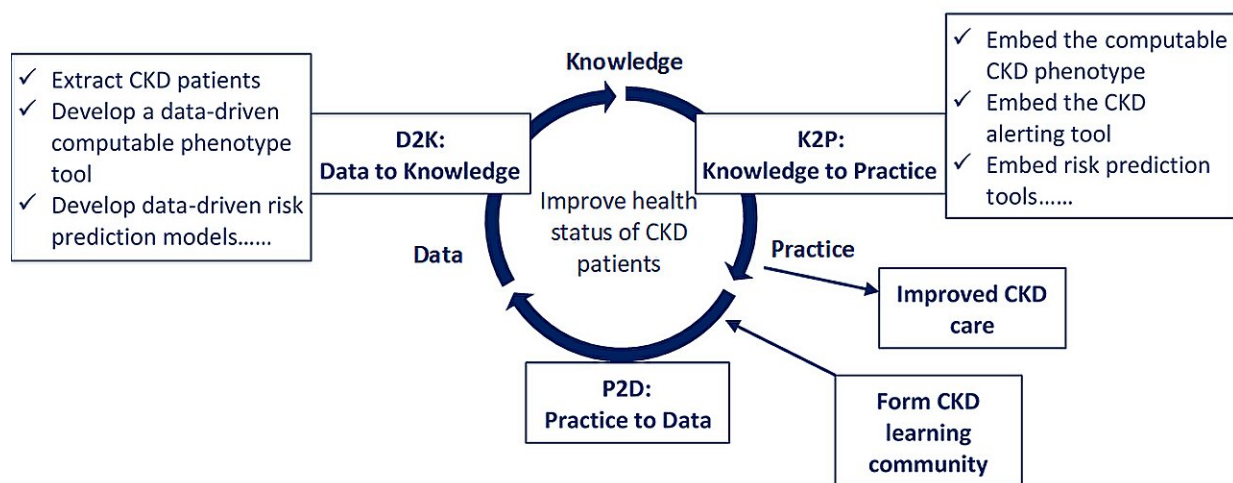


Optimizing chronic kidney disease management through a learning health system approach

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Health data scientists at PKUHSC initiated the CKD LHS study with physicians and epidemiologists in Yinzhou. Credit: Guilan Kong et al.

A recent [publication](#) in *Health Data Science* offers an in-depth exploration of an innovative approach to chronic kidney disease (CKD) management through the adoption of a learning health system (LHS) model. The study underscores a transformative shift towards more

responsive and efficient health care practices, especially in managing pervasive conditions like CKD.

In the realm of medicine, the journey from research discovery to [clinical application](#) is notoriously protracted, often spanning nearly two decades. The LHS framework seeks to dramatically shorten this trajectory by leveraging real-time data analytics, thereby expediting the translation of research insights into practical health care interventions.

Associate Research Professor Guilan Kong of the National Institute of Health Data Science (NIHDS) at Peking University highlights the critical role of LHS in accelerating the data-to-evidence-to-practice continuum, an advancement he views as crucial for improving global health outcomes in the digital age.

Targeting CKD, a condition that is both widespread and undermanaged in China, the research team piloted an LHS initiative in Yinzhou, a district distinguished by its sophisticated Regional Health Information Platform (YRHIP) operational since 2009. This platform, integral to the local health care landscape, collects comprehensive patient data across various medical institutions and has been instrumental in developing a specialized CKD surveillance system initiated in 2018.

The project's inception involved assembling a diverse learning community, including [medical practitioners](#), IT specialists, and data scientists, who collaboratively assessed CKD care in Yinzhou, identifying and addressing critical care delivery gaps. This collective effort enabled the identification of CKD patients through an advanced computable tool, facilitating targeted intervention by primary care providers.

The researchers emphasize the potential of integrating predictive analytics and clinical decision support mechanisms into the YRHIP, aiming to enhance patient triage, streamline referrals, and encourage the adoption of clinical guidelines.

Professor Luxia Zhang of NIHDS reflects on the pilot's promising outcomes, suggesting that a robust LHS infrastructure can significantly catalyze the adoption of evidence-based health care solutions. Although LHS models are prevalent in more affluent settings, their application in less economically developed regions presents unique challenges and opportunities for innovation.

As the team looks to the future, they plan to refine CKD [predictive analytics](#) and further integrate these technologies into Yinzhou's health care framework, a step Prof Kong believes will empower physicians to make more informed decisions, thereby elevating the standard of CKD care.

More information: Guilan Kong et al, Transforming Health Care Through a Learning Health System Approach in the Digital Era: Chronic Kidney Disease Management in China, *Health Data Science* (2023). [DOI: 10.34133/hds.0102](#)

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