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REVAMPING KIDNEY DONATION ALLOCATION IN AUSTRALIA

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THE demand for donated kidneys outweighs supply, despite the best efforts of the Organ and Tissue Authority (OTA), making it imperative that each donated kidney is used in the best way possible, according to the authors of a Perspective published in the *Medical Journal of Australia*.

Professor Jeremy Chapman, Director of Renal Medicine at Westmead Hospital in Sydney, and Professor John Kanellis, Deputy Director of the Department of Nephrology at Monash Medical Centre in Melbourne, wrote that it was "important to use as many donated organs as possible, despite donor comorbidities and suboptimal organ quality, while also maximising the outcomes of each transplant".

Since the formation of the OTA in 2009, the deceased donation rates in Australia have reached 20.8 donors per million population (dpmp) in 2016, from a pre-reform mean of 10.2 dpmp (2000–2008) — a 104% increase.

The increase in kidney donations, Chapman and Kanellis wrote, is largely due to the inclusion of older, more medically complex donors with brain death and through donations from patients after circulatory death.

Kidneys in Australia are allocated using a computer algorithm called the National Organ Matching System, which takes into account blood group compatibility, immunological factors, and waiting time on dialysis. Kidneys are matched and allocated at either a national level (around 20% of donations), if there is a well-matched kidney, or at state level, where more weight is given to those potential recipients who have been waiting the longest.

According to Chapman and Kanellis, the use of waiting time on dialysis as one of the major factors determining the order of potential recipients for state-based kidney allocation "promotes a patient perspective of fairness".

"Matching the quality of the donor kidney to the likely survival of the recipient has become an important principle in many countries," wrote Chapman and Kanellis. "Survival matching or longevity matching is under consideration here too, and we are building the computer system capable of using this approach to allocation. The broadened spectrum of both donors and recipients now demands a more sophisticated approach.

"Good quality kidneys from younger and fitter donors have a longer predicted lifespan and thus, logically, should be allocated to recipients with longer predicted life expectancy. Those kidneys with a shorter predicted lifespan are better allocated to older patients with a shorter predicted lifespan.

"We owe it to those individuals who altruistically donate their kidneys to ensure that each donation counts and the outcomes for the community are maximised," the authors concluded.

"We are at a point now where the systems that have served the community well for the past 30 years are being redesigned using Australian data and in the light of the changing donors, changing recipients and improving technologies available today."

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