

The Kidney Allocation System

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KEYWORDS

• Kidney transplant • Organ allocation • Transplant waiting list

KEY POINTS

- The current kidney allocation system is outdated and has not evolved to reflect the changing demographics of patients on the waiting list.
- Without additional donor kidneys, any change in the allocation system shifts kidneys between different patient groups.
- Any changes in the allocation system will be trade-offs between equity and utility.
- The new proposed system will significantly reduce mismatches between possible donor kidney longevity and life expectancy of recipients.

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The new kidney allocation policy was approved by the Organ Procurement and Transplantation Network Board of Directors on July 25, 2013. See http://optn.transplant.hrsa.gov/PoliciesandBylaws2/policies/pdfs/policy_7.pdf.

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- The new system more appropriately incorporates the biology of highly sensitized patients into the waiting-time scoring algorithm.
- The new system makes incremental advances toward more geographic sharing.

INTRODUCTION

Dialysis and kidney transplant are the two available active treatment options for the nearly 500,000 individuals in the United States with end-stage renal disease (ESRD). Many patients with ESRD will achieve improved quality and increased quantity of life from a kidney transplant in comparison with maintenance dialysis (**Fig. 1**).^{1–3} ESRD patients can receive a kidney for transplant from a living or a recently deceased donor. The current system for allocation of deceased donor kidneys in the United States has been in place for nearly 3 decades. During this time the demand for kidney transplants has increased dramatically while the supply has remained fairly constant (**Fig. 2**). Moreover, as the criteria for eligibility for kidney transplants have broadened, the system for allocating kidneys has remained largely unchanged. This situation has resulted in ever increasing waiting times for patients as well as a patchwork of allocation variances designed to address perceived or actual deficiencies. The resulting system of allocation fails to address the differences in wait-listed patients or optimize the use of recovered organs, and is both cumbersome to administer and nearly impossible to modify. As established in the National Organ Transplant Act, the Organ Procurement and Transplantation Network (OPTN) administers the waiting list and develops policy regarding the allocation of deceased donor kidneys.⁴ The OPTN contract is currently held by United Network for Organ Sharing.

LIMITATIONS OF THE CURRENT KIDNEY ALLOCATION SYSTEM

Because of the extreme mismatch between the number of listed candidates and the number of organs available for transplant (see **Fig. 2**), candidates must wait ever longer

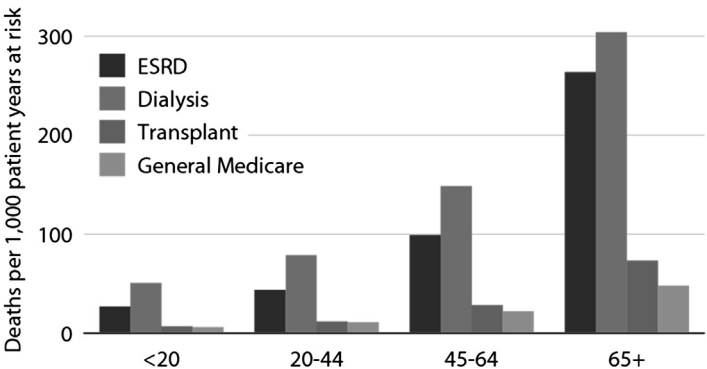


Fig. 1. Death rates of end-stage renal disease (ESRD), dialysis, and transplant patients, and in the general Medicare population, by age.

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