased from 100 to 60 mL/min/1.73 m^2. Urinalysis is bland.

Nephron (*turning to Mac*) What's the big deal? This is likely prerenal, so maybe she was hypotensive.

Mac She's well-nourished, no diarrhea, no diuretics or chemotherapy, no endocrine disorder.... Her vitals are in a good range, and there is no prior history of hypotension.

Nephron So, what is the issue here? Urinalysis is bland. Urine electrolytes?

Mac Well, the urine electrolytes were not performed.

Nephron (*snapping fingers*) Well, then…. Why not?

Mac (*thinking*) Since there was no improvement after giving 2 L of fluids, they figured it's not prerenal. A kidney ultrasound was done, and it showed no hydronephrosis.

Nephron Precisely. No urine electrolytes and no point-of-care ultrasound. I wonder what is going on here….

Mac Wait, I forgot some important information that we only just found out. Unfortunately, the patient had forgotten, and the Epic chart was not linked with Epic's Care Everywhere. She has been receiving selpercatinib for the last few months to treat the lung cancer.

Nephron (*smiling, as if expecting the question*) Epic discovery, my friend! I am done with this case. Tell them to do nothing and send her home.

Mac Wait, I told them to do a cystatin C-based GFR test. Is that not what you would have wanted?

Nephron (*appearing bored*) Selpercatinib is a highly selective and potent RET kinase inhibitor used for treatment of RET-altered non–small cell lung cancer and medullary thyroid cancer. Increases in serum creatinine of up to 14% and 47% from baseline have been reported in patients treated with selpercatinib, and the increases are all mostly pseudo-AKI rather than a true decline in GFR.

Mac The active secretion of creatinine across tubular epithelial cells is mediated by OCT2, which is expressed on the basolateral membrane, and by MATE1 and MATE2-K, which are expressed on the apical membrane of the proximal tubular cells in the kidneys.

Nephron How common are these?

Mac These mechanisms account for 10% to 40% of all creatinine that is cleared, depending on kidney function. I hypothesized that the reported increase in the serum creatinine level during selpercatinib treatment could be a result of the inhibition of tubular secretion and not a true increase in creatinine.

Nephron Exactly. This can be seen with several other chemotherapy and targeted therapy agents.

Remember, Mac—don't forget the pseudo-AKIs.

Mac I thought this was more common with certain chemotherapy agents.

Nephron Several targeted anticancer agents are recognized to cause pseudo-AKI by inhibiting renal tubular creatinine secretion without reducing true GFR. These include the RET inhibitors selpercatinib and pralsetinib; the MET inhibitors capmatinib, tepotinib, and savolitinib; the ALK inhibitors crizotinib and lorlatinib; the CDK4/6 inhibitors abemaciclib, ribociclib, and, less commonly, palbociclib; and the PARP inhibitors olaparib, rucaparib, and talazoparib. These agents primarily inhibit OCT2 and/or MATE1/MATE2-K transporters in the proximal tubule, resulting in reduced creatinine secretion, a rise in serum creatinine, and an apparent decline in eGFR despite preservation of true kidney function. Recognition of this pharmacologic effect is essential to avoid misdiagnosis of true AKI, unnecessary discontinuation of effective anticancer therapy, and inappropriate diagnostic evaluation.

After 72 hours

Mac We assessed the serum cystatin level and directly measured the GFR months after the start of selpercatinib therapy. Because the 0.73-mg/L serum cystatin C level was normal (normal range, 0.62–1.19 mg/L), no adjustment to the selpercatinib dose was performed. The

patient was sent home. Eventually, a measured GFR (technetium-99m–labeled diethylenetriamine pentaacetic acid radioisotopic imaging) showed normal kidney function, with a GFR of 87.5 mL/min/1.73 m^2.

Nephron (*smiling knowingly*) Unlike creatinine, cystatin C is freely filtered by the glomerulus, completely reabsorbed and metabolized by the proximal tubular cells. It is not secreted by renal transporters and is not affected by muscle mass. Her cystatin C-based GFR was similar to the baseline value obtained before initiation of therapy.

Mac Yes, that's the one. Do you recommend cystatin C-based GFR for all patients with cancer?

Nephron Excellent question. To make it short and sweet, the best equation for dosing, monitoring, and following patients with cancer and receiving therapy is the CKD-EPI (creatinine-cystatin) equation. This calculation has been validated now at several centers and in an analysis of data of all GFR studies in patients with cancer.

A few moments of silence

Mac (*smiling*) Another mystery solved, Detective.

Nephron (*standing up, grabbing his New York-style coffee*) Indeed, Mac. But beware—the most dangerous villains are often the ones hiding in plain sight, prescribed every day without suspicion. ■

AKI, acute kidney injury; ALK, anaplastic lymphoma kinase; CDK4/6, cyclin-dependent kinase 4/6; CKD-EPI, chronic kidney disease epidemiology collaboration; eGFR, estimated glomerular filtration rate; MATE1, multidrug and toxin extrusion protein 1; MATE2-K, multidrug and toxin extrusion protein kidney-specific homologue; OCT2, organic cation transporter 2; PARP, poly (ADP-ribose) polymerase; RET, rearranged during transfection.

Detective Nephron was developed by Kenar D. Jhaveri, MD, FASN, professor of medicine at the Donald and Barbara Zucker School of Medicine at Hofstra/Northwell, Hempstead, NY. Special thanks are given to Rimda Wanchoo, MD, professor of medicine at the Donald and Barbara Zucker School of Medicine at Hofstra/Northwell; Sam Kant, MD, FASN, attending nephrologist and transplant physician at St. Vincent's University Hospital, University College Dublin, Ireland; and Prakash Gudsoorkar, MD, FASN, assistant professor of medicine at the University of Cincinnati, OH, for their editorial assistance. Send correspondence regarding this column to kjhaveri@kidneynews.org.

Wolters Kluwer

ASN
American Society of Nephrology

JASN® CJASN® KIDNEY360®

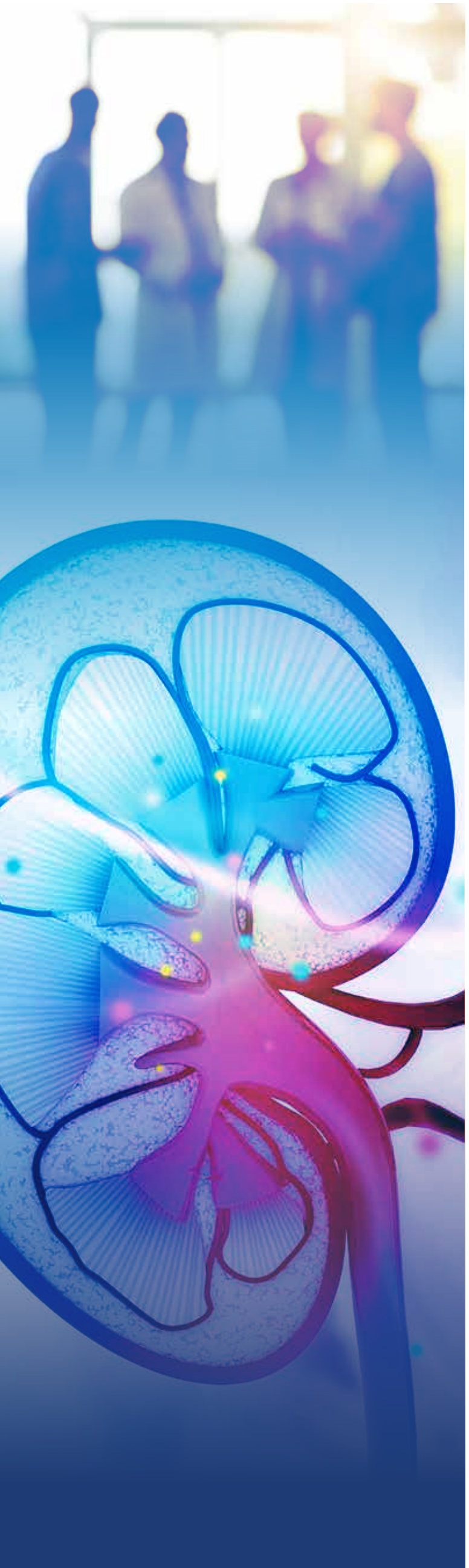
Understanding kidney–heart disorders: A new era of insight

Heart and kidney health are inseparable—and disruptions in one often impact the other. As cardiorenal syndrome and cardiovascular–kidney–metabolic syndrome rise in prevalence, clinicians need fast access to the latest science and perspectives.

ASN's newest multi-journal collection brings together breakthrough findings, expert analysis, and emerging therapies from ***JASN, CJASN,*** and ***Kidney360*** —all focused on improving outcomes for patients with CKD and related cardiovascular risk.

Explore the collection at https://kidney.pub/kidneyheart

6-Q067



FROM KNOWLEDGE TO JUDGMENT

Reclaiming the Fundamentals of Nephrology Education

By Jia Hwei Ng and Matthew A. Sparks

https://doi.org/10.62716/kn.004192026

The tools of medical education will continue to change. Social media transformed how nephrologists share knowledge; COVID-19 accelerated virtual learning and digital communities; and artificial intelligence (AI) is now reshaping how information is sourced, curated, synthesized, and framed. Each of these shifts has expanded what is possible in nephrology education. But technology is not education. It is a vehicle.

The foundation of medical education remains the same: helping learners acquire knowledge, develop judgment, apply concepts in practice, and translate learning into better care. In nephrology, this work is especially important. Our field requires more than recall. It requires physiologic reasoning, pattern recognition, risk assessment, longitudinal decision-making, communication, and the ability to act under uncertainty. Access to information is no longer the main limitation. The harder question is whether trainees can turn exposure into understanding and understanding into judgment and action.

In the first of this two-part *Kidney News* education series last month, we examined how nephrology training must evolve alongside advances in clinical care and proposed a tiered approach to competency development that preserves core training while allowing for focused expertise in selected domains. In this second issue, we turn from what nephrologists must learn to how learning happens, specifically how knowledge is reinforced, how judgment is developed, how communities support learning, and how education is translated into execution.

These questions are crucial as digital transformation reshapes medical education. Learners now have rapid access to information through social media, podcasts, online communities, virtual conferences, and AI-enabled tools. This access has made exposure to knowledge more immediate and continuous. It has also created challenges. Recognition can be mistaken for understanding. Repeated exposure to terms, phrases, or short-form explanations may create familiarity without depth. In addition, digital learning is often shaped by algorithms, popularity, and ease of production. Content that is concise, memorable, or widely shared may rise to the surface more readily than content that is difficult to explain or slow to master. As digital tools reshape how learners encounter information, the fundamentals of learning matter even more.

True learning requires more than repeated exposure to information. It requires learners to organize concepts, connect them to what they already know, and build a web of frameworks that can be used in different settings. It also requires clarity about the learner's goals. A fellow pursuing community practice, subspecialty expertise, research, education, or leadership may need not only different competencies but also a different way of seeing problems. More content is not always the answer. Sometimes the greater need is better judgment, more opportunities to translate knowledge into action, and the ability to view problems through different lenses depending on one's scope of responsibility.

This August issue brings together perspectives on how nephrology education is being built, practiced, and assessed. We begin with how COVID-19 changed social media in medical education and accelerated new forms of digital learning. We then examine academic judgment in the age of AI and consider what makes medical learning stick through engagement, practice, and community. The NephJC experience highlights community-based learning as a model for open, participatory education, while lessons from 10 years of the Nephrology Business Leadership University demonstrate how education can move from knowledge acquisition to execution and real-world readiness. Finally, discussions of board examinations, competency standards, and the in-training examination explore how assessment must evolve for modern clinical practice.

Together, these articles remind us that the future of nephrology education is not about choosing between traditional learning and new technology. It is about using new tools without losing sight of enduring educational principles. As the vehicles of education continue to change, the goal is to help nephrologists recognize what matters, understand when it matters, and apply it through the lens that their role requires. ■

Jia Hwei Ng, MD, is with the Donald and Barbara Zucker School of Medicine at Hofstra/Northwell, Hempstead, NY. Matthew A. Sparks, MD, FASN, is an associate professor of medicine and Fellowship Program Director in the Division of Nephrology, Duke University School of Medicine, Durham, NC.

The authors and special section coeditors report no conflicts of interest.

How COVID-19 Changed Social Media in Medical Education

By Muhammad Yasir Baloch and Muhammad Ulusyar Khan

https://doi.org/10.62716/kn.003672026

The COVID-19 pandemic did not introduce social media into medical education, but it accelerated a shift in its role. Before 2020, social media was often treated as an add-on to traditional teaching. When classrooms moved online, conferences went virtual, and professional communities became more physically isolated, those platforms quickly became central to learning, discussion, mentorship, and scholarly exchange. What began as a work-around lasted far beyond the crisis. In many ways, social media is currently part of the educational infrastructure of medicine (1).

The key question now is not whether social media mattered during COVID-19 but what remained afterward. One of the clearest post–COVID-19 shifts is that learners now expect education to be more immediate, interactive, and accessible. Educational content that once lived mainly in conference halls or local teaching sessions can now be translated into visual abstracts, threaded discussions, infographics, podcasts, short videos, and postpublication commentary. Post–COVID-19 medical education is also increasingly shaped by creator-driven content on platforms like YouTube, Instagram, and TikTok, where large followings and algorithms often determine what rises to the surface. Generative artificial intelligence is beginning to accelerate that shift by shaping how educational content is created, summarized, and shared, while also raising new questions about accuracy, attribution, and trust. That can expand access and engagement, but it also means influence is not always matched by depth or educational quality (1–3).

This shift has been especially meaningful in nephrology. Long regarded as intellectually demanding, the specialty has benefited from digital spaces that make complex physiology and clinical reasoning more visible and approachable. Post–COVID-19 nephrology education now extends beyond real-time discussion into a broader ecosystem of online journal clubs, interactive learning, disease-specific virtual communities, and podcast-based education. From NephJC's online journal club to NephMadness' gamified learning model, GlomCon's virtual disease-focused community, and Freely Filtered's podcast-based discussions, digital nephrology has diversified across formats while continuing to expand access, community, and educational reach beyond individual training programs (4, 5). A 2023 study of US nephrology fellows found meaningful engagement with free open-access medical education resources, underscoring how fully these tools have entered contemporary nephrology training (6).

Post–COVID-19, social media has also changed who gets to participate in medical education. Traditionally, educational conversations were shaped by local institutions, invited speakers, and established academic hierarchies. Digital platforms have widened that circle. Fellows, residents, early-career faculty, and clinician–educators without a major institutional platform now have more visible ways to share their work, contribute to educational conversations, and build a professional presence. Educational voices have emerged from a wider range of institutions, backgrounds, and career stages, including, importantly, from low-resource settings, where professional visibility, mentorship, and academic opportunities may be harder to access (1, 5).

At the same time, post–COVID-19 digital education has become more diversified and less platform-bound. What began as an expansion of real-time social media discussion has grown into a broader ecosystem of visual teaching, podcast-based learning, asynchronous commentary, and specialty-specific virtual communities. As Twitter evolved into X, and online audiences dispersed, medical educators had to adapt across newer and more distributed platforms. That shift also reinforced an important lesson: Strong educational content matters more than any single platform on which it appears. It also highlighted a newer challenge: As online communities became more dispersed, some of the cohesion and shared momentum that once defined nephrology's social media footprint became harder to sustain.

None of this should be mistaken for unqualified progress. The very features that make social media effective also introduce risk. Brevity can flatten nuance. Visual appeal can outpace evidentiary rigor. High engagement does not always signal high quality. In medicine, where patient care sits downstream of what we teach and amplify, those limitations matter. That is why the next phase of digital medical education must focus not only on participation but also on responsible participation. Learners need digital literacy, and educators need to model source appraisal, ethical communication, appropriate attribution, and respect for patient privacy (1–3).

Social media is no longer peripheral to medical education. It is one of the spaces in which learning, mentorship, and professional identity currently take shape. The responsibility now is to ensure that its reach is matched by rigor, credibility, and educational value. ■

Muhammad Yasir Baloch, MD, is an assistant professor of medicine in the Division of Nephrology at Washington University in St. Louis, MO, and director of Fellowship Outreach and Recruitment. Muhammad Ulusyar Khan, MBBS, is in the Division of Nephrology, Washington University in St. Louis.

The authors report no conflicts of interest.

References

1. Katz M, Nandi N. Social media and medical education in the context of the COVID-19 pandemic: Scoping review. *JMIR Med Educ* 2021; 7:e25892. doi: 10.2196/25892
2. Guckian J, et al. Social media in undergraduate medical education: A systematic review. *Med Educ* 2021; 55:1227–1241. doi: 10.1111/medu.14567
3. Miao J, et al. How to incorporate generative artificial intelligence in nephrology fellowship education. *J Nephrol* 2024; 37:2491–2497. doi: 10.1007/s40620-024-02165-6
4. Topf JM, et al. The evolution of the journal club: From Osler to Twitter. *Am J Kidney Dis* 2017; 69:827–836. doi: 10.1053/j.ajkd.2016.12.012
5. Shah SS, et al. Embracing the (r)evolution of social media and digital scholarship in pediatric nephrology education. *Pediatr Nephrol* 2024; 39:2061–2077. doi: 10.1007/s00467-023-06251-y
6. Larsen DM, et al. Engagement in free open access medical education by US nephrology fellows. *Clin J Am Soc Nephrol* 2023; 18:573–580. doi: 10.2215/CJN.0000000000000123

Training Academic Judgment in the Age of AI

By Paras Karmacharya

https://doi.org/10.62716/kn.003732026

In the age of artificial intelligence (AI), how much of the thinking has to be yours for the research to still be yours?

That is not a rhetorical question. It is the most pressing practical challenge facing researchers right now, at every career stage. This deliberation is not because I am skeptical of AI tools. I use them daily. But speed is not the same as judgment. And judgment, together with scientific rigor and accountability, matters today more than ever.

The real risk is not that AI gets things wrong.

AI gets things right often enough to sound authoritative. That fluency is the actual danger: When outputs look credible, investigators may stop doing the cognitive work that builds judgment (1, 2).

A research trainee, whom I supervise, recently handed me a literature review that read beautifully—clean synthesis, well-chosen citations, and compelling conclusions. When I asked him to walk through the papers, the gaps became visible immediately. Three of the four key studies had not been read in full. The synthesis was AI's. The understanding was not there.

Academic judgment is not a trait with which researchers are born. It means reasoning from incomplete evidence, noticing what does not fit, and taking ownership of a conclusion under uncertainty. It is built through struggle. Take away that resistance, and the foundation crumbles.

Each stage of research carries a specific risk.

- **Research design.** Asking AI for "a gap in the literature" skips the weeks of immersion that teach investigators what a real gap looks like. The question may be technically sound, but the intuition has not been earned.
- **Literature review.** AI produces what I call "premature coherence": a clean, confident narrative, assembled before the investigator has noticed the contradictions (3). Judgment requires sitting with those contradictions. AI is designed to resolve them quickly.
- **Data analysis.** When researchers hand off code and interpretation without grasping the underlying logic, they can describe the analysis, but they cannot defend it (4). That distinction matters when a reviewer asks a pointed question.
- **Writing.** The first imperfect draft is diagnostic (5). When AI produces it, researchers lose the opportunity to locate gaps in their own reasoning.
- **Peer review.** Reviewers who use AI to summarize manuscripts and generate critiques produce comments. They do not necessarily produce judgment (6). The difference matters for the integrity of the scientific record.

What does training judgment alongside AI actually looks like?

The goal is not to use AI less. It is to use it better.

Most of us reach for AI in scattered ways: a quick question here, a sentence cleanup there. That is the worst of both worlds. We still carry nearly all of the cognitive load and add the overhead of managing AI on top (3). Four principles make this concrete:

1) Offload completely or not at all.

Give AI a full task: first-pass retrieval, an outline draft, or a structured case summary. Scattered "micro asks" do not free enough mental space to matter. The middle ground is where quiet de-skilling happens.

2) Think first; then stress test with AI.

Generate your interpretation first; then ask AI for its version. Compare and reconcile. Asking AI first bypasses retrieval and deep engagement with the material (5).

Example: A trainee writing the discussion, outlines their own reading of the results in plain language first. Then they bring in AI's version. Where the two diverge, they ask why. That back and forth is the intellectual work.

3) Use AI to find errors, not fix them.

Ask "critique this argument" rather than "fix this argument." When AI surfaces the problem (instant feedback), and the researcher corrects it, they build the skill. When AI does the "fixing," that opportunity is gone (7).

4) Name the tasks that stay human.

AI can own first-pass retrieval, drafting, outline generation, and practice questions. What never transfers are assessment of a final interpretation, verification of every citation, judgment on clinical or scientific significance, and accountability for the work (7, 8).

Judgment is a capacity that cannot be outsourced.

Science requires researchers who can do something that AI cannot: Take ownership of an argument and defend it against alternatives that they have genuinely considered. That capacity develops slowly. It weakens when the hard work is consistently removed (1, 2).

AI is already in the research workflow. The question is whether we use it to sharpen thinking or let it become a replacement for thinking. Judgment is not a downstream outcome of research training. It is the point. Preserving the "hard parts" is the most important decision each of us faces and that every training program must make.

Ask this introspective question of your trainees. Ask it of yourself. Answer it deliberately, and you are building a researcher. Let it happen by accident, and you are building a dependency. And yes, I used AI to write this article. But every argument here is mine, and I take full accountability for it. ■

AI is already in the research workflow. The question is whether we use it to sharpen thinking or let it become a replacement for thinking.

Paras Karmacharya, MD, MS, is a physician-scientist, assistant professor of medicine, and director of the Psoriatic Arthritis and Spondyloarthritis Clinical and Research Program at Vanderbilt University Medical Center, Nashville, TN.

Dr. Karmacharya is a founder of Research Boost, an AI academic writing assistant. Dr. Karmacharya used Research Boost (April 2026 version) to perform literature review on this topic and Anthropic's Claude Opus 4.6 (April 2026 version) for proofreading. All references and proofread text were verified by Dr. Karmacharya.

References

1. Gerlich M. AI tools in society: Impacts on cognitive offloading and the future of critical thinking. *Societies* 2025; 15:6. https://doi.org/10.3390/soc15010006
2. Kosmyna N, et al. Your brain on ChatGPT: Accumulation of cognitive debt when using an AI assistant for essay writing task. *arXiv*. Cornell University. December 31, 2025. Accessed April 21, 2026. http://arxiv.org/abs/2506.08872
3. Wang S, Zhang H. Pedagogical partnerships with generative AI in higher education: How dual cognitive pathways paradoxically enable transformative learning. *Int J Educ Technol High Educ* 2026; 23:11. doi: 10.1186/s41239-026-00585-x
4. Dell'Acqua F, et al. Navigating the jagged technological frontier: Field experimental evidence of the effects of artificial intelligence on knowledge worker productivity and quality. Harvard Business School Working Paper, No. 24-013. September 2023. Accessed April 21, 2026. https://www.hbs.edu/faculty/Pages/item.aspx?num=64700
5. Karpicke JD, Blunt JR. Retrieval practice produces more learning than elaborative studying with concept mapping. *Science* 2011; 331:772–775. doi: 10.1126/science.1199327
6. Gao CA, et al. Comparing scientific abstracts generated by ChatGPT to real abstracts with detectors and blinded human reviewers. *NPJ Digit Med* 2023; 6:75. doi: 10.1038/s41746-023-00819-6
7. Abdulnour R-EE, et al. Educational strategies for clinical supervision of artificial intelligence use. *N Engl J Med* 2025; 393:786–797. doi: 10.1056/NEJMra2503232
8. Chelli M, et al. Hallucination rates and reference accuracy of ChatGPT and Bard for systematic reviews: Comparative analysis. *J Med Internet Res* 2024; 26:e53164. doi: 10.2196/53164

What Makes Medical Learning Stick? Designing for Engagement, Practice, and Community

By Richa Chhaya, Kishan Rao, and Samira S. Farouk

https://doi.org/10.62716/kn.003602026

A medical education classroom today might host educators and learners spanning several generations, including Baby Boomers, Generation X, Millennials, and Generation Z (1). Although these generation categories and characteristics associated with them do not necessarily apply to all people, it is likely that teaching and learning styles must evolve with time, particularly with the now nearly ubiquitous use of technology. Historically, most medical education has been delivered using a didactic lecture-style format, in conjunction with textbooks (2). Recent data have shown that this perhaps more archaic model is associated with ineffective learner engagement, which may ultimately lead to decreased retention of information, differences in performance, and reduced student satisfaction (2, 3); hence, traditional lecture-based medical education may be insufficient for modern learners. Here, we argue that durable learning requires integration of active participation, longitudinal community, and adaptive digital platforms. Two tenets that support this claim are the effectiveness of student-driven learning and the benefits of a positive, productive learning environment.

...durable learning requires integration of active participation, longitudinal community, and adaptive digital platforms.

Whereas the core of most medical education training programs revolves around an instructor-centered, didactic-style format, recent data have revealed that newer teaching models allow students more ownership of their education by fostering critical thinking and active participation (4)—with problem-based learning (PBL) being one such model—with evidence of improvement in student educational outcomes (5). In PBL models, students work together in small groups to solve a problem or learn about a subject with an instructor who serves as a facilitator (4). In a study that randomized students to traditional lecture-style learning or to a PBL model, those in the PBL group performed better on a post-test than the traditional group, suggesting improved recall and retention (5). A 2019 systematic review that assessed the efficacy of a hybrid PBL model found similar results: Students in the hybrid group had better long-term retention of information and markedly better performance scores on objective examinations than both the traditional and pure PBL groups alone (6). The hybrid PBL group also had higher degrees of student satisfaction (6). Specifically in nephrology education, hybrid and PBL models have been shown to improve learner satisfaction and performance, with learners demonstrating statistically significant improvements in both theoretical knowledge and problem-solving skills compared with traditional lecture-based teaching (3, 7). These results suggest that a combination of novel and traditional teaching methods may be an optimal middle ground for effective learning.

The complexity of nephrology has long driven innovation in medical education, from early contributions of Burton D. Rose, MD, to digital-learning platforms, like UpToDate, to more recent free open-access medical education initiatives, such as NephJC and NephSIM. NephSIM, a free web-based platform designed to teach nephrology through interactive cases, has demonstrated high levels of learner engagement and satisfaction, with over 95% of users reporting positive experiences and high case-completion rates (8), and qualitative and program-level data suggest improvements in clinical reasoning and even downstream effects on nephrology career interest (9). NephSIM Nephrons, a virtual mentorship program that leverages existing nephrology free open-access medical education tools, extends this model by pairing medical students and residents with faculty mentors in small groups, called "tubules." Tubules have the opportunity to learn together as a community, both via virtual sessions and chat groups that may cater to a variety of learning styles (10). A recent analysis found that small group-interactive learning fostered a sense of community among trainees and mentors (10). Preliminary data revealed that learners enjoyed the interactive, flexible learning model and valued the connections made with both peers and mentors. For some learners, the experience sparked an interest in pursuing nephrology as a longitudinal career (10).

In addition to offering students an active role in their learning, creation of a positive, productive learning environment with effective educators is also important. An example of this can be seen when assessing the peer-assisted learning (PAL) model, in which students of varying academic stages learn together by teaching each other relevant topics (11). A 2022 meta-analysis compared performance on both questionnaires and practical observed structured clinical examinations. The investigators found that there was a statistically significant difference in academic performance and medium-term retention, especially in relation to practical skills, with the PAL group performing better (11). The PAL model also allowed students to appreciate different approaches to learning, which ultimately resulted in optimal mutual understanding of information (11). Furthermore, a previous study reported that high-quality student–teacher interactions encouraged freedom of thought and cultivated enriching discussions, ultimately improving learning (12).

Feedback from NephSIM Nephrons' participants highlighted mentor engagement as an area for improvement in the program (10). Learners reported that the experience would have been improved if mentors had maintained regular and reliable correspondence in virtual group chats and encouraged small group conversation to assist in both retention of information and community building (10).

Overall, effective teaching of the modern learner requires a multifaceted approach. Encouraging the learner to play an active role in their academic experience may improve performance and retention of information. Furthermore, it is important to create a productive and positive learning environment among learners, along with having involved educators, all of which should build camaraderie and provide an enriching educational experience. ■

Richa Chhaya, MD, and Kishan Rao, MD, are second-year nephrology fellows at the Icahn School of Medicine at Mount Sinai and The Mount Sinai Hospital, New York, NY. Samira S. Farouk, MD, MS, FASN, is Professor of Medicine and Medical Education and Nephrology Fellowship Program Director in the Barbara T. Murphy Division of Nephrology, Department of Medicine, Icahn School of Medicine at Mount Sinai.

The authors report no conflicts of interest.

References

1. Sun E. From Boomers to Beta: A guide to the generation names. NBC News TODAY. September 26, 2025. https://www.today.com/parents/teens/generation-names-rcna137457
2. Stephenson CR, et al. The relationship between learner engagement and teaching effectiveness: A novel assessment of student engagement in continuing medical education. *BMC Med Educ* 2020; 20:403. doi: 10.1186/s12909-020-02331-x
3. Wu J, et al. Online-to-offline combined with problem-based learning is an effective teaching modality in the standardized residency training of nephrology. *BMC Med Educ* 2024; 24:712. doi: 10.1186/s12909-024-05675-w
4. Challa KT, et al. Modern techniques of teaching and learning in medical education: A descriptive literature review. *MedEdPublish (2016)* 2021; 10:18. doi: 10.15694/mep.2021.000018.1
5. Imanieh MH, et al. Evaluation of problem-based learning in medical students' education. *J Adv Med Educ Prof* 2014; 2:1–5. https://pmc.ncbi.nlm.nih.gov/articles/PMC4235539/
6. Jiménez-Saiz R, Rosace D. Is hybrid-PBL advancing teaching in biomedicine? A systematic review. *BMC Med Educ* 2019; 19:226. doi: 10.1186/s12909-019-1673-0
7. Liu CX, et al. Comparing hybrid problem-based and lecture learning (PBL + LBL) with LBL pedagogy on clinical curriculum learning for medical students in China: A meta-analysis of randomized controlled trials. *Medicine (Baltimore)* 2020; 99:e19687. doi: 10.1097/MD.0000000000019687
8. Farouk SS, et al. Design, dissemination, and assessment of NephSIM: A mobile-optimized nephrology teaching tool. *J Grad Med Educ* 2019; 11:708–712. doi: 10.4300/JGME-D-19-00443.1
9. Fattah L, et al. Trainee love and breakup letters to NephSIM: A free, mobile-optimized, nephrology teaching tool. *Clin J Am Soc Nephrol* 2023; 18:1135–1142. doi: 10.2215/CJN.0000000000000211
10. Farouk SS, et al. Preliminary outcomes of NephSIM Nephrons: A virtual mentorship program to foster interest in nephrology. *Kidney Med* 2024; 6:100899. doi: 10.1016/j.xkme.2024.100899
11. Brierley C, et al. Peer-assisted learning in medical education: A systematic review and meta-analysis. *Med Educ* 2022; 56:365–373. doi: 10.1111/medu.14672
12. Papanna KM, et al. Perceptions and preferences of medical students regarding teaching methods in a medical college, Mangalore India. *Afr Health Sci* 2013; 13:808–813. doi: 10.4314/ahs.v13i3.41

Community-Based Learning as a Model for Modern Medical Education: The NephJC Experience

By Anna Gaddy and Joel Topf

https://doi.org/10.62716/kn.004172026

It is easy to lament the decline of the traditional conference-room journal club. Since the time of Sir William Osler, journal clubs have provided opportunities not only for critical appraisal of scientific literature but also for mentorship, professional networking, and the exchange of ideas among colleagues (1). Among the recurring educational activities in medicine, the journal club stands apart. We do not attend lecture clubs, conference clubs, or grand-rounds clubs. The word *club* acknowledges that these gatherings have always been about more than education. They are social experiences, in which professional identity, relationships, and intellectual curiosity are cultivated along with critical appraisal skills.

In *Bowling Alone*, Robert Putnam described the erosion of civic organizations and communal activities that once formed the fabric of American social life (2). Journal clubs may represent a parallel phenomenon within academic medicine. As clinical demands and administrative responsibilities increasingly compete for physicians' time, these local communities have become difficult to sustain. The challenge facing modern medical education is not simply how to disseminate information but how to preserve the sense of community that made journal clubs valuable in the first place.

Physicians still seek the same benefits that journal clubs have historically provided. For most nephrologists, however, participation in a journal club effectively ends with fellowship training. Outside academic medical centers, opportunities for regular, structured discussion of the literature are uncommon. Many early-career nephrologists recognize this gap and aspire to create local journal clubs, but sustaining them amid the competing demands of clinical practice, administration, and family life is exceedingly difficult.

At the same time, the internet has fundamentally altered how professional relationships are formed. What began as a tool for accessing information has become a conduit for connection, allowing clinicians separated by geography, institution, and career stage to gather around shared interests. The question facing modern medical education is how these digital communities can be intentionally cultivated to support learning, mentorship, and professional growth.

In 2014, nephrologists Swapnil Hiremath, MD, MPH, FASN, and Joel Topf, MD, launched NephJC (3), a journal club that met on Twitter (now X) twice a month and was open to all participants. Any clinician, trainee, researcher, or patient with internet access could observe or join the conversation. What began as a novel approach to a journal club quickly evolved into a global community of practice centered on nephrology education.

Over the ensuing decade, NephJC expanded beyond its original format. The NephJC website provides detailed summaries of featured studies, placing new research into historical and clinical context while making complex trials accessible to a broad audience. Manuscripts that previously existed behind journal paywalls now have detailed summaries available to anyone with a web browser. Visual abstracts, blog posts, and educational reviews support different learning preferences and levels of expertise. During the summer months, the community gathers for a medical humanities book club. The Freely Filtered podcast extends discussion beyond the written page, often bringing trial investigators directly into conversation with clinicians and learners.

Importantly, these activities are not simply methods of content delivery. They create opportunities for participation. Learners, who enter as observers through mentorship and practice, develop into authors, editors, moderators, and leaders. Recognizing the importance of cultivating future generations of contributors, NephJC developed a formal training pathway through the NephJC Social Media Collective, which last year, evolved into the NephJC Editorial Internship. Through these programs, hundreds of fellows, residents, students, and early-career faculty have been trained in critical appraisal, medical writing, visual abstract design, and digital scholarship. Many have gone on to assume leadership roles within NephJC and beyond. By intentionally creating opportunities for participation and mentorship, the community has continually renewed and extended its educational impact beyond the original founders. This intentional workforce development has allowed NephJC to thrive where individuals have failed, by sharing the time and burden of organizing and producing a regular journal club.

The durability of NephJC has been tested by changes in technology consumption. As participation on Twitter declined, and online discourse migrated across platforms, engagement shifted as well. Some activities flourished; others waned—but the community itself persisted. This experience highlights an important lesson for medical educators: The platform is not the *thing*. The *thing* is the community. Social media, podcasts, blogs, and the inevitable technologies of the future are merely tools to facilitate interaction among learners and experts.

Today, NephJC continues to adapt its educational offerings while remaining committed to its original mission of increasing free, open-access nephrology education. The specific formats may change, but the underlying principles remain constant: accessibility, inclusivity, collaboration, and the belief that learning is fundamentally social. The lesson of NephJC is not that medical education needs more podcasts, websites, or social media accounts. Rather, it demonstrates that modern medical education is most effective when it creates communities in which learners, teachers, researchers, and clinicians participate together. The future of medical education does not depend on building new platforms; it depends on building communities that give purpose to those platforms. ■

Anna Gaddy, MD, FASN, is an associate professor of medicine and practices nephrology at the Medical College of Wisconsin, Milwaukee, and is an associate editor with NephJC. Joel Topf, MD, is a private practice nephrologist in Detroit, MI, and an assistant clinical professor of medicine at Oakland University William Beaumont School of Medicine, Rochester Hills, MI. Dr. Topf is a founding editor-in-chief of NephJC.

The authors report no conflicts of interest.

References

1. Linzer M. The journal club and medical education: Over one hundred years of unrecorded history. *Postgrad Med J* 1987; 63:475–478. doi: 10.1136/pgmj.63.740.475
2. Putnam RD. *Bowling Alone: The Collapse and Revival of American Community*. Simon & Schuster; 2000.
3. NephJC. Who are we? https://www.nephjc.com/who-are-we

From Education to Execution: Lessons Learned From 10 Years of NBLU

By Cynthia Miracle and Scott Mullaney

https://doi.org/10.62716/kn.003742026

More than 1 decade ago, those of us working closely with fellows noticed a recurring challenge. Fellows were graduating prepared to manage complex clinical conditions yet had little to no exposure to the business and operational realities of practice. What they did learn about "life after fellowship" was informal and unstructured. In addition, training programs provided only a limited, regional perspective. As a result, fellows often entered practice without a clear understanding of how careers in nephrology manifest.

This educational gap was recognized by us (C.M. and S.M.) in academic medicine and our collaborators in private practice and industry; together, we developed a week-long program attended by four fellows. Feedback from the fellows was overwhelmingly positive, highlighting the value of formalizing this educational activity for other fellows as well. Thus, the Nephrology Business Leadership University (NBLU) was born and has grown to educate over 70 fellows each year.

Designing the program

NBLU's key objectives have been to prepare fellows for the challenges of transitioning from training to practice, to provide a structured introduction to topics not typically covered during fellowship, and to promote engagement in the nephrology community. We realized early on that fellows graduate unaware of the range of career paths within nephrology, including opportunities in research, administration, advocacy, and education. The program provides exposure to these areas while also addressing practical topics such as finding a job, compensation models, and practice operations.

We designed a curriculum for graduating fellows' experience. Other resources on practice management exist but are often intended for physicians already in practice. NBLU instead introduces foundational concepts and builds toward a more comprehensive understanding over the course of the week.

Interactive learning has been a design cornerstone. As the program has grown, we have consistently adapted to preserve attendee engagement. We achieve this by using panel discussions, Q&As, game-based learning, and interactive workshops. In addition, fellows from different training programs are organized into small groups—each functioning as a "private practice." They collaborate throughout the week, culminating in a competitive capstone project, in which they pitch their start-up nephrology practice to nephrology leaders, using key concepts learned throughout the week.

Embracing a continuing, evolving curriculum

One thing that we have learned is to be adaptable. Every year, feedback from participants, both in real time and via surveys, is collected and used to refine both content and format. Less effective sessions are modified or replaced, and new topics are introduced as needed. As a result, the curriculum continues to evolve from year to year.

The content of NBLU has also shifted to reflect broader changes in medicine. Early iterations included introductions to professional use of social media, which, at the time, was a relatively new skill for many trainees. More recently, the focus has shifted toward understanding social media's evolving role. Looking ahead, topics such as artificial intelligence, data use, and changes in care delivery are becoming increasingly relevant and will be incorporated into the curriculum.

In parallel, there has been a shift in how trainees approach career planning. Issues such as workload, work–life integration, and long-term career sustainability are now more openly discussed and are an important part of decision-making. NBLU has incorporated these themes into sessions on job selection, career development, and leadership.

One of the program's strengths has been the collaborative environment that it creates. Fellows from different regions and training programs bring varied perspectives, allowing for comparison of practice models and institutional approaches. This exchange helps participants better understand the diversity within nephrology and the factors that influence career paths.

NBLU alumni

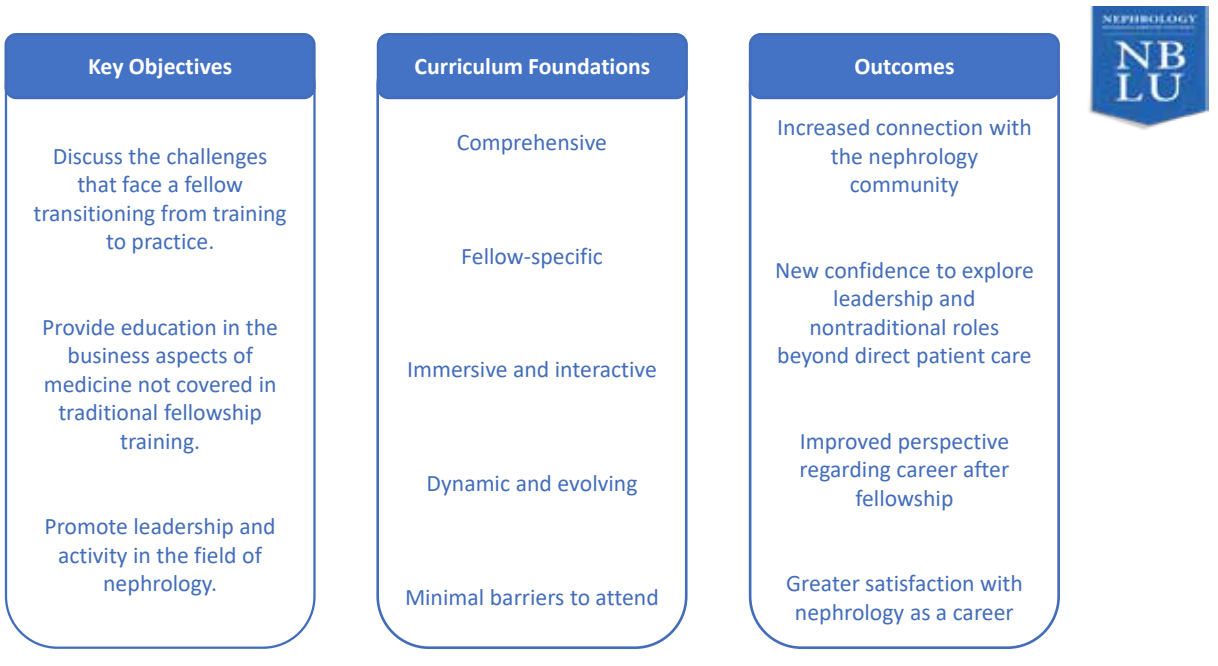
A key component of NBLU is to promote leadership and activity in our field. We are fortunate to have nephrology leaders join us over the course of the week to share their stories and struggles.

After 10 years, the impact of NBLU is evident in our alumni. Graduates have become program directors, division chiefs, practice leaders, and medical directors. In addition, they have become leaders in national organizations, advocacy, and public policy. Many alumni return to NBLU as mentors, panelists, and speakers, offering insights on early career decisions, leadership, and the evolving landscape of medicine. This peer-to-peer mentorship has become one of the program's greatest strengths.

NBLU was not universally embraced at its inception. Some questioned whether trainees should devote time to learning about the business of nephrology or whether the content would benefit those pursuing academic careers. Others were skeptical about an educational model that combined academia, private practice, and industry. However, we believed it was important to invest in those who had chosen nephrology—helping them build meaningful, sustainable careers. By sharing their experiences with their programs and colleagues, NBLU alumni validated our approach and were instrumental in our acceptance, growth, and evolution. We are thankful for the community-wide support we now have from academic programs, private practice leaders, industry, and society partners (American Association of Kidney Patients, Renal Physicians Association, National Kidney Foundation, and most importantly, ASN). Each of our collaborators has been instrumental in making NBLU a success.

Lessons learned

We take several lessons from this experience. Nontraditional collaborations can provide a multifaceted perspective and offer solutions that may not have been possible otherwise. Also, there is value in explicitly addressing aspects of medical practice not traditionally included in clinical training. Educational programs benefit from ongoing feedback and a willingness to adapt. Additionally, opportunities for interaction and peer learning can be as important as formal content. ■



Cynthia Miracle, MD, FASN, and Scott Mullaney, MD, MBA, FASN, are with the Division of Nephrology-Hypertension, University of California San Diego Health System. Dr. Miracle is also with the VA San Diego Healthcare System.

The authors report no conflicts of interest.

Acknowledgments: We appreciate the contributions from our co-creators of NBLU: Samir Nangia, MD, FASN; Parin Makadia, MD, MBA; and Louise Jacobson and our collaboration with the entire NBLU Oversight Committee, including US Renal Care, the Dallas Renal Group, and the Division of Nephrology, University of California San Diego.

How Board Exams and Competency Standards Must Evolve for Modern Clinical Practice

By Jeffrey S. Berns, Ursula Brewster, and Rudolph A. Rodriguez

https://doi.org/10.62716/kn.003682026

We have asked hundreds, maybe thousands, of applicants for nephrology fellowship why they wanted to go into nephrology, and the most common answer has been: renal physiology, which in reality has little to do with what most nephrologists experience in their daily clinical practice. Furthermore, the clinical practice of nephrology in 2026 is vastly different than it was just a few years ago. Modern nephrology is now much more than rounding in an outpatient hemodialysis unit, managing acute kidney injury, and prescribing an angiotensin converting enzyme inhibitor or an angiotensin receptor blocker for people living with kidney diseases or immunosuppressive agents for the rare person with glomerular disease. Now, nephrologists encounter home dialysis; understand and attend to social determinants of health and population health management; adapt to new payment models; and incorporate into daily practice genetics, new diagnostic tools, and an exploding pharmacologic armamentarium for diseases across the spectrum of nephrology. Additionally, where our knowledge is stored has moved from our brains and textbooks to the internet and more recently, artificial intelligence (AI) platforms.

Have the American Board of Internal Medicine (ABIM) Nephrology Certification Examination and the Maintenance of Certification (MOC) examination kept pace with these changes? Are they the proper tools for competency assessment in 2026? For initial certification, the ABIM exam tests medical knowledge and decision-making, but ABIM relies on program directors to attest to other areas, such as communication skills, professionalism, and procedural competency. For continuing certification, the 10-year MOC exam and the Longitudinal Knowledge Assessment (LKA) evaluate medical knowledge and decision-making, whereas hospitals and other health organizations monitor other areas like procedural competency and clinical care metrics. The introduction of LKA as a form of continuous engagement that provides immediate feedback with rationales and references is a welcome improvement over the traditional, once-every-10-year exam. In 2025, over 96% of nephrology diplomates (n = 3437) met the MOC assessment requirement through LKA (1, 2). Fundamentally, however, both the initial certification and MOC exams test knowledge far more than clinical competency. Given the recent pace of change in clinical nephrology, it might be argued that the ABIM Nephrology Blueprints for Initial Certification and MOC and LKA do not reflect the complexities of modern nephrology practice (3, 4).

The profession must continue to focus on training outstanding nephrologists and maintaining clinical competence among practicing nephrologists.

The time seems ripe to consider other assessment modalities to evaluate a range of clinical competencies, which, when used in conjunction with traditional multiple-choice exam questions, may allow for a more comprehensive appraisal of competence than multiple-choice exam questions alone. What might be a better competency assessment in 2026 and beyond? The initial certification and MOC exams' blueprints undergo a comprehensive review about every 5 years—a process that includes extensive diplomate and society feedback. A more limited review occurs annually. Given the rapid changes in clinical nephrology recently, the review period interval may need to be shortened to ensure that existing content and new test questions reflect modern clinical practice. Furthermore, because newly graduated fellows use online platform resources including AI tools in their day-to-day clinical activities, testing their clinical reasoning and decision-making with a closed-book proctored exam may not be optimal to truly evaluate their clinical competence in real-life practice. Thus, assessment technology is being developed to test clinical decision-making in a more realistic and even iterative manner with a complete data set and simulated clinical settings (5, 6).

ABIM is investing in exploring emerging technologies and how they can enhance the future of assessments. For example, in the future, ambient AI will be ubiquitous, and with consent and privacy protections, the recordings of physician and patient discussions could be analyzed to examine communication skills and professionalism. Virtual reality glasses and headsets could be used to create complex, more realistic clinical scenarios for assessment purposes. AI-driven standardized patients could serve as a scalable, privacy-safe alternative to standardized patient programs for evaluating communication skills and clinical reasoning.

Given the subspecialization within the field, assessments must be tailored more to reflect individual nephrology practices. ABIM has developed focused versions of LKAs in some specialties; for example, malignant and classical hematology versions are offered with a greater percentage of exam content in the focused area, with the remaining content overlapping with the general assessment topic areas. The nephrology community has not requested a focused LKA, but a concentrated review in transplant nephrology would be an obvious first candidate (2). For those with highly specialized practices, testing deeply rather than broadly and superficially is essential. We would argue that even the nephrologist whose practice is mostly outpatient dialysis should be assessed in greater detail within that scope of practice.

Nephrology as a profession has been struggling with declining interest and recruitment, low first-time ABIM initial certification pass rates, predicted workforce shortages, and a challenging practice environment (7–10). The profession must continue to focus on training outstanding nephrologists and maintaining clinical competence among practicing nephrologists. To do this, board certification assessments must adapt quickly to the changing clinical landscape, new ways of practice, and technologic advancements. ■

Jeffrey S. Berns, MD, FASN, is with the Perelman School of Medicine at the University of Pennsylvania and the Division of Renal-Electrolyte and Hypertension, The Hospital of the University of Pennsylvania, Philadelphia. Ursula Brewster, MD, FASN, is with Yale University School of Medicine, Section of Nephrology, New Haven, CT. Rudolph A. Rodriguez, MD, is with the Department of Medicine, University of Washington, and the Division of Nephrology, Hospital and Specialty Medicine, VA Puget Sound Health Care System, Seattle.

The authors report no conflicts of interest.

References

1. American Board of Internal Medicine (ABIM). ABIM certificates that met the MOC assessment requirement in 2025. Accessed April 8, 2026. https://www.abim.org/media/rc0lwyxv/moc-certificates-meeting-assessment-requirement.pdf
2. Rodriguez RA, et al. American Board of Internal Medicine Nephrology: Pressing issues and insights. *Clin J Am Soc Nephrol* (published online February 9, 2026). doi: 10.2215/CJN.0000001024
3. American Board of Internal Medicine (ABIM). Nephrology Blueprint Certification Exam (CERT). January 2026. Accessed April 6, 2026. https://www.abim.org/media/dqdjruxg/nephrology-cert.pdf
4. American Board of Internal Medicine (ABIM). Nephrology Blueprint for traditional, 10-year Maintenance of Certification (MOC) exam and Longitudinal Knowledge Assessment (LKA®). Accessed April 6, 2026. https://www.abim.org/media/dc1dn1qa/nephrology.pdf
5. Pottle J. Virtual reality and the transformation of medical education. *Future Healthc J* 2019; 6:181–185. doi: 10.7861/fhj.2019-0036
6. Brachet A, et al. Virtual reality in preclinical and clinical education—an insight into current advancements and future perspectives. *Appl Sci* 2025; 15:12941. doi: 10.3390/app152412941
7. Berns JS, et al. Analysis of performance trends from 2010–2019 on the American Board of Internal Medicine Nephrology certifying exam. *J Am Soc Nephrol* 2021; 32:2714–2723. doi: 10.1681/ASN.2021020160
8. Ibrahim T, et al. Enhancing education for nephrologists in fellowship and practice. *J Am Soc Nephrol* (published online March 24, 2026). doi: 10.1681/ASN.0000001105
9. Rosenberg ME, et al. Reimagining nephrology fellowship education to meet the future needs of nephrology: A report of the American Society of Nephrology Task Force on the Future of Nephrology. *Clin J Am Soc Nephrol* 2023; 18:816–825. doi: 10.2215/CJN.0000000000000133
10. Silvestre J, et al. The emerging nephrology physician workforce in the United States: Defining an impending shortfall. *Clin J Am Soc Nephrol* 2025; 20:915–921. doi: 10.2215/CJN.0000000716

Raising the Level of Training: Building the ITE

By Anubhav Kumar

https://doi.org/10.62716/kn.003712026

A fundamental pillar of epistemology is that one is unable to appreciate knowledge gaps to which they are not exposed. Given the breadth of nephrology, it is impossible to fully encounter every possible renal topic in a 2- or 3-year fellowship. Recognizing that unstructured assessments have been inadequate to gauge knowledge and skill acquisition, program directors and ASN members worked to develop a standardized In-Training Examination (ITE) for nephrology fellows, which since 2009, has become an annual rite of passage for trainees.

In addition to assessing knowledge to which they have already been introduced, trainees are engaged in the ITE with concepts that they may not directly encounter during their fellowship (e.g., citrate anticoagulation). By confronting them with concepts both familiar and not, the test identifies individual knowledge gaps, generating a report for fellows and program directors that can serve as a template for an improvement plan prior to fellows taking the American Board of Internal Medicine certification examination (1).

It has been the experience of many test takers to wonder, sometimes while taking the ITE, how the questions were created and what they are meant to assess. The process of developing ITE questions is involved, beginning years ahead, with experts who determine general content areas such as dialysis, transplant, and critical care nephrology and who identify specific subtopics in each area that are considered high-yield for practicing nephrologists. Members of test-writing committees then write test questions based on the content areas and current literature and meet as a group to evaluate whether the items fit the content area and purpose.

The stem is evaluated for clarity and included information. The answer choices are evaluated by whether the correct and incorrect options are logically derived from the stem. Some questions require minor changes; others complete rewrites. The questions are revised until they are deemed satisfactory. Test items may pass several cycles of review before they are included in the actual examination; committee meetings include re-evaluation of older questions, either written by previous committees or included on previous examinations, for updating or exclusion from future test versions.

Once a question enters the official ITE, test takers involuntarily give feedback on the question by choosing an option choice. The proportion of test takers correctly answering a question generates a p-value, which provides information on how easy or difficult a test item was; for example, a high proportion of test takers getting the answer correct may reveal a question that is too easy, whereas the opposite may show a question that is too difficult. Such test items focus on extremes of performance, doing little to distinguish among the average test takers and thus are minimized and may be excluded from scoring and sent back to committees for revision.

Test items are also individually evaluated based on grouped trainee performance on the overall examination, sorting test takers into high-performing groups (HPGs) and low-performing groups (LPGs). If a high proportion of both groups answers an item incorrectly, this suggests "miskeying" or the question simply being too difficult. If a high proportion of test takers in the HPG answers an item correctly versus a median proportion in the LPG, the item may be appropriate to continue in the examination. It may also have good discrimination, which differentiates between test takers who know the content well from those who are guessing (2).

Question performance is assessed between years, as responses may change between testing cohorts. Hence, if a question makes it onto the examination, it may be struck off in a subsequent year. This allows test makers to rewrite the item to reintroduce it in the future, based on the statistics of the question.

Whereas the ITE may help learners identify deficiencies in their training, what relation does it have to board performance? In 2018, Norby and colleagues examined nephrology fellows' scores on the ITE and their final performance on the nephrology certification examination. They found that the score on the ITE correlated significantly with board passing rates (3). In 2021, McCrary et al. published a systematic review of the relation between specialty ITEs and board passing rates, finding a similar correlation but a suggesting signal that the ITEs were not identifying test takers at risk of failing their boards (4).

The development of ITEs and board examinations is dynamic and ongoing. As new findings and technologies are introduced into practice, they become included in the examinations. The ITE and board examinations represent opportunities to not only assess how far trainees have come but also to give them a road map to continue the journey. As the saying by Archilochus goes, "We don't rise to the level of our expectations, we fall to the level of our training." The standardized examinations help to raise the level of training, making the delta to expectations smaller and trainees more successful. ■

Anubhav Kumar, MD, is in private practice with Hypertension & Kidney Specialists, Lancaster, PA.

Dr. Kumar reports being a question writer for the ASN In-Training Examination.

References

1. American Society of Nephrology. In-Training Examination for Nephrology Fellows: FAQ. https://www.asn-online.org/education/training/ite/faq.aspx
2. Billings MS.; National Board of Medical Examiners (NBME). NBME Item-Writing Guide: Constructing written test questions for the health sciences. October 2024. https://www.nbme.org/sites/default/files/2021-02/NBME_Item%20Writing%20Guide_R_6.pdf
3. Jurich D, et al. Performance on the Nephrology In-Training Examination and ABIM Nephrology Certification Examination outcomes. *Clin J Am Soc Nephrol* 2018; 13:710–717. doi: 10.2215/CJN.05580517
4. McCrary HC, et al. A systematic review of the relationship between in-training examination scores and specialty board examination scores. *J Grad Med Educ* 2021; 13:43–57. doi: 10.4300/JGME-D-20-00111.1

PRACTICE RESOURCE

ASN Kidney Health Guidance

ASN Kidney Health Guidance emphasizes offering succinct, practical, clinical information focused on emerging and challenging issues facing the nephrology community. Developed with a focus on person-centered care, this collection of resources promotes improved outcomes and aims to enhance care across the spectrum of kidney health and diseases.

Access Today
https://bit.ly/JASNKHG

For additional information, please visit the ASN website.

ASN American Society of Nephrology | JASN Journal of the American Society of Nephrology

Kidney News Welcomes Editorial Fellows

In July, three nephrology fellows were selected to join the *ASN Kidney News* Editorial Fellows program for 2-year terms: Susan Jeevana Thanabalasingam, MD, The Ottawa Hospital, University of Ottawa, Ontario, Canada; Priscilla Koirala, MD, Columbia University Irving Medical Center, New York, NY; and Samiddhi Weerasiri, MD, Duke University, Durham, NC.

As part of the application process, they were asked to write a short editorial on the topic, "Training in Nephrology 2026: What Can Be Changed?" We welcome Drs. Thanabalasingam, Koirala, and Weerasiri to the *Kidney News* editorial team and invite you to read their visionary editorials.

Expanding Community Nephrology Exposure in Nephrology Training Programs

By Susan Jeevana Thanabalasingam

https://doi.org/10.62716/kn.004042026

Nephrology training programs have traditionally focused on educational experiences within academic centers that receive tertiary care referrals with high acuity cases and ample resources to deliver patient care. Nephrology trainees in North America, however, are meant to serve patients distributed across a vast geography with substantial variation in the resources to deliver patient care. Failing to teach trainees how to best provide care outside of these academic centers is likely contributing to workforce shortages in more rural and remote areas.

For those who enter training intent on serving these communities, the onus is on the trainee to seek out these opportunities. However, there is value, even for those bound to work in academic tertiary care centers, to understand the needs and resource constraints of the community practices referring patients to regional centers for further care. Encouraging training in settings with high care needs and relatively lower resources has the additional benefit of potentially mitigating patient barriers in access to care. For instance, patients in Northern Ontario and the Southeast United States experience disparities in access to care that are compounded by workforce shortages in these regions.

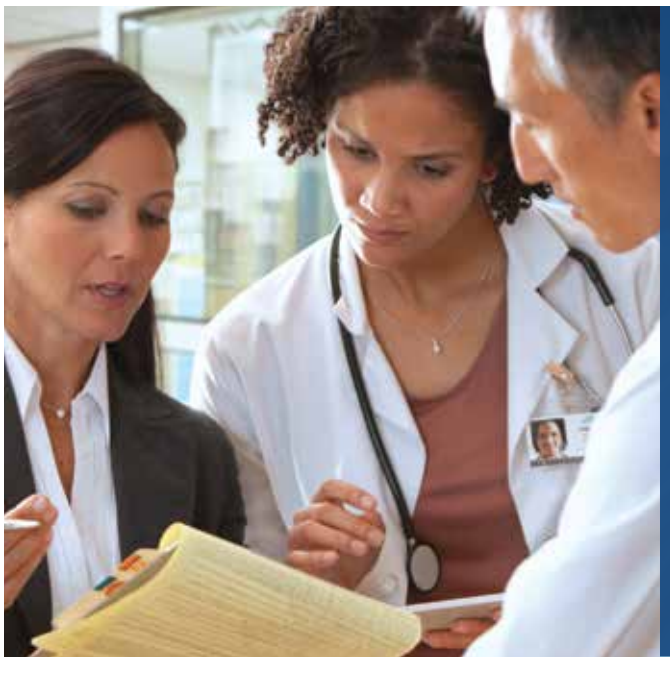
Mandating one to two community nephrology rotations toward the end of a fellow's training would also help consolidate their learning, allowing them to apply their knowledge base in a fast-paced environment while adapting their practices to differently resourced settings than the ones in which they trained. Although some may argue that asking trainees to spend some of their already limited fellowship in an area outside of their interest is unfair, I would argue that a core tenet of training is to teach fellows how to meet the needs of the population.

Without systematically exposing nephrology residents to varied practice settings, we may be disserving the population, and the trainees, who may not otherwise experience alternate settings in which to thrive in their career. ■

Susan Jeevana Thanabalasingam, MD, is a nephrology fellow at The Ottawa Hospital and an MSc candidate in Epidemiology and Applied Health Research at the University of Ottawa, Ontario, Canada.

The author reports no conflicts of interest.

Training in nephrology in 2026 stands to be enhanced by routinely incorporating rotations in regional community settings outside academic centers.



Are you a fellow and have a tip or idea you'd like to share with your fellow peers and the broader kidney community?

Send your idea to the *ASN Kidney News* Fellows First column at kidneynews@asn-online.org

More Than Fluids and Electrolytes: Reimagining Nephrology Training

By Priscilla Koirala

https://doi.org/10.62716/kn.004052026

Nephrology training in 2026 must evolve to reflect where care actually happens. Despite advances in kidney care, fellowship education still leans heavily on inpatient exposure, leaving gaps in outpatient and longitudinal care. Imagine every fellow following a small panel of patients across settings—clinic, home, dialysis unit, and transplant evaluation—as consistent physicians. Continuity, not just complexity, should define the curriculum.

Dialysis training also needs reformation. Education remains anchored in in-center hemodialysis, and home modalities are often secondary. For patients, these are not just "modalities" but a way of living. Fellows should learn to present options as narratives, aligning treatment with patient values. Too often, gaps in training lead fellows to seek external courses, outsourcing core dialysis education that should be foundational within fellowship.

Training also falls short in business and practice management. The transition to attending is abrupt, with little preparation in billing, documentation, or contracts. Many trainees seek external programs to fill these gaps. Fellowship programs should embed practical education in health care finance and career transitions.

Training must also embrace innovation. Tele-nephrology, remote monitoring, and data-driven care are transforming practices yet remain under-represented in education. Programs should integrate telehealth, digital tools, and opportunities for quality improvement and innovation.

Finally, nephrology spans life-prolonging and end-of-life care. Stronger training in palliative care and communication is essential, with closer collaboration across disciplines to guide patients through complex decisions.

Reimagining nephrology training means aligning it with reality. The time for change is now. ■

Priscilla Koirala, MD, is a nephrology fellow at Columbia University Irving Medical Center, New York, NY.

The author reports no conflicts of interest.

AI, artificial intelligence.

Contextualizing the Illness Script: Incorporating Patient Perspectives Into Nephrology Education

By Samiddhi Weerasiri

https://doi.org/10.62716/kn.004062026

For David Rush, having kidney disease was like being stuck in a car, hurtling blindly toward a crash. No matter what he tried, he could not escape or change course. A patient advocate who started dialysis in his 20s, Rush initially found it difficult to show up regularly for dialysis because he felt that so much was taken from him. He was able to reclaim his autonomy by accepting dialysis as a way to strive for what mattered to him: more time for his growing family and music (1).

Literature shows that people with kidney diseases, particularly those starting dialysis, experience decisional conflict from insufficient information on options, feeling overwhelmed, and lack of decision-making support (2). Practitioners skilled in making shared decisions can improve patient engagement (3), but there is a lack of programmatic support designed to cultivate these skills. Patient contact in daily practice often does not offer structured opportunity for reflection, and formal support accelerating skill-building in these domains will benefit all fellows.

Modern nephrology training needs standardized inclusion of patients as educators to deepen communication and shared decision-making skills. This can take a variety of forms, including patient-led case-based learning, clinical debriefs, or speakership positions (4) to spotlight psychosocial and economic issues that patients experience related to their condition. Patient-important issues addressed in training can include identity formation in chronic illness, challenges navigating the health care system, and physical symptom burden. Resources like NephroTalk exist in this capacity but are not widely used (5).

Although we nephrologists signed up to be experts in kidney health, our patients did not. Learning about the patient experience of chronic illness and grounding our recommendations in the issues that matter to them are vital steps in making kidney disease, its complications, and its management accessible to our patients. ■

Samiddhi Weerasiri, MD, is a first-year nephrology fellow at Duke University, Durham, NC.

The author reports no conflicts of interest.

References

1. Pelaez D. Patient profile: David Rush, home dialysis patient, kidney advocate. *aakpRENALIFE*. American Association of Kidney Patients; May/June 2022:8-11. https://aakp.org/magazine-id-22703
2. Griva K, et al. Patient-related barriers to timely dialysis access preparation: A qualitative study of the perspectives of patients, family members, and health care providers. *Kidney Med* 2020; 2:29–41. doi: 10.1016/j.xkme.2019.10.011
3. Saeed F, et al. Communication principles and practices for making shared decisions about renal replacement therapy: A review of the literature. *Curr Opin Nephrol Hypertens* 2021; 30:507–515. doi: 10.1097/MNH.0000000000000731
4. Towle A, et al. Active patient involvement in the education of health professionals. *Med Educ* 2010; 44:64–74. doi: 10.1111/j.1365-2923.2009.03530.x
5. Cohen RA, et al. NephroTalk multimodal conservative care curriculum for nephrology fellows. *Clin J Am Soc Nephrol* 2021; 16:972–979. doi: 10.2215/CJN.11770720

Business Round-Up: Q1–Q2 2026 Activity in the Nephrology Industry

By Melissa West

https://doi.org/10.62716/kn.004202026

Twice a year, *Kidney News* publishes a high-level review of US Food and Drug Administration (FDA) regulatory approvals, scientific results from industry, investments, and mergers and acquisitions to ensure the ASN membership is well-informed.

More than 500 data points, collected from January 1 to June 30, 2026, generated the following analyses and summaries.

The year always starts with investors gathering in San Francisco, CA, for the Annual J.P. Morgan Healthcare Conference, setting the tempo for the year ahead. While representing only a glimpse of the landscape, ASN was excited to see the number of kidney companies in attendance, reflecting the changing dynamic in kidney care. Nephrology has seen a resurgence of innovation in the last decade, with a focus on kidney health and protection. In the first 6 months of 2026, three drugs were approved across a range of therapeutic targets: an additional pill formulation of a glucagon-like peptide-1 (GLP-1), the first approved therapy for focal segmental glomerulosclerosis (FSGS), and a treatment for uncontrolled or treatment-resistant hypertension. The community should continue to watch the news closely in quarters 3 and 4 (Q3 and Q4), as more products will receive FDA decisions.

January to June saw less scientific data released and fewer investments in kidney start-ups than previous reports, but there was continued focus on mergers and acquisitions. Companies such as Eli Lilly, Novo Nordisk, and Biogen are expanding their pipelines with kidney-specific targets. In April, the Kidney Innovation Accelerator (KidneyX) announced its $4 million EMPOWER Prize to accelerate innovative solutions focused on reducing barriers, improving outcomes, and increasing awareness to better support living kidney donors (1). As mentioned in the Q3–Q4 2025 Business Round-Up, a significant amount of capital is being spent on digital health and artificial intelligence companies, and that focus continued in 2026 (2). With the addition of the Center for Medicare and Medicaid Innovation Advancing Chronic Care With Effective, Scalable Solutions (ACCESS) Model, technology-supported care is being incentivized and encouraged (3). And with the rich pipeline of kidney-specific therapies and products, it is imperative that the community advocates for the funding required to bring new products to market.

In February, the first Superbowl advertisement that focused on kidney diseases ("Mission: Detect the SOS") aimed to raise the public's awareness of the opportunity to protect kidney health and intervene earlier (4). In the backdrop of World Kidney Day on March 12th and several kidney disease-specific awareness days in the spring, there have been many changes in the federal government including FDA and the Centers for Disease Control and Prevention leadership, the removal of Advisory Committee on Immunization Practices and US Preventive Services Task Force members, and the delayed appointment of a US Surgeon General. Nephrology has had success with the House Ways and Means Health Subcommittee's hearing on "Improving Kidney Health Through Better Prevention and Innovative Treatment" (5) and Texas Governor Greg Abbott's appointment of a Chronic Kidney Disease Task Force (6).

Although this biannual report focuses on innovation and the business of nephrology, it is important to recognize the uncertainty within the research, regulatory, and payment ecosystem over the past 6 months amid proposed US federal policy and funding changes. ASN supports the community navigating the current climate to advance new treatments for people living with kidney diseases. The next Business Round-Up will be published in February 2027. By then, the community will have gathered for Kidney Week 2026 in Denver, CO, and the broader investment community will have reconvened in San Francisco for the 45th Annual J.P. Morgan Healthcare Conference. Check back to see what new products have been approved, what capital has been deployed, and how the media depicts kidney diseases to the public.

Summary: Biologic, drug, and device approvals and label extensions

Approval	Category	Product	Company	Reference
Approval	Drug	Foundayo (orforglipron)	Eli Lilly	FDA approves Lilly's Foundayo™ (orforglipron), the only GLP-1 pill for weight loss that can be taken any time of day without food or water restrictions (April 1, 2026). https://investor.lilly.com/news-releases/news-release-details/fda-approves-lillys-foundayotm-orforglipron-only-glp-1-pill
Approval	Drug	FILSPARI (sparsentan)	Travere Therapeutics	Travere Therapeutics announces full FDA approval of FILSPARI® (sparsentan), the first and only approved medicine for FSGS (April 13, 2026). https://ir.travere.com/press-releases/news-details/2026/Travere-Therapeutics-Announces-Full-FDA-Approval-of-FILSPARI-sparsentan-the-First-and-Only-Approved-Medicine-for-FSGS/default.aspx
Approval	Drug	Baxfendy (baxdrostat)	AstraZeneca	Baxfendy approved in the US as the first and only aldosterone synthase inhibitor treatment for adults with hypertension (May 18, 2026). https://www.astrazeneca.com/media-centre/press-releases/2026/Baxdrostat-MNR-2026.html

Summary: Cell therapy, drug, gene therapy, and device development

Activity	Category	Product	Company	Reference
FDA priority review	Biologic	Atacicept	Vera Therapeutics	Vera Therapeutics announces US FDA granted priority review to biologics license application for atacicept for treatment of adults with IgA nephropathy (January 7, 2026). https://ir.veratx.com/news-releases/news-release-details/vera-therapeutics-announces-us-fda-granted-priority-review
Phase 1/2a	Gene therapy	AMT-191	uniQure	uniQure announces updated preliminary AMT-191 phase I/IIa data showing sustained increases in α-Gal A enzyme activity in patients with Fabry disease (February 6, 2026). https://www.uniqure.com/investors-media/press-releases
Phase 3	Biologic	Povetacicept	Vertex	Vertex announces positive week 36 interim analysis results for primary and all secondary endpoints in the RAINIER phase 3 trial of povetacicept in adults with IgA nephropathy (March 9, 2026). https://news.vrtx.com/news-releases/news-release-details/vertex-announces-positive-week-36-interim-analysis-results
Phase 2	Drug	MZE829	Maze Therapeutics	Maze Therapeutics announces positive topline data from phase 2 HORIZON trial of MZE829 demonstrating the first clinical proof-of-concept in patients with broad APOL1-mediated kidney disease (March 25, 2026). https://ir.mazetx.com/news-releases/news-release-details/maze-therapeutics-announces-positive-topline-data-phase-2
FDA priority review	Drug	Kerendia (finerenone)	Bayer	US FDA grants priority review for finerenone in chronic kidney disease associated with type 1 diabetes (May 21, 2026). https://www.bayer.com/media/en-us/us-fda-grants-priority-review-for-finerenone-in-chronic-kidney-disease-associated-with-type-1-diabetes/
Phase 3				Finerenone significantly reduced the risk of kidney disease progression and cardiovascular outcomes in broad patient populations with CKD (June 5, 2026). https://www.bayer.com/media/en-us/finerenone-significantly-reduced-the-risk-of-kidney-disease-progression-and-cardiovascular-outcomes-in-broad-patient-populations-with-ckd/

Activity	Category	Product	Company	Reference
Postauthorization efficacy study	Drug	Idefirix (imlifidase)	Hansa Biopharma	Hansa Biopharma reports positive efficacy and safety results from Idefirix[®] European post authorization study in kidney transplantation (May 27, 2026). https://www.hansabiopharma.com/media/press-releases/2026/hansa-biopharma-reports-positive-efficacy-and-safety-results-from-idefirix-european-post-authorization-study-in-kidney-transplantation/
Phase 3	Drug	Lorundrostat	Mineralys Therapeutics	Mineralys Therapeutics presents new data from the phase 3 Launch-HTN trial of lorundrostat in participants with hypertension and chronic kidney disease at European meeting on hypertension and cardiovascular protection (ESH 2026) (May 30, 2026). https://ir.mineralystx.com/news-events/press-releases/detail/103/mineralys-therapeutics-presents-new-data-from-the-phase-3
FDA breakthrough device designation and Total Product Life Cycle Advisory Program (TAP) acceptance	Device	Holly system	Nephrodite	Nephrodite's Holly™ implantable continuous dialysis system awarded selection into FDA's TAP to accelerate development and patient access (June 2, 2026). https://nephrodite.com/newsroom/nephrodites-holly-implantable-continuous-dialysis-system-awarded-selection-into-fdas-tap-to-accelerate-development-and-patient-access/
Phase 1/2	Cell therapy	RESET-Myositis (evaluating rese-cel)	Cabaletta Bio	Cabaletta Bio announces new rese-cel data and development updates across autoimmune portfolio, including encouraging early PC-free lupus findings, at EULAR 2026 Congress (June 3, 2026). https://www.cabalettabio.com/news-media/press-releases/detail/149/cabaletta-bio-announces-new-rese-cel-data-and-development
Phase 3	Drug	VOYXACT (sibeprenlimab-szsi)	Otsuka	Otsuka presents positive interim phase 3 VISIONARY eGFR data showing VOYXACT® (sibeprenlimab-szsi) preserved kidney function over 12 months in IgA nephropathy (IgAN) (June 4, 2026). https://www.otsuka-us.com/news/otsuka-presents-positive-interim-phase-3-visionary-egfr-data-showing-voyxactr-sibeprenlimab
Pivotal data retracted	Drug	Tavneos	Amgen	Medical journal retracts Tavneos pivotal study article, complicating Amgen's defense effort (June 30, 2026). https://www.fiercepharma.com/pharma/medical-journal-retracts-tavneos-pivotal-study-article-complicating-amgens-defense-effort

α-Gal A, α-galactosidase A; APOL1, apolipoprotein L1; CKD, chronic kidney disease; eGFR, estimated glomerular filtration rate; ESH, European Society of Hypertension; EULAR, European Alliance of Associations for Rheumatology; HTN, hypertension; IgA, immunoglobulin A; PC, preconditioning; rese-cel, resecabtagene autoleucel.

Summary: Investments

Company	Amount, $	Type	Reference
R1 Therapeutics	77.5 Million	Series A	R1 Therapeutics launches with oversubscribed $77.5 million Series A financing to advance first-in-class treatment for hyperphosphatemia in patients with chronic kidney disease (March 17, 2026). https://r1therapeutics.com/newsroom/press-releases/r1-therapeutics-launches-series-a

Summary: Mergers, acquisitions, and partnerships

Company	Amount, $	Type	Reference
Variant Bio	120 Million	Strategic target discovery collaboration with Boehringer Ingelheim	Variant Bio announces strategic target discovery collaboration with Boehringer Ingelheim for kidney disease (January 6, 2026). https://www.prnewswire.com/news-releases/variant-bio-announces-strategic-target-discovery-collaboration-with-boehringer-ingelheim-for-kidney-disease-302653305.html
Biogen	~5.6 Billion	Acquisition of Apellis	Biogen to acquire Apellis, enhancing the company's growth portfolio in immunology and rare disease, bolstering growth outlook and accelerating expansion into nephrology (March 31, 2026). https://investors.biogen.com/news-releases/news-release-details/biogen-acquire-apellis-enhancing-companys-growth-portfolio
Travere Therapeutics	112.5 Million	Exclusive licensing agreement with Everest Medicines	Travere Therapeutics enters into exclusive licensing agreement with Everest Medicines for civorebrutinib a potential best-in-class BTK inhibitor for rare kidney diseases (June 2, 2026). https://ir.travere.com/press-releases/news-details/2026/Travere-Therapeutics-Enters-Into-Exclusive-Licensing-Agreement-with-Everest-Medicines-for-Civorebrutinib-a-Potential-Best-in-Class-BTK-Inhibitor-for-Rare-Kidney-Diseases/default.aspx
Ascidian	1.9 Billion	Global research collaboration with Eli Lilly	Ascidian and Lilly enter global research collaboration to develop RNA exon editors for devastating kidney diseases (June 3, 2026). https://ascidian-tx.com/wp-content/uploads/2026/06/Ascidian-Lilly-Partnership_Final-PR_03-June-2026.pdf

BTK, Bruton's tyrosine kinase.

Melissa West is the senior director, Strategic Relations and Patient Engagement at ASN. She previously was the project director for the Kidney Health Initiative. With over 20 years' experience working in the kidney community, Ms. West tracks the trends in business and kidney care for ASN Council and staff. Please contact Ms. West at mwest@asn-online.org to share publicly available information that may have been missed in this article.

References

1. American Society of Nephrology. American Society of Nephrology and the US Department of Health and Human Services launch $4M KidneyX EMPOWER Prize Challenge to boost living kidney donation. April 15, 2026. https://www.asn-online.org/about/press/releases/ASN_PR_20260415_ASN_EMPOWERFINAL4.1.pdf
2. West M. Business round-up: Q3–Q4 2025 Activity in the nephrology industry. *Kidney News*, February 2026; 18(2):10–11. doi: 10.62716/kn.002952026; https://www.kidneynews.org/view/journals/kidney-news/18/2/article-p10_6.xml
3. Center for Medicare & Medicaid Services. ACCESS (Advancing Chronic Care With Effective, Scalable Solutions) Model. Accessed June 30, 2026. https://www.cms.gov/priorities/innovation/innovation-models/access
4. Boehringer Ingelheim. Mission: Detect the SOS. YouTube. February 10, 2026. https://www.youtube.com/watch?v=lbdQz0ypFyg
5. US House Committee on Ways and Means, Chairman Jason Smith. Health Subcommittee hearing on Improving Kidney Health Through Better Prevention and Innovative Treatment. March 18, 2026. https://waysandmeans.house.gov/event/health-subcommittee-hearing-on-improving-kidney-health-through-better-prevention-and-innovative-treatment/
6. Office of the Texas Governor, Greg Abbott. Governor Abbott appoints four to Chronic Kidney Disease Task Force. May 21, 2026. https://gov.texas.gov/news/post/governor-abbott-appoints-four-to-chronic-kidney-disease-task-force

Partnering to Improve Vaccination Rates Among People With Kidney Diseases

By Bonnie Freshly, Rebecca Schmidt, Elizabeth McNamara, Jake Galdo, and Geoffrey Walker

https://doi.org/10.62716/kn.004122026

People living with kidney diseases face unique health challenges including significantly elevated risks for infection and subsequently higher rates of hospitalization and death. As such, vaccinations play a crucial role in protecting these individuals from vaccine-preventable illnesses.

Barriers to vaccine delivery include vaccine hesitancy and difficult access because of logistical constraints and billing complexities. Partnering with community pharmacies has emerged as a promising solution for overcoming these hurdles, thereby improving protection against infection for this vulnerable kidney population.

Earlier this year, ASN's Kidney Community Vaccination Collaborative (KCVC) partnered with Innovative Renal Care (IRC) and the Community Pharmacy Enhanced Services Network (CPESN) USA to provide clinical education on vaccines to patients and track the vaccination rates. IRC's network includes nearly 250 dialysis centers, over 400 affiliated nephrologists, and a vast network of health system partnerships. CPESN is a clinically integrated, nationwide organization of pharmacy networks structured to advance community-based pharmacy practice.

In the pilot project, conducted in March 2026, two CPESN pharmacies worked with IRC to conduct vaccination clinics at three dialysis facilities in Jacksonville, FL, and Augusta, GA. A community pharmacist or community health worker provided eligible patients (Table 1) with educational information on vaccines (Table 2) and administered vaccinations on-site.

The pilot project had several benefits:

- **Trusted messengers:** Expert pharmacists from outside the traditional dialysis team both enhance patient trust and improve reception to vaccination messaging.
- **Expanded vaccine access:** Community pharmacy teams administer a broader range of vaccines, namely shingles, respiratory syncytial virus (RSV), and COVID-19.
- **Operational relief:** The pharmacy teams manage stock and vaccine inventories while handling complex billing processes, providing relief to the dialysis staff.
- **Improved patient convenience:** Providing vaccines on-site reduces barriers to care and enhances the overall patient experience.

Table 2. Clinical education

Domain	Number of encounters	Percentage
Clinical need[a]	149	98.7
Vaccine safety	88	58.3
Myth	1	0.7
Stories describing impact on people who were not vaccinated	74	49.0
All of above	2	1.3

[a]Pharmacists provided information on why each vaccination is applicable and relevant for the population of patients on dialysis.

Table 3. Pharmacy engagement outcomes

Outcomes	Vaccine, No. (%)		
	Shingles (n = 78)	RSV (n = 86)	COVID-19 (n = 89)
Expressed financial barrier with copayment for the vaccine	14 (18)	14 (16)	14 (16)
Pharmacy administered the vaccine (gap closure rate)	14 (18)	29 (34)	28 (31)
Miscellaneous[a]	50 (64)	43 (50)	47 (53)

[a]Examples include those who declined vaccines due to not wanting two vaccines on 1 day, additional questions or hesitancy counseling requested, and need to discuss with caregivers or family.

Results and outcomes

The pilot project demonstrated several positive outcomes (Table 3). Notably, there was a significant increase in patients with up-to-date vaccinations:

- 14 Patients received shingles vaccines—a 193% increase with a gap closure rate of 18%.
- 29 Patients received RSV vaccines—a 583% increase with a gap closure rate of 34%.
- 28 Patients received COVID-19 vaccines—a 1033% increase with a gap closure rate of 31%.

Community pharmacists enjoyed interacting with the patients on dialysis. Katie Sanford, PharmD, a pharmacist with Panama Pharmacy, commented on this patient interaction aspect: "It was really rewarding for me to talk to patients and get to know them on a different level than just, 'Hey, I'm here to give you a vaccine; here, give me your arm.'"

Pilot study leaders at ASN, IRC, and CPESN hope to execute expansion of the project across additional IRC facilities in time for the annual fall-vaccination campaign, beginning in September. For more information about KCVC, visit https://epc.asn-online.org/projects/kcvc/.

Table 1. Patient eligibility

Patient characteristic	Vaccine, No. (%)		
	Shingles	RSV	COVID-19
Screening intervention[a]	141 (93)	132 (87)	138 (91)
Eligible for vaccine[b]	78 (55)	86 (65)	89 (64)
Up to date for vaccine[b]	15 (11)	6 (5)	3 (2)
Refused vaccine[b]	48 (34)	40 (30)	46 (33)

[a]Of 151 encounters.
[b]Of screened patients.

Bonnie Freshly, MEd, CMP, and Elizabeth McNamara, MN, RN, are staff project managers of the Kidney Community Vaccination Collaborative (KCVC), Excellence in Patient Care, ASN. Rebecca Schmidt, DO, FASN, is with West Virginia University, Morgantown, and is chair of the KCVC Steering Committee. Jake Galdo, PharmD, RPh, MBA, is with Community Pharmacy Enhanced Services Network (CPESN) Community Health, Nashville, TN. Geoffrey Walker, MD, MBChB, FASN, is with Dallas Nephrology Associates, Dallas, TX.

The authors report no conflicts of interest.

CREATIVE CORTEX

Burden of Creation

By Anil Saxena

https://doi.org/10.62716/kn.003162026

This artwork embodies the duality of creation and vulnerability, in which pregnancy and kidney disease converge in a delicate balance. The swirling red hues symbolize maternal circulation, pulsating with life's essence, yet shadowed by the strain of kidney filtration. Like the glomerulus tasked with sustaining two lives, the composition reflects both nourishment and burden. The fluid forms whisper of hypertensive currents, protein leaks, and the silent fragility of gestation-related nephropathy. Yet, amid the turbulence, life persists—resilient, evolving.

This piece transforms pathology into poetry, illustrating how even in dysfunction, the body, much like art, adapts, endures, and nurtures beauty within fragility. ■

Artwork by AnilzArt. Anil Saxena, MD, is a digital artist based in Dubai, United Arab Emirates. His abstract artwork blends trained medical expertise with vibrant color palettes, creating visually captivating landscapes of human identity and transformation. Saxena's work has been exhibited internationally and featured on the covers of medical journals.

The Wave of Pediatric Clinical Trials Is Here—Steps Toward Success: Pediatric Clinical Trials Boot Camps Fill Critical Gaps in Trial Readiness

By Angel Morales, Laurel Damashek, Barbara Gillespie, and Myda Khalid

https://doi.org/10.62716/kn.003852026

The landscape of rare kidney disease treatment is evolving rapidly, with innovative therapies entering clinical phases at an unprecedented pace. Comparing the years 2003 to 2012 with 2013 to 2022, there has been a 283% increase in observational studies and a 93% increase in interventional studies in rare kidney diseases (1). Although many studies are adult trials, there is a trend toward expansion into the pediatric domain. This is great news for the youngest patients, who have few approved treatments. Children are a particularly vulnerable population, and given a longer expected remaining lifespan than adults after diagnosis, their burden of kidney disease is significant. Therefore, their inclusion in clinical trials is paramount. Unfortunately, pediatric trial data in kidney diseases face a 13-year lag when compared with adult data (2).

The need for experienced, trial-ready sites with pediatric nephrologists who are accomplished in successful clinical trial execution has never been more urgent. To bridge this gap, a new program of clinical trials boot camps has been launched by the International Society of Glomerular Disease (ISGD) in collaboration with other pediatric nephrology stakeholders (Table).

Over the course of half of a day, the boot camps convene experienced trialists, study coordinators, and industry representatives to present a series of talks and multidisciplinary panels to junior faculty with the following goals:

- **creating and empowering next-generation investigators:** providing practical tools needed to begin a career in clinical trials
- **demystifying the process:** breaking down the complexities of becoming a qualified trial site
- **shifting the culture:** integrating clinical trial participation into standard patient care

Additionally, the boot camps incorporate dedicated networking time, providing opportunities to meet with senior faculty and facilitating space for critical connections and peer-to-peer knowledge sharing.

Data collected from participants confirmed that there was a desire for additional formal training related to clinical trial-oriented work and research. After the boot camps, participants reported an increased inclination to get involved in clinical trials moving forward, with multiple participants wanting to engage in post-event actions such as taking "steps toward becoming a subinvestigator" and "[getting] more information on available trials and [getting] involved." The impact of the boot camp was best described by one of the first-year fellows in attendance: "This boot camp turned abstract research concepts and complex terminology into tangible, actionable steps. It allowed me to tailor these tools to my own research goals, helping me contribute meaningfully to our global fund of medical knowledge."

The successful kickoff of the global program has led to its expansion, with two more pediatric boot camps planned for this year, including one in Latin America, which bears a high burden of disease (3) yet lags in participation of chronic kidney disease trials (4). In 2027, boot camps are being planned in Asia, the United States, and other regions. Furthermore, the program has grown to encompass adult nephrology as well.

ISGD appreciates the support of sponsors, as well as the volunteer efforts of the incredible global faculty of nephrologists and clinical trial operational experts. More information on the program is available at https://www.is-gd.org/clinical-trials-bootcamps.

Participants of the 2025 clinical trials boot camp (European Society for Paediatric Nephrology, Athens, Greece) listen to the "It Takes a Village" panel discussion, led by Jule Pinter, MD, MSc, along with panelists Aditi Sinha, MD, PhD; Matko Marlais, MSc, MBBS, FRCPCH, FHEA; Jennifer McKenzie, MD, FAAP; and Ashwini Roy-Chaudhury, MPH.

Pediatric Lead Myda Khalid, MD, FASN, opens the 2026 ISGD clinical trials boot camp at the American Society of Pediatric Nephrology-Pediatric Nephrology Research Consortium Fellows Workshop.

Table. ISGD clinical trials boot camps past and future

ISGD boot camp collaborator and host	Date	Location
European Society for Paediatric Nephrology Congress	October 2025	Athens, Greece
Pediatric Nephrology Research Consortium Meeting	March 2026	Miami, Florida
Renal Physicians Association Meeting (adult focused)	April 2026	Atlanta, Georgia
European Society for Paediatric Nephrology Congress	September 2026	Bordeaux, France
Asociación Latinoamericana de Nefrología Pediátrica	October 2026	Mar del Plata, Argentina

Angel Morales, MPH, is the associate director of strategic projects and partnerships; Laurel Damashek, MA, is the chief operations officer; and Barbara Gillespie, MD, MMS, FASN, is the chief medical and strategy officer of the International Society of Glomerular Disease, Florence, MA. Ms. Damashek and Dr. Gillespie, who is an adjunct professor at the University of North Carolina at Chapel Hill, are members of the NephCure Board of Directors. Myda Khalid, MD, FASN, is an associate professor of clinical pediatrics at Riley Hospital for Children at Indiana University (IU) Health, IU School of Medicine, where she serves as the director of the Clinical Research Program in Pediatric Nephrology and the associate vice chair of clinical trials in the Department of Pediatrics, Indianapolis. Dr. Khalid is a board member of the Pediatric Nephrology Research Consortium and cochair of the NephCure IgAN Alliance.

The authors report no conflicts of interest.

References

1. Garrisi D, et al. Advancing treatments for rare renal diseases: New hopes and opportunities to address a high unmet need. *Glomerular Dis* 2024; 4:11–18. doi: 10.1159/000535955
2. Oni L, et al. Bridging the 13-year evidence gap: A time for age-inclusive research. *J Am Soc Nephrol* 2024; 35:502–504. doi: 10.1681/ASN.0000000000000301
3. Jha V, et al. Chronic kidney disease: Global dimension and perspectives. *Lancet* 2013; 382:260–272. doi: 10.1016/S0140-6736(13)60687-X
4. Cojuc-Konigsberg G, et al. Representation of low- and middle-income countries in CKD drug trials: A systematic review. *Am J Kidney Dis* 2025; 85:55–66.e1. doi: 10.1053/j.ajkd.2024.06.012

Wolters Kluwer

ASN
American Society of Nephrology

Your Basic Research Deserves the Spotlight

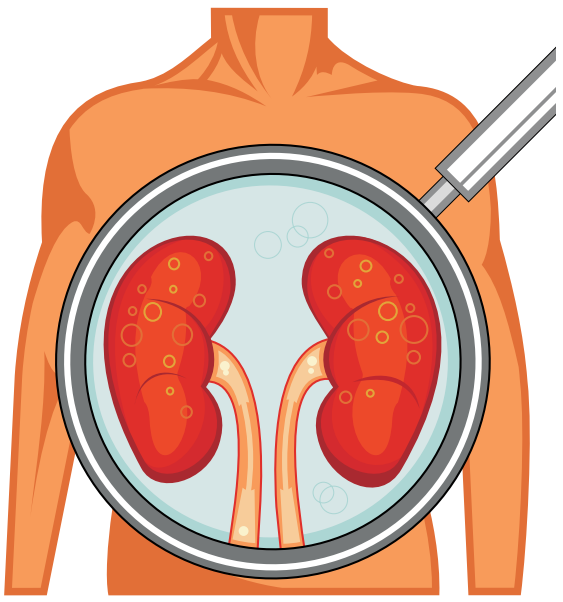
Did you know that ***JASN***® and ***Kidney360***® are eager to publish your basic research?

The journals are not just committed to groundbreaking clinical studies—we enthusiastically welcome and publish high-quality basic research articles too. We're actively seeking laboratory research that dives deeply into the mechanisms of kidney diseases. Whether you're exploring new therapeutic approaches or uncovering systemic effects, we want to publish your research.

Learn More

asnjournals.org/publish

6-Q065



Biopsy Shows High Rate of Nondiabetic Kidney Disease in Patients With Diabetes

https://doi.org/10.62716/kn.003922026

Many patients with diabetes, who are undergoing kidney biopsy, are found to have nondiabetic kidney disease (NDKD)—a finding affected by a range of demographic and clinical factors, reports a study in *Kidney International*.

The researchers analyzed clinical and pathologic data on 49,075 patients with diabetes who underwent native kidney biopsy between 2001 and 2024. Factors associated with a biopsy finding of NDKD were analyzed, along with the impact on progression to kidney failure.

The overall rate of NDKD on kidney biopsy was 58.8%: NDKD alone in 35.9% of patients and NDKD in addition to diabetic nephropathy (DN) in 22.9%. Acute tubular injury was the most common NDKD diagnosis, followed by acute interstitial nephritis, proliferative glomerulonephritis, immunoglobulin A nephropathy, and crescentic glomerulonephritis.

Among patients with DN, an NDKD diagnosis was more likely for those with acute kidney injury or acute nephritic syndrome. The prevalence of NDKD was higher in patients under aged 30 years, as well as those aged 60 years or older. Patients with higher chronicity parameters on biopsy were less likely to have NDKD diagnoses.

Progression to kidney failure occurred in 34.76% of patients with DN alone, 25.05% with DN plus NDKD, and 18.27% with NDKD alone. The presence of DN alone was associated with more than a twofold increase in kidney failure risk (hazard ratio, 2.56).

This large cohort study finds a high rate of NDKD diagnoses among patients with diabetes undergoing kidney biopsy, alone or in addition to DN. The researchers discuss the wide range of NDKD diagnoses made by kidney biopsy as well as patient and clinical characteristics associated with a higher or lower rate of NDKD. The authors conclude, "Given the overall variability of the outcome of a given biopsy and the wide array of NDKDs found, the renal biopsy will remain a critical tool in the care of [patients with diabetes] with signs and/or symptoms unexpected for the typical course of diabetic kidney disease" [Caza TN, et al. Clinical and histologic predictors of non-diabetic kidney disease in patients with diabetes mellitus. *Kidney Int*, published online April 23, 2026. doi: 10.1016/j.kint.2026.03.015]. ■

APOL1 Genotype May Affect Risk After Living Kidney Donation

https://doi.org/10.62716/kn.004132026

For Black living kidney donors, the apolipoprotein L1 (*APOL1*) genotype may influence the long-term risk of reduced kidney function, reports a study in *JAMA Internal Medicine*.

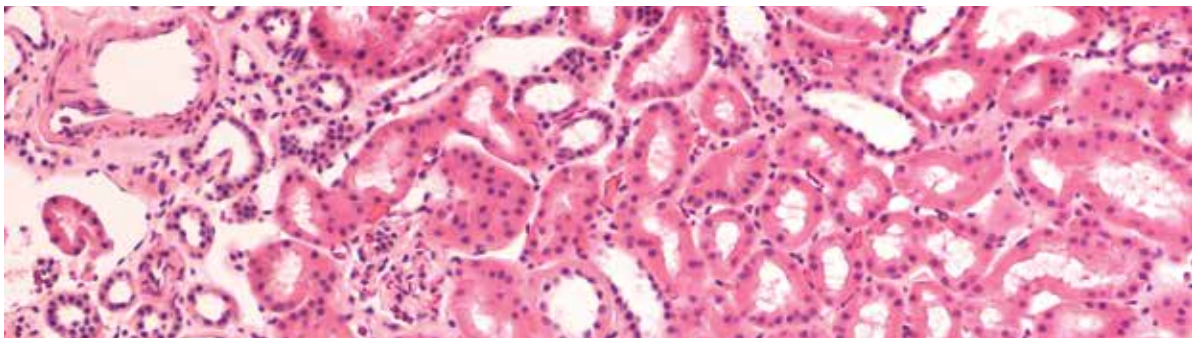
Using the Scientific Registry of Transplant Recipients, the researchers identified Black and White living kidney donors in the United States who donated from 2000 through 2008. At a median follow-up of 18.5 years after donation, enrolled participants underwent home-based research visits including providing blood samples for determination of the *APOL1* genotype. High-risk genotypes—defined as the presence of G1 and/or G2 variants—were evaluated for association with decreased kidney function.

The analysis included 445 Black (mean age, 38 years) and 208 White (mean age, 44 years) living kidney donors. About two-thirds of donors in both racial groups were women. High-risk *APOL1* genotypes were found in 15.3% of Black donors.

Seven percent of participants met the primary outcome for decreased kidney function: an estimated glomerular filtration rate (eGFR) less than 45 mL/min/1.73 m^2. This outcome was more likely for Black donors with high-risk *APOL1* genotypes: relative risk, 2.31 compared with those without high-risk genotypes and relative risk, 1.91 after adjustment for predonation eGFR. Black donors with high-risk genotypes were also more likely to have a follow-up eGFR of less than 60 mL/min/1.73 m^2 and a urine albumin-to-creatinine ratio of 300 mg/g or greater.

Previous studies have reported that Black living kidney donors with *APOL1* genotypes are at very high risk of developing kidney failure after donation. The new analysis finds a twofold increase in the long-term risk of eGFR less than 45 mL/min/1.73 m^2, even after adjustment for predonation eGFR.

The findings suggest that all Black individuals being evaluated as potential living kidney donors should undergo *APOL1* genotyping, the researchers believe. "[A] high-risk genotype should not necessarily preclude donation," they add. "Knowledge of a candidate's *APOL1* genotype allows better risk stratification, which transplant centers and donor candidates can consider as part of the candidate's overall risk profile within shared decision-making to determine whether the integrated risk falls within an acceptable threshold" [Hsu C-y, et al.; Long-Term Kidney Transplantation Outcomes Network (APOLLO) Consortium. Apolipoprotein L1 gene genotype and kidney outcomes after living kidney donation. *JAMA Intern Med*, published online June 22, 2026. doi: 10.1001/jamainternmed.2026.0996]. ■



Obinutuzumab Superior to Tacrolimus for PMN

https://doi.org/10.62716/kn.004142026

For patients with primary membranous nephropathy (PMN), the anti-CD20 monoclonal antibody obinutuzumab achieves a higher clinical remission rate compared with tacrolimus, concludes a randomized trial in *The New England Journal of Medicine*.

The MAJESTY trial (NCT04629248) included 142 adults with PMN, enrolled at 49 sites in 11 countries. Participants were randomly assigned to treatment with intravenous obinutuzumab or oral tacrolimus. The mean age was 49.9 years in the obinutuzumab group and 52.6 years in the tacrolimus group; two-thirds of patients were men. The primary study outcome was complete remission, defined as a urinary protein-to-creatine ratio of 0.3 or less and a stable estimated glomerular filtration rate (eGFR).

At 104 weeks, the complete remission rate was 37% with obinutuzumab versus 6% with tacrolimus. Obinutuzumab was also superior in terms of complete or partial remission at 104 weeks and complete remission at 76 weeks. Sustained reduction of eGFR showed no significant treatment effect.

Grade 3 or higher adverse events occurred in 22% of patients with obinutuzumab and 19% with tacrolimus, with serious adverse rates of 17% and 14%, respectively. Infection and serious infection rates were similar between groups. Infusion-related adverse drug reactions occurred in 38% of patients in the obinutuzumab group; neutropenia and grade 3 or higher infections occurred in 4% with both treatments. One patient in each group died during escape therapy, with no deaths during open-label treatment.

Various immunosuppressive therapies are effective in PMN but have significant nephrotoxic and other adverse effects. Obinutuzumab, a type II anti-CD20 antibody, has shown efficacy in hematologic cancers and autoimmune diseases.

The MAJESTY trial finds a substantially higher clinical remission rate with obinutuzumab in patients with PMN compared with immunosuppressive therapy with tacrolimus. Earlier onset of complete remission with obinutuzumab "may be due to the earlier and greater effects on the reduction of anti-PLA2R [phospholipase A2 receptor] that was seen in this trial," the researchers write. They plan a 2-year follow-up study to evaluate the durability of response and long-term safety [Fervenza FC, et al.; MAJESTY Trial Investigators. Obinutuzumab or tacrolimus in primary membranous nephropathy. *N Engl J Med*, published online June 5, 2026. doi: 10.1056/NEJMoa2602678]. ■

High Rates of CKM Risks and Progression in Hispanic Americans

https://doi.org/10.62716/kn.004152026

Eighty percent of Hispanic or Latino adults in the United States have risk factors for cardiovascular-kidney-metabolic (CKM) syndrome, with a high risk of disease progression during long-term follow-up, reports a study in *CJASN*.

The prospective analysis included 16,415 Hispanic or Latino adults (aged 18–74 years) from four communities who were enrolled in the Hispanic Community Health Study/Study of Latinos. In 2008 to 2011 and 2014 to 2017, participants underwent detailed clinical assessments focusing on CKM risk factors, chronic kidney disease (CKD), and cardiovascular disease (CVD). The median age at the first visit was 41 years.

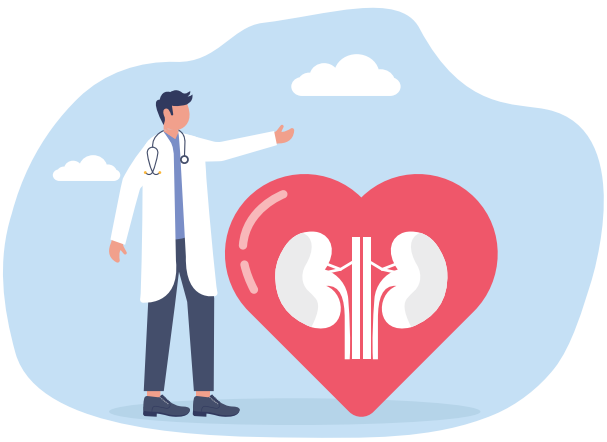
Based on American Heart Association criteria, CKM risk status was classified as stage 0, no CKM risk factors; stage 1, excess or dysfunctional adiposity; stage 2, metabolic risk factors or CKD; stage 3, subclinical CVD or risk factors; or stage 4, clinical CVD. Progression of CKM stage from the first to the second examination was assessed in 11,178 individuals.

At the first examination, only 10.6% of participants had no CKM risk factors. Age-standardized prevalence of CKM risks was 26.1% for stage 1, 50.6% for stage 2, 2.4% for stage 3, and 10.3% for stage 4. Men had higher CKM risk stages than women, and Cuban or Puerto Rican participants had higher stages than other Hispanic or Latino groups.

At an average 6 years' follow-up, CKM risk stage decreased for 10.3% of participants and increased for 21.5%. Rates of regression to a lower stage were 6.6% for patients initially in stage 1, 15.5% in stage 2, and 27.6% in stage 3. Progression to a higher stage occurred in 53.3% of patients initially in stage 0, 41.9% in stage 1, 8.8% in stage 2, and 20.2% in stage 3. Patients in CKM stage 3 or 4 at the initial examination were more likely to have worsening of kidney function.

Patients with CKM risk factors are at increased risk of CVD, kidney failure, and death. The new study addresses a gap in knowledge regarding the prevalence and progression of CKM stages in the large and diverse Hispanic or Latino population in the United States.

The findings suggest that 80% of Hispanic or Latino adults have CKM risk factors or risk equivalents of subclinical CVD, with 20% progressing to a higher stage during 6 years' follow-up. The findings "underscore the substantial burden of CKM risk factors in Hispanic/Latino adults and highlight the importance of early identification and intervention to prevent CKM progression," the researchers write. They call for "integrated management guidelines for CKM syndrome to prevent progression and improve kidney and cardiovascular outcomes across Hispanic/Latino communities" [Kondeti P, et al. Progression of cardiovascular-kidney-metabolic syndrome among Hispanics/Latinos in the United States: The Hispanic Community Health Study/Study of Latinos (HCHS/SOL). *Clin J Am Soc Nephrol*, published online June 12, 2026. doi: 10.2215/CJN.0000001088]. ■



KIDNEY WEEK 2026

October 21–25 | Denver, CO

Showcase High-Impact Research

That Moves the Field Forward

Bring kidney research to a global stage at ASN Kidney Week, the world's premier nephrology meeting.

Share timely breakthroughs with more than 12,000 kidney professionals and help drive innovation in kidney health.

Late-Breaking Abstracts due Wednesday, September 2, at 2:00 p.m. EDT.

Submit Now

www.asn-online.org/kidneyweek

KidneyNews

Free Subscriber Service Request Card

☐ I wish to start/renew a FREE subscription to *Kidney News*

7-digit number label (Required for change of name/address only)

Name

Address

City State Zip

Phone Email Address

Signature Date

Sign up for eTOC alerts at www.kidneynews.org/magazine and never miss an issue.

Please Check Degree(s)

☐ MD ☐ DO ☐ PhD ☐ MBA ☐ RN ☐ MS ☐ BS

☐ Other_____

American Society of Nephrology

Submit your request via QR code, email bhenkel@asn-online.org, or mail to Bob Henkel, 1401 H St NW, #900, Washington, DC 20005.

Index to Advertisers

LEARN HOW BAFF AND APRIL FUEL THE OVERPRODUCTION OF Gd-IgA1 AND AUTOANTIBODIES, WHICH FORM PATHOGENIC IMMUNE COMPLEXES IN IgA NEPHROPATHY[1-3]

APRIL, a proliferation-inducing ligand; BAFF, B cell activating factor; Gd-IgA1, galactose-deficient immunoglobulin A1; IgA, immunoglobulin A.

References: 1. Cheung CK, et al. *Front Nephrol.* 2024;3:1346769. doi:10.3389/fneph.2023.1346769 **2.** Kwon CS, et al. *J Health Econ Outcomes Res.* 2021;8(2):36-45. **3.** Suzuki H, Novak J. *J Clin Med.* 2024;13(15):4495. doi:10.3390/jcm1315449550

50 Northern Avenue, Boston, MA 02210 | www.vrtx.com

VERTEX®