

Program-effect attenuation with time posttransplant

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Introduction

- The program-specific reports produced by the Scientific Registry of Transplant Recipients include 1-month, 1-year, and 3-year posttransplant graft and patient survival measures. The 1-month and 1-year measures use the same 2.5-year cohort of transplant recipients. The 3-year measures use an older 2.5-year cohort that does not overlap the 1-year cohort.
- The 3-year survival measures have limitations: they are calculated for older cohorts, so their relevance for current program evaluation is suspect. Follow-up beyond 3 years (possible for most cohort members) is ignored. Graft failures and patient deaths (events) that occurred during the first year posttransplant are included in the 3-year measures, and thus 3-year measures are not clearly distinct from 1-year measures.

Methods

- Separate 5-year conditional survival models were built for deceased and living donor adult kidney graft and patient survival using the 3-year model cohorts, but excluding recipients with events during the first year posttransplant. The 5-year models, therefore, lack the limitations of the 3-year models.

Results

- For each model, a hazard ratio was calculated for each program as a performance measure. Hazard ratios tended to be least well correlated between the 1-year and 5-year models (Table 1). There was little correlation between 1-year and 5-year estimated program hazard ratios for deceased donor adult graft survival (Fig. 1), and substantial program-level variability in 5-year conditional graft survival.

Conclusions

- Although the degree to which long-term outcomes are determined by factors under the control of transplant programs is unclear, these results suggest that 5-year conditional survival metrics could be a useful supplement to 1-year survival metrics.

Figure 1. Scatterplots of estimated program hazard ratios for 1-year and conditional 5-year deceased graft and patient survival for recipients of living and deceased donor kidneys. "X" symbols indicate programs with unusually low 5-year conditional survival and "+" symbols indicate programs with unusually low 1-year survival. "*" symbols indicate programs with both unusually low 5-year conditional survival and unusually low 1-year survival.

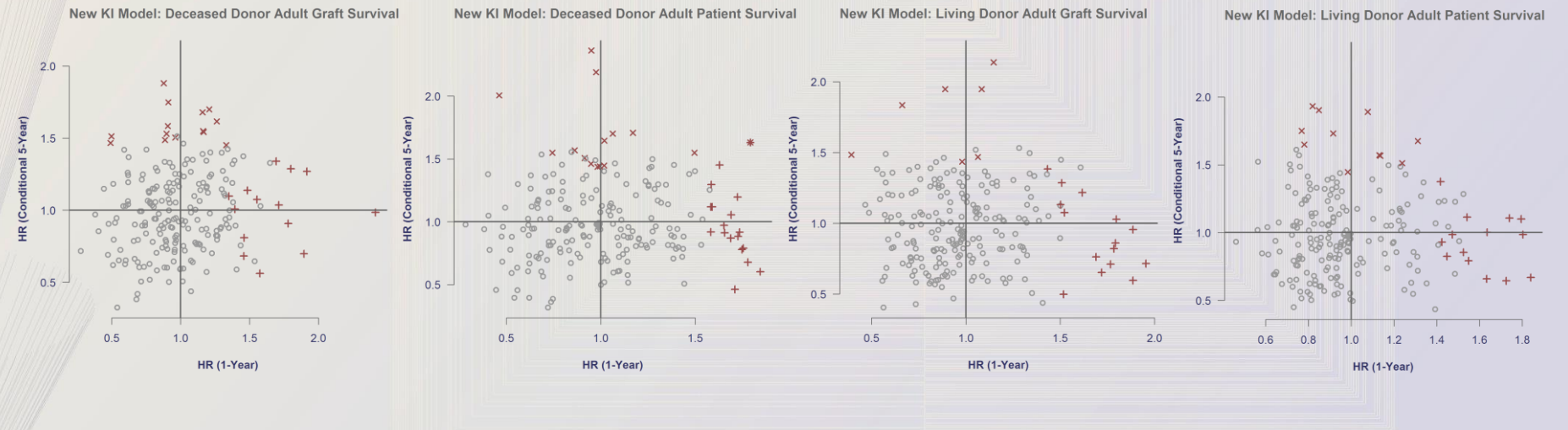


Table 1. Correlations between estimated program hazard ratios

Adult Kidney Models	Deceased Donor		Living Donor	
	Graft	Patient	Graft	Patient
1-Year, 3-Year	0.24	0.20	-0.03	0.00
3-Year, 5-Year	0.63	0.66	0.61	0.70
1-Year, 5-Year	0.13	0.06	-0.01	0.00

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