



# Comparative cost-effectiveness study among different renal replacement techniques

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## Introduction:

- The NRF is the organization financing in Uruguay the treatment of the three renal replacement techniques (RRT): kidney transplantation (TxR), peritoneal dialysis (PD) and hemodialysis (HD).
- No previous studies have been performed in Uruguay.

**Objective:** Assess and compare the magnitude of expenses and cost-effectiveness among the RRTs.

## Methods:

Retrospective cohort study of the three techniques in year 2005 incident patients. The “end point” studied was death for dialysis and graft survival for TxR. All healthcare costs were estimated in US dollars per patient, per year and per technique by information provided by the NRF. A Kaplan Meier Survival Analysis and mean cost-effectiveness ratio analysis were made. Subpopulations waiting for TxR in this period were compared to transplantation patients.

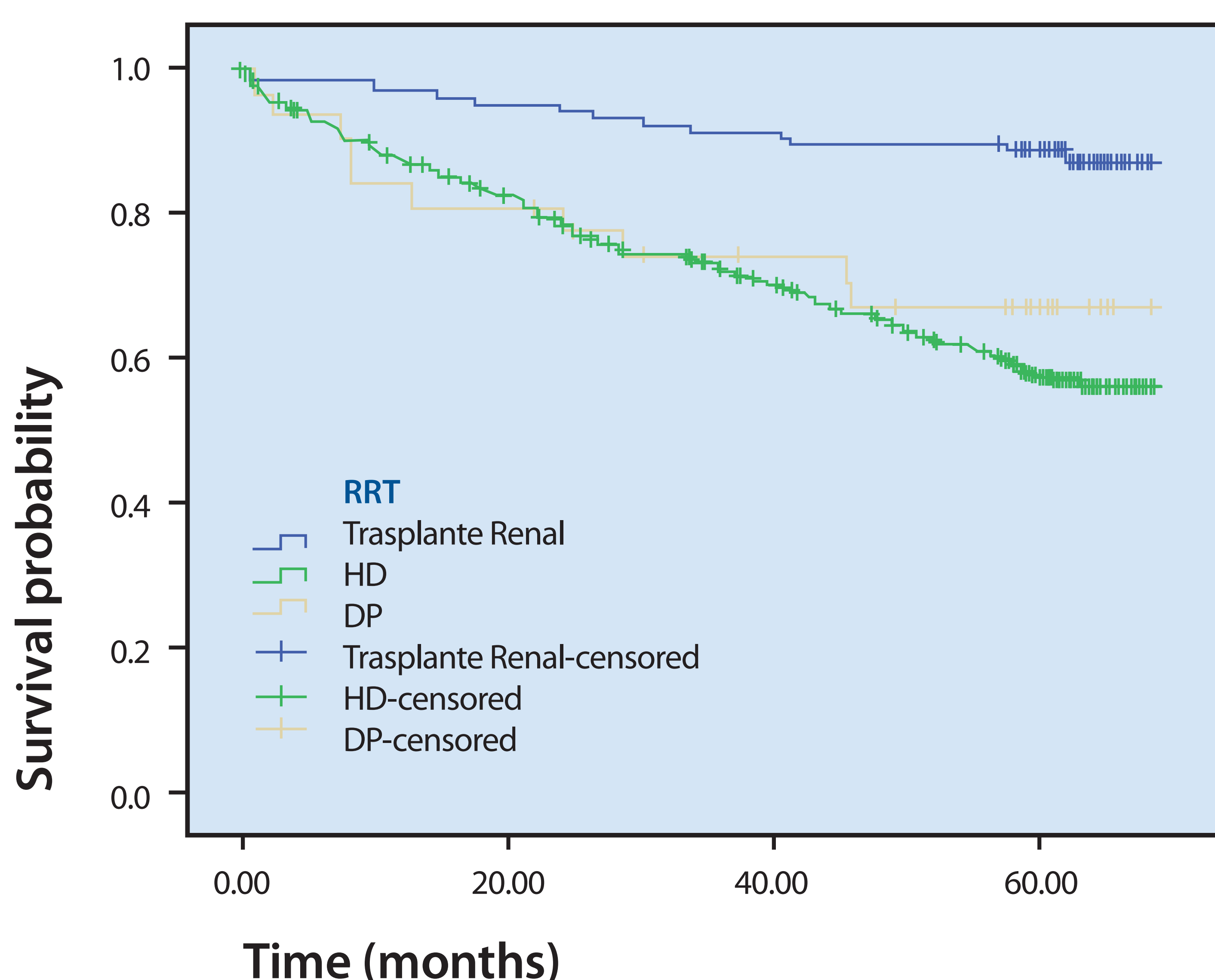
**Table 1. MEAN COST-EFFECTIVENESS RATIO ANALYSIS**

	1 year	3 year	5 year
<b>HD</b>	221,3	745,1	1536,8
<b>DP</b>	172,5	585,5	1084,8
<b>TxR</b>	210,8	67,3	69,5

**Table 2. THE ESTIMATED COSTS** Cost average patient/year (USD)

	1 year	3 year	5 year
<b>HD</b>	19366	17366	17366
<b>DP</b>	14559	14559	14559
<b>TxR</b>	20298	6401	5596

**Figure 1. KAPLAN MEIER SURVIVAL ANALYSIS**



## Results:

- 612 patients were included: 471 in HD, 109 with TxR and 32 in PD. Mean age at admission was 43,8 years for TxR, 59,8 for PD and 61,1 for HD. Patients with TxR had a significant lower mean age ( $p < 0,00001$ ).
- The survival probability (P(s)) for HD at years 1, 3 and 5 was 87,5%, 72,6% and 57,8% respectively. The P(s) in PD was 84,4%, 74,6% and 67,1% and the P(s) for the graft in TxR was 96,3%, 95,1% and 80,5%. (Figure1)
- The mean cost-effectiveness ratio at years 1, 3 and 5 for HD of 221,3; 745,1 ; 1536,8 respectively; for PD 172,5 ; 585,5 ; 1084; for TxR 210,8; 67,3 ; 69,5 and patients waiting for TxR 194; 195 ; 213 (Table 1) .

## Conclusions:

- This is the first comparative cost-effectiveness study by different RRT in Uruguay. In the first year, PD has the best mean cost-effectiveness ratio while in years 3 and 5, TxR widely surpasses the other techniques.