

For chronic kidney disease, an ounce of prevention can be economical

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With a prevalence of about one in 10 people worldwide, chronic kidney disease (CKD) is a global health problem. It also often goes undetected, leading to a range of negative health outcomes, including death.

Catching it at an early stage and adjusting nutrition and lifestyle can improve and extend life, but only if there are economically feasible systems in place to promote and educate on this.

Amid finite health-care resources, any CKD [intervention](#) must be both practical and cost-effective. A team of researchers centered at the University of Tsukuba now believe they have found a CKD behavioral intervention that can be delivered at a reasonable cost. They published their findings in the *Journal of Renal Nutrition*.

Changing eating and lifestyle habits, and regularly visiting a doctor, are vital in managing CKD. Yet the CKD treatment guidelines under Japan's nationalized health-care system offer little economic incentive for general physicians (GPs) to recommend dietitians' valuable guidance for CKD patients.

"There's substantial evidence, including the Japanese Society of Nephrology's clinical guidelines, that dietitian-led patient education can slow the progression of CKD," study corresponding author Professor Masahide Kondo says. "But this sort of education seldom happens in Japan. We sought a way to justify such interventions and incentivize GPs to initiate them."

With a lack of economic assessments of these interventions, the researchers conducted a cost-effectiveness analysis using a Markov model, a mathematical method for finding patterns and making predictions. Based on results from the Frontier of Renal Outcome Modifications in Japan (FROM-J) study, which found success in dietitian-led education and lifestyle advice, along with periodic check-ups, they projected how such intervention would perform economically.

Naturally, a host of factors, such as disease progression and drug costs, play into this complex modeling. Key here was whether the incremental

cost-effectiveness ratio (ICER), which shows the unit cost of gaining 1 extra healthy life year among the patients via the intervention, gave sufficient worth for that amount. The estimated ICER of about US\$1,324 per quality-adjusted life year (QALY) was compared with the suggested social willingness to pay about US\$45,455 for a 1-QALY gain. This demonstrates considerable cost-effectiveness.

"Diffusing such CKD interventions now seems justifiable, even with limited health-care resources," study first author Assistant Professor Reiko Okubo says. "We found that by adjusting the reimbursements and accessing the country's 5,000 registered dietitians, we could incentivize GPs to encourage practical behavioral interventions."

Behavior modification for CKD patients has the potential to be cost-effective within Japan's national health-care scheme. It can also improve and extend lives. Such findings could extend to other countries and encourage them to modify their guidelines. If policy can follow suit and GPs can comply with the advice, CKD can become a more manageable, and less fatal, disease.

More information: Reiko Okubo et al. Cost-Effectiveness of Behavior Modification Intervention for Patients With Chronic Kidney Disease in the FROM-J Study, *Journal of Renal Nutrition* (2021). [DOI: 10.1053/j.jrn.2020.12.008](https://doi.org/10.1053/j.jrn.2020.12.008)

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