Appendix 4 (as supplied by the authors): Control for baseline imbalances using propensity-score analysis

We used three propensity-score techniques to control for bias from the non-random decision to initiate dialysis earlier vs. later: matching, stratification and weighting. Propensity scores were calculated for each individual using a logistic regression model, with early vs. late dialysis initiation as the outcome. The Greedy matching algorithm was used to match 1 early-starter to 2 late-starters (1:2 ratio) on late-referral (exact), access type (exact), age (+/- 5 years), sex (exact), race(exact), diagnosis (exact), and ESRD comorbidity index (exact). As well, five strata of equal size were constructed from the propensity score such that patients within the same stratum are compared directly. Finally, the inverse of the propensity score was used as a weighting variable and included as a covariate in the multivariable regression.

Table 1. Risk of mortality from dialysis initiation at high vs. low eGFR in 25,910 Canadian hemodialysis patients: A comparison of statistical models

Model	Hazard Ratio	95% Confidence Interval	p-value
Unadjusted			
Unadjusted Cox proportional hazards model	1.48	1.43-1.54	<0.001
Multivariate-adjusted			
Multivariable-adjusted Cox proportional hazards model*	1.18	1.13-1.23	<0.001
Propensity-Score Analyses			
Adjusted for weighted propensity score*	1.22	1.18-1.25	<0.001
Stratified by quintiles of propensity score*	1.20	1.15-1.25	<0.001
Propensity-score matched cohort (n=16,055)*	1.20	1.14-1.25	<0.001

*Adjusted for age (in 10-year increments), sex, race, pre-dialysis serum albumin (g/dL), renal diagnosis, access type, end-stage renal disease comorbidity index, late referral, transplant status.

