

**Contacts:** Tracy Hampton • (312) 339-9067 • [thampton@nasw.org](mailto:thampton@nasw.org)  
Christine Feheley • (202) 640-4638 • [cfeheley@asn-online.org](mailto:cfeheley@asn-online.org)

## DO SMARTPHONE APPS HELP KIDNEY DISEASE PATIENTS MANAGE THEIR DISEASE?

*Study finds little agreement among patients and their physicians.*

### Highlights

- Very few apps related to chronic kidney disease are highly rated by patients or physicians
- Patient ratings of smartphone apps related to managing kidney disease correlated poorly with both physician ratings and consumer ratings.

**Washington, DC (March 21, 2019)** — Very few apps related to helping patients with chronic kidney disease (CKD) manage their disease were highly rated by both patients and kidney specialists in a study appearing in an upcoming issue of the *Clinical Journal of the American Society of Nephrology (CJASN)*. Additional efforts are needed to create apps that are viewed as beneficial by both patients and their doctors.

Nearly every aspect of the treatment of CKD relies heavily on the active participation of patients in their own care. Tasks that patients must manage at home include self-monitoring of blood pressure, following a strict diet, and maintaining a precise medication regimen.

Smartphone apps are an accessible way of helping patients take an active role in managing CKD; however, patients and doctors approach the disease from completely different perspectives. Karandeep Singh, MD, MMSc (University of Michigan) and his colleagues designed a study to measure the quality, usability, and safety of 28 top-performing CKD apps on the iOS and Android app stores from the perspective of both CKD patients and kidney specialists. Two CKD patients and 3 nephrologists performed the evaluations.

The team found that patients' opinions of app quality were quite different from those of doctors. Both patients and nephrologists identified a handful of apps as high quality for a specific functionality, but only one app was identified as being of high quality overall by both groups.

Not only did patient evaluations of app quality correlate poorly with physician ratings, they also correlated poorly with consumer ratings from iOS and Android app stores. In other

words, even if an app is rated 5 stars and deemed to be useful by kidney doctors, it may not be viewed favorably by patients with CKD.

“If nephrology organizations are considering endorsing or recommending apps for patients to use, they should seek patient input in the process because there is no good substitute for patient opinion,” said Dr. Singh.

In an accompanying editorial, Joel Topf, MD (Oakland University William Beaumont School of Medicine) and Swapnil Hiremath, MD, MPH (University of Ottawa) asked, “What is the way forward, given the state of the medical-app world? We argue that it should be perceived as an opportunity rather than a debacle.”

In an accompanying Patient Voice editorial, Dale Rogers noted that he and other patients want apps that offer clear, concise controls with an intuitive interface and helpful feedback in plain language. “Developers need to collaborate with kidney consumers and design apps that work for **both** nephrologists and patients,” he wrote. “Patients add value, help define the product and when a usable app arrives, patients themselves will try the updates.”

Study co-authors include Clarissa J. Diamantidis, MD, MHS, Shreyas Ramani, MHI, Nrupen A. Bhavsar, PhD, Peter Mara, Julia Warner, Jorge Rodriguez, MD, Tianshi Wang, MHI, and Julie Wright-Nunes, MD, MPH.

Disclosures: Dr. Singh received support from grant 5K12 DK111011 from the National Institute of Diabetes and Digestive and Kidney Diseases. Dr. Diamantidis received support from grants K23 DK099385 and 1 R01 DK93938. Dr. Wright-Nunes received support from grants K23 DK097183 and R01 DK115844. The funding source had no role in the study design, conduct, analysis, or decision to submit the manuscript.

The article, entitled “Patients’ and Nephrologists’ Evaluation of Patient Facing Smartphone Apps for Chronic Kidney Disease,” will appear online at <http://cjasn.asnjournals.org/> on March 21, 2019, doi: 10.2215/CJN.10370818.

The editorial, entitled “Got CKD? There’s an App for That,” will appear online at <http://cjasn.asnjournals.org/> on March 21, 2019.

The Patient Voice editorial, entitled “Patient Perspective of Smartphone-Based Apps for CKD Self-care,” will appear online at <http://cjasn.asnjournals.org/> on March 21, 2019.

*The content of this article does not reflect the views or opinions of The American Society of Nephrology (ASN). Responsibility for the information and views expressed therein lies entirely with the author(s). ASN does not offer medical advice. All content in ASN publications is for informational purposes only, and is not intended to cover all possible uses, directions, precautions, drug interactions, or adverse effects. This content should not be used during a medical emergency or for the diagnosis or treatment of any medical condition. Please consult your doctor or other*

The American Society of Nephrology®, ASN®, Kidney Week®, CJASN®, JASN®, NephSAP®, and ASN Kidney News® are registered trademarks of ASN

*qualified health care provider if you have any questions about a medical condition, or before taking any drug, changing your diet or commencing or discontinuing any course of treatment. Do not ignore or delay obtaining professional medical advice because of information accessed through ASN. Call 911 or your doctor for all medical emergencies.*

*Since 1966, ASN has been leading the fight to prevent, treat, and cure kidney diseases throughout the world by educating health professionals and scientists, advancing research and innovation, communicating new knowledge, and advocating for the highest quality care for patients. ASN has more than 20,000 members representing 131 countries. For more information, please visit [www.asn-online.org](http://www.asn-online.org) or contact the society at 202-640-4660.*

# # #

Tweet: Do smartphone apps help kidney disease patients manage their disease?  
@kdpsinghlab

Facebook: Very few apps related to helping patients with chronic kidney disease (CKD) manage their disease were highly rated by both patients and kidney specialists in a study in the *Clinical Journal of the American Society of Nephrology*. Additional efforts are needed to create apps that are viewed as beneficial by both patients and their doctors

Media: Kara Gavin [kegavin@med.umich.edu](mailto:kegavin@med.umich.edu)