

SPANISH RENAL DISEASE REGISTRY: DATA FROM 2013 REPORT AND EVOLUTION FROM 2007 TO 2013

SP703

Authors: Eduardo Martin-Escobar¹, **Beatriz Mahillo Durán**¹, J Emilio Sánchez², Pablo Castro de la Nuez³, José M. Abad Diez⁴, Ramón Alonso de la Torre⁵, Catalina Garrigó⁶, Manuel Ferrer-Alamar⁷, Oscar Zurriaga Llorens⁷, Manuel Arias⁸, Gonzalo Gutierrez Avila⁹, Raquel Gonzalez Fernández¹⁰, Jordi Comas y Farnes¹¹, María A García Bazaga¹², Encarnación Bouzas Caamaño¹³, Marta Artamendi Larrañaga¹⁴, José A. Herrero¹⁵, M Carmen Santiuste de Pablos¹⁶, Jesús Arteaga Coloma¹⁷, Angela Magaz Lago¹⁸

¹ Spanish Renal Disease Patients Registry REER, ² Spanish Society of Nephrology, ³ Andalucía Registry, ⁴ Aragón Registry, ⁵ Principado de Asturias Registry, ⁶ Islas Baleares Registry, ⁷ Comunidad Valenciana Registry, ⁸ Cantabria Registry, ⁹ Castilla la Mancha Registry, ¹⁰ Castilla y León Registry, ¹¹ Cataluña Registry, ¹² Extremadura Registry, ¹³ Galicia Registry, ¹⁴ La Rioja Registry, ¹⁵ Madrid Registry, ¹⁶ Murcia Registry, ¹⁷ Navarra Registry, ¹⁸ País Vasco Registry.

BACKGROUND

The REER was created in 2006 thanks to the collaboration among the Spanish Society of Nephrology, the regional registries and the Spanish National Transplant Organization. It emerges from the integration of regional registries and collects information about all patients receiving renal replacement therapy (RRT) for end stage renal disease (ESRD) in the participating regions, 17 regions (Autonomous Communities) and 2 autonomous cities.

OBJECTIVE

To show a summary of the evolution of epidemiologic parameters of RRT in Spain from 2007 to 2013 REER, including incidence, prevalence and transplant rates and survival probabilities among the patients on RRT.

METHODS

Data source:

- Data sets from the participating regional renal disease registries (aggregated and individual patient records).
- ONT registry for donation and transplantation activities.
- Reference population was drawn from the official population on January the 1st of the year under study from the Spanish Statistical Office.
- Incidence and prevalence are based on aggregated data; the survival analysis was calculated for those registries providing individual patient records.

Study period:

- 2007 to 2013 for prevalence, incidence and transplant data.
- 2004-2013 period for the survival analysis.

Definitions: ERA-EDTA registry definitions.

- **Incidence:** Number of new cases of a condition during a specific period of time, which, in this report, are the years between 2007 and 2013.
- **Prevalence:** total number of RRT patients residing in the participating regions and alive on 31 December of the corresponding year.
- Rates are expressed **per million population** per year.

Statistical Methods: Methods for Incidence and prevalence rates;

- **Unadjusted rates:** the incidence or prevalence is the observed incident or prevalent count divided by the general population in that year and multiplied by one million, and staged by primary renal disease (PRD), type of replacement therapy, sex and age groups.
- **Adjusted rates:** The EU27 age and gender distribution of the European population for 2005 was therefore used to adjust incidence and prevalence for age and gender for the whole country and each region.
- **Kidney transplants performed:** The number of kidney transplants was obtained from the ONT registry for donation and transplantation activities; data were presented by donor type.

Methods for survival analysis:

- Data from regional registries which provide individual patient records were used. Survival probabilities were calculated for incident patients between the years 2004 and 2013.
- The Kaplan Meier method was used to calculate unadjusted patient survival probability. Log rank test was applied to compare survival curves according to some risk factors. Cox proportional model was created to study the potential predictors of survival. **Software:** Excel and SPSS v.15.0

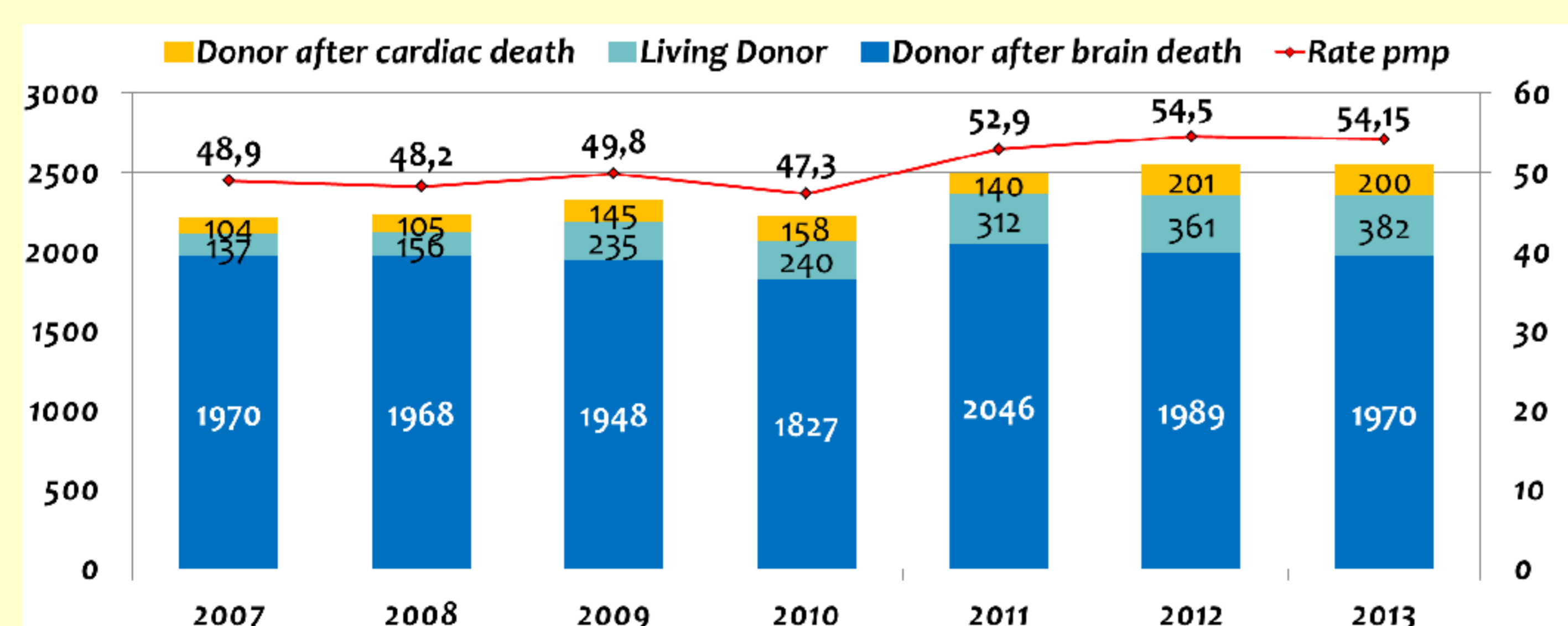
RESULTS

Tables 1 and 2. Incidence and Prevalence data

| 1. INCIDENCE | 2007 (n= 5533) | 2013 (n= 5705) |
|--------------|--|--|
| UNADJUSTED | 127.4 pmp - Cantabria: 92.5 - Canarias: 147.1 | 127 pmp - Castilla la Mancha: 102.3 - Asturias: 158.2 |
| ADJUSTED | 116.3 pmp - Males: 148,1 - Females: 82,87 | 121.4 pmp - Males: 158.6 - Females: 83,1 |
| DM | 21.9% | 24.6% |
| TX FIRST RRT | 1.7% = 2.2 pmp | 4.2% = 5.3 pmp |

| 2. PREVALENCE | 2007 (n =43104) | 2013 (n= 50565) |
|---------------|--|---|
| UNADJUSTED | 985.3 pmp - Cantabria: 844.9 - Valencia: 1103.8 | 1125.7 pmp - Melilla: 753 - Cataluña: 1242 |
| ADJUSTED | 924.0 pmp - Males: 1155.2 - Females: 688,1 | 1087.4 pmp - Males: 1360.6 - Females: 809 |
| DM | 13.9% | 14.95% |
| TX (FUNCT.) | 485.6 pmp | 579.8 pmp |

Graphic 1. Transplantation activity (2007-2013)



Survival: 40.394 patients from 12 regions who began their RRT between 2004 and 2013 were included in the survival analysis (87% of Spanish population coverage).

- Patient unadjusted survival probabilities at 1, 2 and 5 years were 91, 81 and 57%.
- In the univariate analysis a **better survival was found among non-diabetic patients, women, patients aged below 45 years, peritoneal dialysis as first RRT and also in patients who have received at least one transplant.**

| | HR | CI 95% | P |
|----------------|-------|---------------|---------|
| AGE (one year) | 1.044 | 1.042 – 1.046 | < 0.000 |
| DIABETES | 1.32 | 1.27 -1.38 | < 0.000 |
| TRANSPLANT | 0.18 | 0.16 – 0.20 | < 0.000 |
| GENDER (WOMEN) | 0.86 | 0.83 – 0.89 | < 0.000 |
| RRT (DP) | 0.93 | 0.87 – 0.99 | 0.03 |

Table 3. Survival multivariate analysis (Cox model)

CONCLUSIONS

- A small decline in the incidence rate of RRT for ESRD but with an upturn in the last year (2013) which necessitates confirming as a chance or a turnaround in the coming years.
 - A established increasing in prevalence, with more pronounced increase in the percentage of transplanted patients with functioning kidneys, due to a steady growth of the transplantation proceedings, from cadaveric as well as from living donors.
 - DM is the main individual cause of ESRD in patients with RRT
 - Survival probabilities found are better than those ones reported by the ERA-EDTA registry.
- Older diabetic men with HD as first RRT and that haven't received a kidney transplant showed a lower survival rate.**

