AWARD RECIPIENT

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PROJECT

"Predictors of Mortality Among Older Renal Transplant Candidates and Recipients: Implications for Organ Allocation Policy in the United States"

MENTORSHIP TEAM

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Over the past decade, the prevalence of end-stage renal disease (ESRD) in the United States has risen, with elderly individuals comprising an increasing proportion of this population. Compared to dialysis, kidney transplantation greatly improves the length and quality of life of ESRD patients, including elderly ESRD patients. However, the recent Life Years from Transplantation (LYFT) proposal would greatly reduce the ability of older adults to get a transplant due to lower estimated mortality benefit compared to younger individuals.

Policies regarding the allocation of organs on the basis of age should rest on solid epidemiological evidence and bioethical principles. In its present form, the LYFT allocation model relies heavily on age without a sufficient method for distinguishing between the broad array of health status levels existing among older adults. Prior studies have shown substantial variation in the co-morbidities and observed mortality of elderly transplant candidates. The LYFT proposal demonstrates the need to determine what factors, besides age, accurately predict mortality among older transplant candidates.

A major limitation of the LYFT model is its formulation based on a dataset lacking high quality information on functional status, changes in health over time, and co-morbidities which contribute to mortality risk among older adults. Although the LYFT system might improve the net survival of the transplant population, the system might not accurately assess the mortality risk of individuals, particularly the elderly. In short, older adults may not have fair and equal access to treatment for ESRD.

The goals of my research are to identify important predictors of mortality among older transplant candidates and recipients, and to acquire further skills in transplant nephrology and geriatrics. By linking several datasets, I will obtain detailed information on individual health status and perform a cohort study of transplant candidates on dialysis. In particular, I will examine the impact of two important factors in the health of older adults that are not included in LYFT – physical function and hospitalizations while on the transplant waiting list.

To achieve these goals, I aim to:

1. Identify clinical and functional characteristics that predict mortality among renal transplant candidates and recipients.

2. Assess whether the predictive abilities of the characteristics identified in Aim 1 differ across age strata.

3. Define the characteristics of older transplant candidates who derive similar gain in life years from transplantation compared to younger transplant candidates.

4. Assess whether the addition of clinical and functional characteristics to the LYFT model will lead to improved ability to predict mortality among older transplant candidates.

With the skills and training obtained through the support of the American Society of Nephrology-ASP Junior Development Award in Geriatric Nephrology, I will develop a policy framework to examine the tradeoff between efficacy and fairness when rationing a finite pool of kidney allografts among the large number of renal transplant candidates. Additionally, I will use the results of this study to develop further National Institutes of Health-funded investigations regarding the characteristics common to older transplant candidates that predict outcomes after transplantation.