

Department of Nephrology, University Medical Center Ljubljana
Slovenian Renal Replacement Therapy Registry



2009, 2010, 2011 and 2012 ANNUAL REPORTS

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**SLOVENIAN RENAL REPLACEMENT THERAPY REGISTRY:
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Introduction

The present report provides an update of epidemiology and treatment practices in end-stage renal disease (ESRD) patients treated with renal replacement therapy (RRT) in Slovenia in 2009 - 2012. The report is based on individual and center questionnaires prepared by the Slovenian Renal Replacement Therapy Registry Group. The response rate to the questionnaires was 100%. Pediatric data has also been included.

The expert group for dialysis initiated annual RRT reports in 1999. These reports were initially based on data from renal center questionnaires, with each questionnaire tapping the aggregate data for patients at one center. In 2002, we have designed questionnaire for the individual patient and began collecting individual patient data as well, and by 2004, a response rate of 100% was achieved for individual patients. With these data, the Slovenian RRT registry joined the ERA/EDTA (European Renal Association-European Dialysis and Transplant Association) registry (Section B, aggregated data), and the Slovenian RRT Registry Group was founded, sponsored by the Slovenian Society of Nephrology. In 2007 Slovenian RRT registry joined ESPN Registry (European Society for Pediatric Nephrology Registry) with individual patient data. From 2007-2010 Slovenia (University Medical Center Ljubljana) was the partner of the NephroQUEST project which has received funding from the European Union in the framework of the Public Health Programme (project No: 2006114). From 2008, Registry was included in the Research Program P3-0323: Renal diseases and replacement therapies, funded by the Slovenian Research Agency. In 2014 Slovenian RRT Registry has joined Section A of ERA-EDTA Registry, sending individual patient data for 2012 to ERA-EDTA Registry database. In 2014 Registry was approved as the tertiary research project at University Medical Center Ljubljana No 20140230, enabling further development and funding of the Registry. The registry is voluntary.

The aims of the registry, which collects data on individual RRT patients as well as data on renal center characteristics, are: 1) to be informed on the number of patients and their characteristics, 2) to monitor and improve the quality of RRT care, 3) to compare Slovenian RRT care with that of other countries, 4) to use registry data for the planning of health care facilities and personnel, 5) to use registry data for the research.

The general population of Slovenia from 2009-2012 is presented in Table 1.

Table 1. Population of Slovenia from 2009 to 2012 (on October 1, source: Statistical Office of the Republic of Slovenia, http://www.stat.si/eng/tema_demografsko_prebivalstvo.asp)

	Total	Men	Women
2009	2,045,901	1,013,871	1,032,030
2010	2,048,951	1,013,976	1,034,975
2011	2,054,741	1,016,456	1,038,285
2012	2,058,123	1,018,477	1,039,646

Renal centers

On December 2012 there were 24 renal centers in Slovenia: 16 in-hospital dialysis centers, 7 private, out-patient hemodialysis centers (5 of them Fresenius Medical Care centers), and 1 transplant center (Fig. 1). Three hemodialysis centers were opened from 2008: Center for hemodialysis Stare Pravde in Ljubljana (2009, public), Center for hemodialysis in Kobarid (2011, private) and Center for hemodialysis in Dragomer (2011, private). One of the 16 in-hospital renal centers is the Center for Pediatric Dialysis and Transplantation, and another is the Center for Peritoneal Dialysis at the University Medical Center Ljubljana. 12 out of the 16 in-hospital centers perform hemodialysis procedures for patients with acute renal failure, including continuous renal replacement therapy. In addition to the specialized Center for Peritoneal Dialysis and the University Medical Center, peritoneal dialysis is performed at 8 in-hospital dialysis centers in Slovenia.

Fig. 1. Renal centers in Slovenia on December 31, 2012



Incident patients

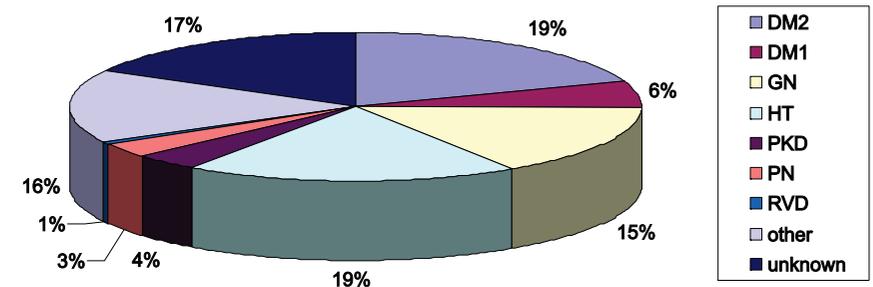
Incident patients at day 1

2009

There were 248 incident patients (incidence rate 121.4 pmp (per million of population)), of these 157 were men (63.3%, incidence rate 155.3 pmp) and 91 were women (36.7%, incidence rate 88.3 pmp). The (age and gender) adjusted incidence rate pmp (with a general population of EU27 of year 2005 used for the adjustment calculation) was 118.3 pmp, men 157.2 pmp and women 84.1 pmp.

The mean age was 65.8 ± 14.9 years (median 69 years), the mean age of men was 64.8 ± 14.8 years (median 67 years) and the mean age of women was 67.6 ± 14.9 years (median 73 years). 2 patients starting RRT were <20 years old.

Fig. 2. Primary renal disease in incident patients (at day 1) in Slovenia in 2009 (abbreviations: DM: diabetic nephropathy; HT: hypertension (hypertensive nephrosclerosis); GN: glomerulonephritis; PKD: polycystic kidney disease; PN: pyelonephritis; RVD: renovascular disease).



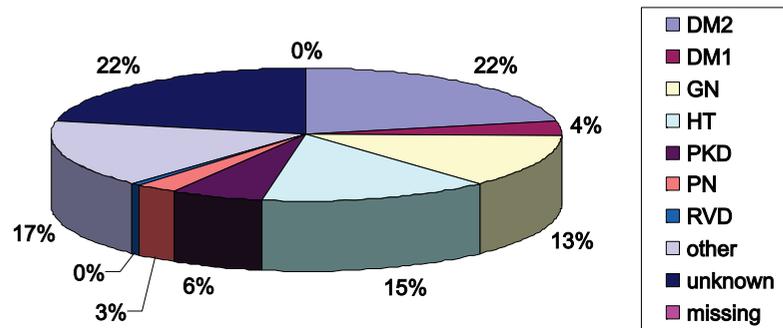
The primary renal diseases in incident patients at day 1 in 2009 were: diabetic nephropathy: type 1: 6.0%, type 2: 19.4%, both 25.4%; hypertension 19.0%; renovascular disease 0.8%; glomerulonephritis 15.3%; polycystic kidney disease 3.6%; pyelonephritis 3.2%; miscellaneous (other) 15.7%; unknown: 16.9%; data missing 0%. Diabetes was present in 104/248 (41.9%) of incident dialysis patients (information on the presence of diabetes is collected separately as comorbidity data).

2010

There were 241 incident patients (incidence rate 118.6 pmp), of these 141 were men (58.5%, incidence rate 140.4 pmp) and 100 were women (41.5%, incidence rate 97.3 pmp). The (age and gender) adjusted incidence rate pmp (with a general population of EU27 of year 2005 used for the adjustment calculation) was 116.8 pmp, men 141.8 pmp and women 93.6 pmp.

The mean age was 66.4 ± 14.3 years (median 69 years), the mean age of men was 63.8 ± 13.5 years (median 64.0 years) and the mean age of women was 70.0 ± 14.7 years (median 74.0 years). 2 patients starting RRT were <20 years old.

Fig. 3. Primary renal disease in incident patients (at day 1) in Slovenia in 2010 (abbreviations: DM: diabetic nephropathy; HT: hypertension (hypertensive nephrosclerosis); GN: glomerulonephritis; PKD: polycystic kidney disease; PN: pyelonephritis; RVD: renovascular disease).



The primary renal diseases in incident patients at day 1 in 2010 were: diabetic nephropathy: type 1: 3.7%, type 2: 24.6%, both 25.3%; hypertension 14.5%; renovascular disease 0.4%; glomerulonephritis 12.9%; polycystic kidney disease 5.8%; pyelonephritis 2.9%; miscellaneous (other) 16.6%; unknown: 21.6%. Diabetes was present in 94/241 (39.0%) of incident dialysis patients (information on the presence of diabetes is collected separately as comorbidity data).

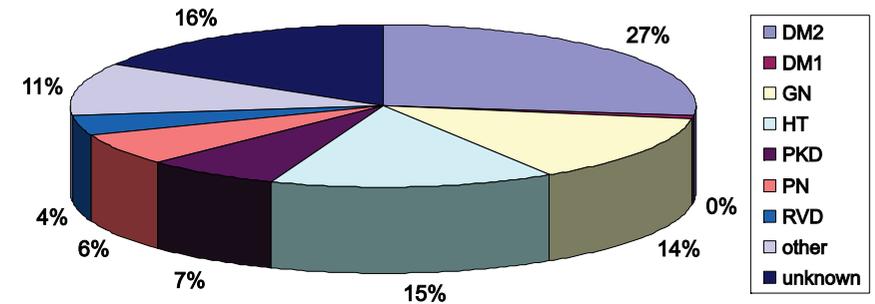
2011

There were 236 incident patients (incidence rate 115.0 pmp), of these 153 were men (64.8%, incidence rate 150.7 pmp) and 83 were women (35.2%, incidence rate 80.0 pmp). The (age and gender) adjusted incidence rate pmp (with a general population of EU27 of year 2005 used for the adjustment calculation) was 107.4 pmp, men 142.9 pmp and women 73.6 pmp.

The mean age was 66.5 ± 14.2 years (median 68 years), the mean age of men was 63.8 ± 14.3 years (median 64.0 years) and the mean age of women was 71.3 ± 12.8 years (median 74.0 years). Three patients starting RRT were <20 years old.

Fig. 4. Primary renal disease in incident patients (at day 1) in Slovenia in 2011 (abbreviations: DM: diabetic nephropathy; HT: hypertension (hypertensive nephrosclerosis); GN: glomerulonephritis; PKD: polycystic kidney disease; PN: pyelonephritis; RVD: renovascular disease).

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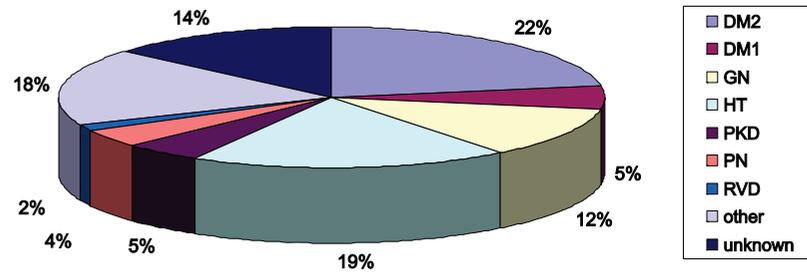
The primary renal diseases in incident patients at day 1 in 2011 were: diabetic nephropathy: type 1: 0.4%, type 2: 27.0%, both 27.5%; hypertension 14.6%; renovascular disease 3.9%; glomerulonephritis 13.7%; polycystic kidney disease 6.9%; pyelonephritis 6.4%; miscellaneous (other) 10.7%; unknown: 16.3%. Diabetes was present in 86/236 (36.4%) of incident dialysis patients (information on the presence of diabetes is collected separately as comorbidity data).

2012

There were 259 incident patients (incidence rate 126.0 pmp), of these 165 were men (63.7%, incidence rate 162.2 pmp) and 94 were women (36.3%, incidence rate 90.5 pmp). The (age and gender) adjusted incidence rate pmp (with a general population of EU27 of year 2010 used for the adjustment calculation) was 123.8 pmp, men 164.2 pmp and women 87.2 pmp.

The mean age was 67.1 ± 14.1 years (median 69 years), the mean age of men was 65.5 ± 14.6 years (median 68.0 years) and the mean age of women was 69.9 ± 12.8 years (median 70.5 years). Two patients starting RRT were <20 years old.

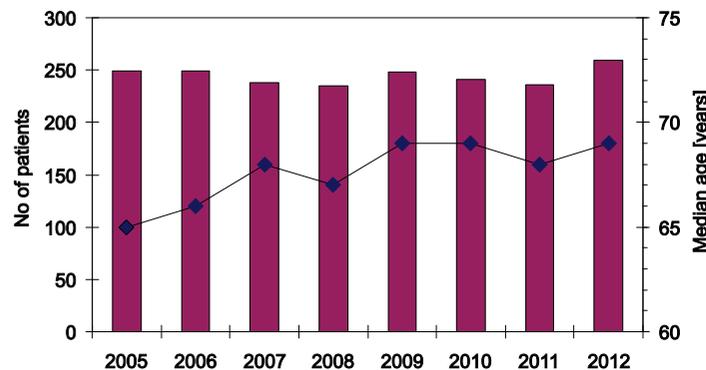
Fig. 5. Primary renal disease in incident patients (at day 1) in Slovenia in 2012 (abbreviations: DM: diabetic nephropathy; HT: hypertension (hypertensive nephrosclerosis); GN: glomerulonephritis; PKD: polycystic kidney disease; PN: pyelonephritis; RVD: renovascular disease).



The primary renal diseases in incident patients at day 1 in 2012 were: diabetic nephropathy: type 1: 5.4%, type 2: 22.4%, both 27.8%; hypertension 18.9%; renovascular disease 1.5%; glomerulonephritis 11.6%; polycystic kidney disease 4.6%; pyelonephritis 4.2%; miscellaneous (other) 17.8%; unknown: 13.5%. Diabetes was present in 112/259 (43.2%) of incident dialysis patients (information on the presence of diabetes is collected separately as comorbidity data).

Over the past years there is a stable number of incident RRT patients and a slow increase in their median age as shown in Figure 6.

Fig. 6. The number and median age of incident (day 1) renal replacement therapy patients by calendar year.



Incident patients at day 91 (patients alive and on RRT at day 91)

2009

There were 231 incident patients alive and on RRT at day 91 (incidence rate 113.1 pmp), of these 147 were men (63.6%, incidence rate 145.4 pmp) and 84 were women (36.4%, incidence rate 81.5 pmp). The adjusted incidence rate pmp (with a general population of EU27 of year 2005 used for the adjustment calculation) was 110.7 pmp, men 148.1 pmp and women 77.6 pmp.

The mean age was 65.4 ± 15.0 years (median 69.0 years), the mean age of men was 64.6 ± 14.9 years (median 67.0 years) and the mean age of women was 66.8 ± 15.1 years (median 71.5 years). 2 patients were <20 years old.

The primary renal diseases in incident patients at day 91 were almost the same as in incident patients at day 1: diabetic nephropathy: type 1: 5.6%, type 2: 19.9%, both 25.5%; hypertension 18.2%; renovascular disease 0.4%; glomerulonephritis 16.0%; polycystic kidney disease 3.9%; pyelonephritis 3.5%; miscellaneous (other) 15.6%; unknown: 16.9%; data missing 0%. Diabetes was present in 98/231 (42.4%) of incident day 91 dialysis patients (information on the presence of diabetes is collected separately as comorbidity data).

2010

There were 226 incident patients alive and on RRT at day 91 (incidence rate 111.2 pmp), of these 135 were men (59.7%, incidence rate 134.5 pmp) and 91 were women (40.3%, incidence rate 88.5 pmp). The adjusted incidence rate pmp (with a general population of EU27 of year 2005 used for the adjustment calculation) was 109.2 pmp, men 135.4 pmp and women 85.1 pmp.

The mean age was 65.8 ± 14.4 years (median 68.5 years), the mean age of men was 63.5 ± 13.6 years (median 63.0 years) and the mean age of women was 69.3 ± 14.9 years (median 74.0 years). 2 patients were <20 years old.

The primary renal diseases in incident patients at day 91 were almost the same as in incident patients at day 1: diabetic nephropathy: type 1: 4.0%, type 2: 22.6%, both 26.5%; hypertension 14.2%; renovascular disease 0.4%; glomerulonephritis 12.8%; polycystic kidney disease 6.2%; pyelonephritis 3.1%; miscellaneous (other) 16.8%; unknown: 19.9%. Diabetes was present in 90/226 (39.8%) of incident day 91 dialysis patients (information on the presence of diabetes is collected separately as comorbidity data).

2011

There were 216 incident patients alive and on RRT at day 91 (incidence rate 105.3 pmp), of these 139 were men (64.4%, incidence rate 136.9 pmp) and 77 were women (35.6%, incidence rate 74.3 pmp). The adjusted incidence rate pmp (with a general population of EU27 of year 2005 used for the adjustment calculation) was 99.3 pmp, for men 130.5 pmp and women 69.2 pmp.

The mean age was 65.9 ± 14.3 years (median 68.0 years), the mean age of men was 63.5 ± 13.7 years (median 63.0 years) and the mean age of women was 70.2 ± 14.5 years (median 73.0 years). Three patients were <20 years old.

The primary renal diseases in incident patients at day 91 were almost the same as in incident patients at day 1: diabetic nephropathy: type 1: 0.5%, type 2: 27.8%, both 28.2%; hypertension 15.3%; renovascular disease 0.9%; glomerulonephritis 13.9%; polycystic kidney disease 7.4%; pyelonephritis 6.5%; miscellaneous (other) 12.0%; unknown: 15.7%. Diabetes was present in 80/216 (37.0%) of incident day 91 dialysis patients (information on the presence of diabetes is collected separately as comorbidity data).

2012

There were 249 incident patients alive and on RRT at day 91 (incidence rate 121.1 pmp), of these 160 were men (64.3%, incidence rate 157.3 pmp) and 89 were women (35.7%, incidence rate 85.7 pmp). The adjusted incidence rate pmp (with a general population of EU27 of year 2010 used for the adjustment calculation) was 118.9 pmp, for men 158.5 pmp and women 82.6 pmp.

The mean age was 66.6 ± 14.1 years (median 69.0 years), the mean age of men was 65.0 ± 14.5 years (median 68.0 years) and the mean age of women was 69.5 ± 13.0 years (median 70.0 years). Two patients were <20 years old.

The primary renal diseases in incident patients at day 91 were almost the same as in incident patients at day 1: diabetic nephropathy: type 1: 5.6%, type 2: 22.9%, both 28.5%; hypertension 18.5%; renovascular disease 1.2%; glomerulonephritis 11.2%; polycystic kidney disease 4.8%; pyelonephritis 3.6%; miscellaneous (other) 18.5%; unknown: 13.7%. Diabetes was present in 110/249 (44.2%) of incident day 91 dialysis patients (information on the presence of diabetes is collected separately as comorbidity data).

Prevalent patients

Data relating to different forms of RRT in prevalent ESRD patients are presented in Fig. 4 and Table 1. The annual increase in prevalent patients in 2009 (as compared to 2008) was 2.4%, in 2010 it was 0.3%, while in 2011 there was a small decrease of 0.4%, followed by further increase of 2.6% in 2012.

Fig. 7. Number of prevalent patients on different forms of renal replacement therapy from 2000-2012 (HD: hemodialysis; PD: peritoneal dialysis; TX: kidney transplantation).

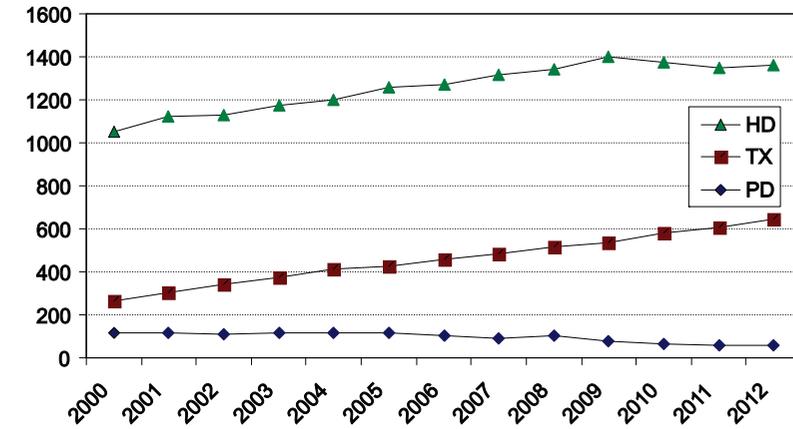


Fig. 8. Percentage of prevalent patients treated by different forms of renal replacement therapies from 1998-2012 (HD: hemodialysis; PD: peritoneal dialysis; TX: kidney transplantation).

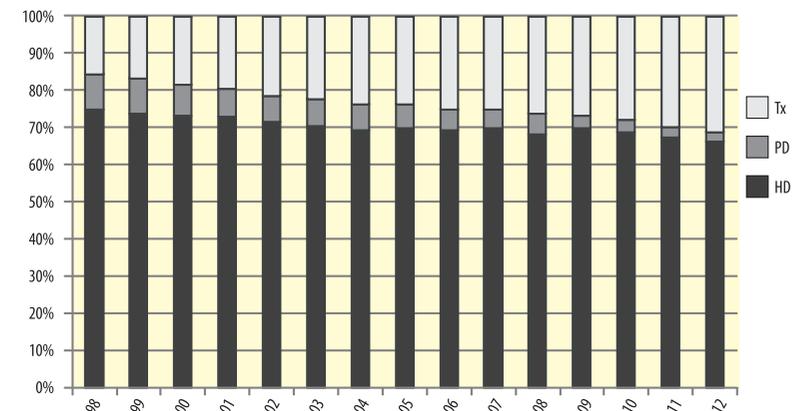


Table 2. Prevalence of end-stage renal disease patients on different forms of renal replacement therapy on December 31 in the period from 2000-2012 (residents only).

December 31	Hemodialysis	Peritoneal dialysis	Functioning graft	All
2000 (n)	1051	117	267	1435
2001 (n)	1125	113	304	1542
2002 (n)	1131	110	343	1584
2003 (n)	1171	116	374	1661
2004* (n)	1202	119	415	1736
2005* (n)	1260	115	427	1802
2006* (n)	1271	103	461	1835
2007* (n)	1318	97	482	1897
2008* (n)	1343	105	519	1967
2009* (n)	1400	77	537	2014
2010* (n)	1377	64	579	2020
2011* (n)	1347	60	604	2011
2012* (n)	1361	55	638	2054
Increase 2001 (n / %)	74 / 7.0%	-4 / -3.4%	37 / 13.9%	107 / 7.5%
Increase 2002 (n / %)	6 / 0.5%	-3 / -2.7%	39 / 12.8%	42 / 2.7%
Increase 2003 (n / %)	40 / 3.5%	6 / 5.5%	31 / 9.0%	77 / 4.9%
Increase 2004* (n / %)	31 / 2.6%	3 / 2.6%	41 / 11.0%	75 / 4.9%
Increase 2005* (n / %)	58 / 4.8%	-4 / -3.4%	12 / 2.9%	66 / 3.8%
Increase 2006* (n / %)	11 / 0.9%	-12 / -10.5%	34 / 8.0%	33 / 1.8%
Increase 2007* (n / %)	47 / 3.7%	-6 / -5.8%	21 / 4.6%	62 / 3.4%
Increase 2008* (n / %)	25 / 1.9%	8 / 8.2%	37 / 7.7%	70 / 3.7%
Increase 2009* (n / %)	57 / 4.2%	-28 / -27%	18 / 3.5%	47 / 2.4%
Increase 2010* (n / %)	-23 / -1.6%	-13 / -17%	42 / 7.2%	6 / 0.3%
Increase 2011* (n / %)	-30 / -2.2%	-4 / -6.3%	25 / 4.3%	-9 / -0.4%
Increase 2012* (n / %)	14 / 1.0%	-5 / -8.3%	43 / 7%	43 / 2.1%

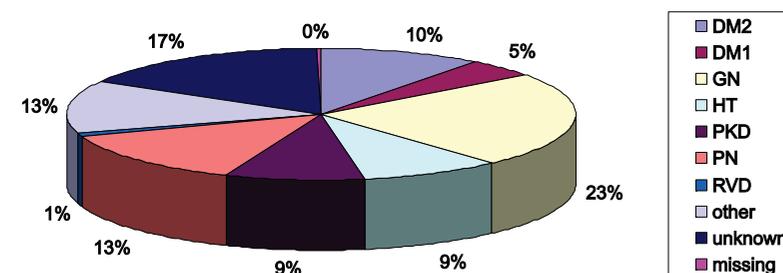
* Based on individual patient data

* For 2012 a few additional patients were reported after sending complete set of data to ERA-EDTA Registry and are included in this report.

2009

On December 31, 2009, there were 2014 prevalent RRT patients in Slovenia with a prevalence rate of 986.3 pmp, 1176 men (1163.2 pmp) and 838 women (812.8 pmp). Men represented 58.4% of the prevalent RRT patients. The mean age of prevalent patients was 60.0 ± 15.3 years (median 61 years), the mean age of men was 59.6 ± 15.1 years (median 61 years) and the mean age of women was 60.6 ± 15.6 years (median 61 years). 21 patients were <20 years of age.

Fig. 9. Primary renal diseases in prevalent patients in Slovenia in 2009 (abbreviations: DM: diabetic nephropathy; Hypertension: hypertensive nephrosclerosis and/or ischemic nephropathy; GN: glomerulonephritis; PKD: polycystic kidney disease; PN: pyelonephritis; RVD: renal vascular disease).

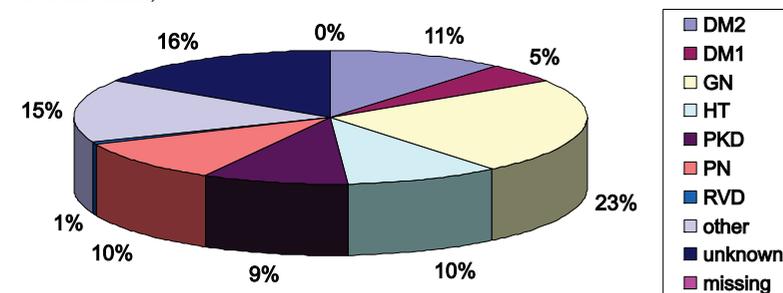


Primary renal diseases in prevalent patients in Slovenia in 2009 (abbreviations: DM: diabetic nephropathy; Hypertension: hypertensive nephrosclerosis and/or ischemic nephropathy; GN: glomerulonephritis; PKD: polycystic kidney disease; PN: pyelonephritis; RVD: renal vascular disease).

2010

On December 31, 2010, there were 2020 prevalent RRT patients in Slovenia with a prevalence rate of 994.1 pmp, 1184 men (1179.3 pmp) and 836 women (813.2 pmp). Men represented 58.6% of the prevalent RRT patients. The mean age of prevalent patients was 60.3 ± 15.1 years, the median age was 61 years. The mean age of prevalent men was 59.6 ± 14.8 years, median age 61 years. The mean age of prevalent women was 61.2 ± 15.6 years, median age 62 years. 18 patients were <20 years of age.

Fig. 10. Primary renal diseases in prevalent patients in Slovenia in 2010 (abbreviations: DM: diabetic nephropathy; Hypertension: hypertensive nephrosclerosis and/or ischemic nephropathy; GN: glomerulonephritis; PKD: polycystic kidney disease; PN: pyelonephritis; RVD: renal vascular disease).

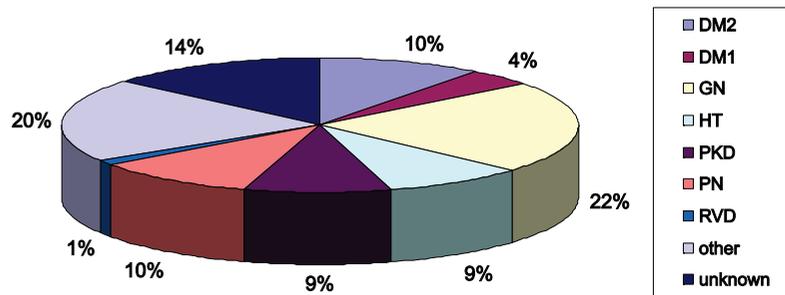


The primary renal diseases in prevalent RRT patients in 2010 were: diabetic nephropathy: type 1: 4.7%, type 2: 11.1%, both 15.8%; hypertension 9.6%, renovascular disease 0.6%; glomerulonephritis 23.5%; polycystic kidney disease 9.2%; pyelonephritis 10.3%; miscellaneous (other) 15.1%; unknown: 15.9%; missing data: 0%.

2011

On December 31, 2011, there were 2011 prevalent RRT patients in Slovenia with a prevalent rate of 980.0 pmp, 1194 men (1176.4 pmp) and 817 women (787.8 pmp). Men represented 59.4% of the prevalent RRT patients. The mean age of prevalent patients was 59.4 ± 15.6 years, the median age was 60 years. The mean age of prevalent men was 59.0 ± 14.9 years, median age 59 years. The mean age of prevalent women was 60.1 ± 16.4 years, median age 60 years. 16 patients were <20 years of age.

Fig. 11. Primary renal diseases in prevalent patients in Slovenia in 2011 (abbreviations: DM: diabetic nephropathy; Hypertension: hypertensive nephrosclerosis and/or ischemic nephropathy; GN: glomerulonephritis; PKD: polycystic kidney disease; PN: pyelonephritis; RVD: renovascular disease).



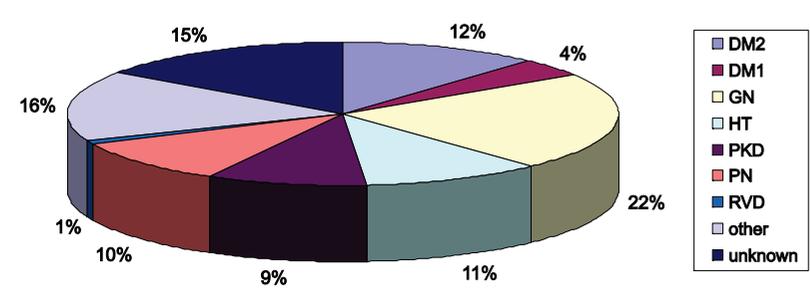
The primary renal diseases in prevalent RRT patients in 2011 were: diabetic nephropathy: type 1: 4.2%, type 2: 10.2%, both 14.4%; hypertension 8.9%, renovascular disease 1.1%; glomerulonephritis 22.3%; polycystic kidney disease 9.1%; pyelonephritis 10.3%; miscellaneous (other) 20.2%; unknown: 13.6%; missing data: 0%. Diabetes, recorded as a comorbidity, was present in 474/2011 (23.6%) of prevalent patients.

2012

On December 31, 2012, there were 2054 prevalent RRT patients in Slovenia with a prevalent rate of 998 pmp, 1235 men (1216.3 pmp) and 819 women (791.1 pmp). Men represented 60.1% of the prevalent RRT patients. The mean age of prevalent patients was 61.0 ± 15.0 years, the median age was 62 years. The mean age of prevalent men was 60.4 ± 14.6 years, median age 61 years. The mean age of prevalent women was 61.9 ± 15.6 years, median age 63 years. 15 patients were <20 years of age.

Fig. 12. Primary renal diseases in prevalent patients in Slovenia in 2012 (abbreviations: DM: diabetic nephropathy; Hypertension: hypertensive nephrosclerosis and/or ischemic nephropathy; GN: glomerulonephritis; PKD: polycystic kidney disease; PN: pyelonephritis; RVD: renovascular disease).

).



The primary renal diseases in prevalent RRT patients in 2012 were: diabetic nephropathy: type 1: 4.2%, type 2: 11.7%, both 15.9%; hypertension 10.6%, renovascular disease 0.8%; glomerulonephritis 22.2%; polycystic kidney disease 9.3%; pyelonephritis 10.1%; miscellaneous (other) 15.8%; unknown: 15.3%; missing data: 0%. Diabetes, recorded as a comorbidity, was present in 495/2054 (24.0%) of prevalent patients.

Table 3. Patients treated with different forms of renal replacement therapy (RRT) in Slovenia on December 31, 2009.

	No. of patients (% of all RRT)	men	Median age (years)	Diabetic nephropathy/ diabetes **	Crude death rate in 2009***
Hemodialysis	1400 (70%)	59%	66	19% / 26%	13.9%
Peritoneal dialysis	77 (4%)	63%	55	12% / 19%	5.5%
Transplantation*	537 (26%)	56%	54	6% / 10.2%	2.8%
All	2014	58%	61	15% / 22%	10.6%

* Residents only.

** The presence of diabetes is collected separately as comorbidity data.

*** Incident day 1 included.

Table 4. Patients treated with different forms of renal replacement therapy (RRT) in Slovenia on December 31, 2010.

	No. of patients (% of all RRT)	men	Median age (years)	Diabetic nephropathy/ diabetes **	Crude death rate in 2010***
Hemodialysis	1377 (68%)	59%	67	20% / 29%	11.4%
Peritoneal dialysis	64 (3%)	68%	56.5	18% / 23%	4.3%
Transplantation*	579 (29%)	55%	54	4% / 11%	1.8%
All	2020	58%	61	16% / 24%	11.4%

* Residents only.

** The presence of diabetes is collected separately as comorbidity data.

*** Incident day 1 included.

Table 5. Patients treated with different forms of renal replacement therapy (RRT) in Slovenia on December 31, 2011.

	No. of patients (% of all RRT)	men	Median age (years)	Diabetic nephropathy/ diabetes **	Crude death rate in 2011***
Hemodialysis	1347 (67%)	61%	67	18% / 29%	16.1%
Peritoneal dialysis	60 (3%)	62%	56.5	18% / 25%	11.3%
Transplantation*	604 (30%)	55%	51	5% / 11%	2.7%
All	2011	59%	60	14%/24%	12.0%

* Residents only.

** The presence of diabetes is collected separately as comorbidity data.

Table 6. Patients treated with different forms of renal replacement therapy (RRT) in Slovenia on December 31, 2012.

	No. of patients (% of all RRT)	men	Median age (years)	Diabetic nephropathy/ diabetes **	Crude death rate in 2012***
Hemodialysis	1361 (66%)	61%	67	21% / 31%	14.5%
Peritoneal dialysis	55 (3%)	62%	56	18% / 22%	8.7%
Transplantation*	638 (31%)	55%	55	5% / 10%	2.9%
All	2054	60.1%	62	16% / 24%	10.8%

* Residents only.

** The presence of diabetes is collected separately as comorbidity data.

*** Incident day 1 included.

The distribution of RRT modalities is presented in Tables 3 to 6. The majority of prevalent RRT patients are treated with chronic hemodialysis. These patients are older and have a higher percentage of diabetics than patients treated with peritoneal dialysis or kidney transplantation.

Table 7. Number of unadjusted prevalent and incident (day 1) patients per million of the population (p.m.p.) from 1998-2012.

December 31	Prevalence p.m.p.	Incidence p.m.p.
1998	651	-
1999	692	115
2000	723	109
2001	771	144
2002	807	115
2003	846	131
2004*	869	125
2005*	901	125
2006*	913	124
2007*	936	118
2008*	968	116
2009*	986	121
2010*	994	119
2011*	980	115
2012*	998	126

*Based on individual patient data.

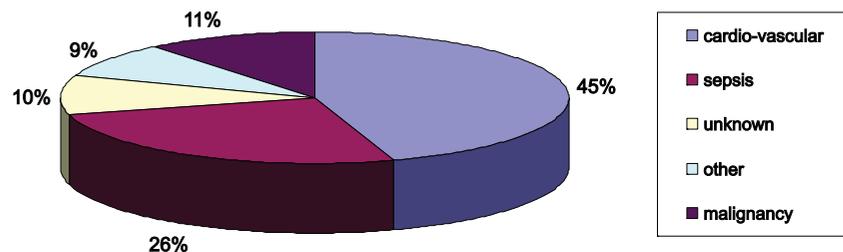
Mortality of RRT patients

2009

210 patients on RRT died in 2009 (incident (day 1) patients were included), of these 123 were men (59%) and 87 were women (41%). Their mean age was 71.8 ± 11.5 years (median 73) and their mean RRT vintage was 6.6 ± 7.3 years (median 4.5). Of these, 195 were dialysis patients (190 hemodialysis and 5 peritoneal dialysis) and 15 were kidney graft recipients (including patients with <91 days of dialysis between graft failure and death).

The crude death rate was calculated by dividing the number of patients who died with the average number of prevalent RRT patients at the end of 2008 and 2009 (Table 1). The crude death rate for dialysis patients in 2009 was 13.3% (13.9% for HD patients and 5.5% for PD patients), 2.8% for transplanted patients, and 10.6% for all RRT patients. The most common cause of death in dialysis patients was cardiovascular disease (45%), followed by sepsis (26%), malignoma (11%), and unknown (10%) (Fig. 13). There was one suicide reported in a hemodialysis patient. The cause of death in 15 kidney graft recipients was: cardio-vascular disease in 8, sepsis in 3, malignancy in 3 and other in one.

Fig.13. Causes of death of dialysis patients in 2009 (N = 195).

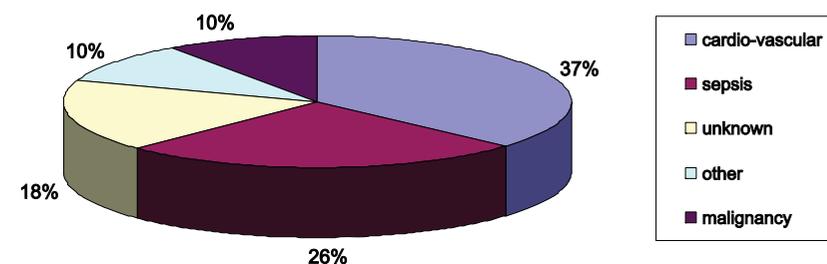


2010

229 patients on RRT died in 2010 (incident (day 1) patients were included), of these 131 were men (57%) and 98 were women. Their mean age was 72.4 ± 10.4 years (median 74) and their mean RRT vintage was 5.9 ± 7.2 years (median 3.3). Of these, 219 were dialysis patients (216 hemodialysis and 3 peritoneal dialysis) and 10 were kidney graft recipients (including patients with <91 days of dialysis between graft failure and death).

The crude death rate for dialysis patients in 2010 was 15.0% (15.6% for HD patients and 4.3% for PD patients), 1.8% for transplanted patients, and 11.4% for all RRT patients. The most common cause of death in dialysis patients was cardiovascular disease (37%), followed by sepsis (26%) and unknown (18%) (Fig. 14). The cause of death in 10 kidney graft recipients was: sepsis in 5, malignancy in 4, and cardio-vascular disease in one.

Fig.14. Causes of death of dialysis patients in 2010 (N = 219).

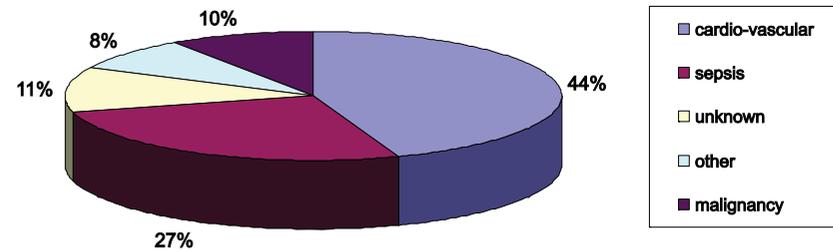


2011

241 patients on RRT died in 2011 (incident (day 1) patients were included), of these 141 were men (58.5%) and 100 were women. Their mean age was 71.1 ± 12.2 years (median 73) and their mean RRT vintage was 6.3 ± 6.8 years (median 4.1). Of these, 230 were dialysis patients (223 hemodialysis and 7 peritoneal dialysis) and 11 were kidney graft recipients (including patients with <91 days of dialysis between graft failure and death).

The crude death rate for dialysis patients in 2011 was 15.9% (16.1% for HD patients and 11.3% for PD patients), 1.9% for transplanted patients, and 12.0% for all RRT patients. The most common cause of death in dialysis patients was cardiovascular disease (44%), followed by sepsis (27%) and malignant disease (10%) (Fig. 15). There was one suicide reported in a hemodialysis patient and one withdrawal from hemodialysis in another patient. The cause of death in 16 kidney graft recipients was: sepsis in 10, malignancy in 2, cardio-vascular disease in 3, and other in one.

Fig. 15. Causes of death of dialysis patients in 2011 (N = 230).



2012

219 patients on RRT died in 2012 (incident (day 1) patients were included), of these 124 were men (56.6%) and 95 were women. Their mean age was 72.5 ± 10.6 years (median 73) and their mean RRT vintage was 7.8 ± 8.4 years (median 5.3). Of these, 201 were dialysis patients (196 hemodialysis and 5 peritoneal dialysis) and 18 were kidney graft recipients (including patients with <91 days of dialysis between graft failure and death).

The crude death rate for dialysis patients in 2012 was 14.2% (14.5% for HD patients and 8.7% for PD patients), 2.9% for transplanted patients, and 10.8% for all RRT patients. The most common cause of death in dialysis patients was cardiovascular disease (49%), followed by sepsis (23%) and unknown (14%) (Fig. 16). The cause of death in 18 kidney graft recipients was: sepsis in 6, malignancy in 2 and cardio-vascular disease in 10.

Fig. 16. Causes of death of dialysis patients in 2012 (N = 202).

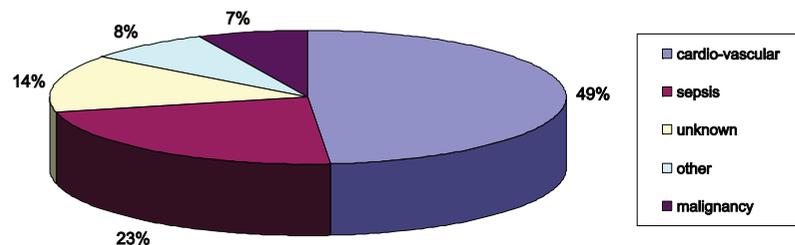


Table 8. Crude death rate of dialysis patients in the period from 2000-2012 (incident patients at day 1 included).

year	All RRT	All dialysis (HD†+PD‡)	HD	PD	Tx
2000		10.4%	10.8%	7.3%	
2001		10.4%	10.5%	9.6%	
2002		12.9%	13.2%	9.8%	
2003		11.8%	12.0%	9.8%	
2004		12.6%	13.1%	8.3%	
2005	10.0%	12.8%	13.4%	6.8%	0.9%
2006	11.4%	14.7%	15.6%	4.6%	1.4%*
2007	9.0%	11.6%	12.3%	2.0%	1.5%**
2008	9.4%	12.4%	12.5%	9.1%	1.6%***
2009	10.6%	13.3%	13.9%	5.5%	2.8%****
2010	11.4%	15.0%	15.6%	4.3%	1.8%****
2011	12.0%	15.9%	16.1%	11.3%	2.7%****
2012	10.8%	14.2%	14.5%	8.7%	2.9%****

† HD: Hemodialysis

‡ PD: Peritoneal dialysis

* 3 kidney graft recipients requiring hemodialysis 2, 14 and 36 days before death were counted as transplant deaths.

** 1 kidney graft recipient requiring hemodialysis 42 days before death was counted as transplant death

*** 1 kidney graft recipient requiring hemodialysis 7 days before death was counted as transplant death

**** Patients requiring dialysis < 91 days between graft failure and death were counted as transplant death

Hemodialysis prescription in prevalent patients

2011

In 2011 67.0% (1347/2011) of prevalent RRT patients were treated with chronic hemodialysis (61.2% men, mean age 64.6 ± 14.2 years, median 67 years, range 11 - 94), 18.4% were classified as having diabetic nephropathy as the primary renal disease, and 29.2% were reported as having diabetes.

Regarding dialysis prescription, the majority of patients, 799 (59.3%), were treated with hemodiafiltration, 532 with bicarbonate hemodialysis and 16 patients with hemofiltration. In the majority of hemodialysis patients (86.0%), ultrapure dialysis fluid was used (including patients treated with convective techniques).

A minority of patients was treated with twice-weekly dialysis (9.2%, N = 124) or once-weekly hemodialysis (0.5%, N = 7), 15 patients (1.1%) with 4-times-weekly hemodialysis, and the vast majority, 89.0% (1200 / 1347), were treated with 3-times-weekly hemodialysis. The average weekly time on dialysis was 12.9 ± 2.5 hours (3 - 24 hours, including patients treated with once- or twice-weekly dialysis), the median weekly time on hemodialysis was 12.5 hours. 96 patients (7.1%) were dialyzed in the single-needle dialysis mode.

The mean dry body weight of hemodialysis patients was 71.5 ± 16.6 kg (median 70 kg). The mean blood flow was 275 ± 46 ml/min. Anticoagulation was performed using low molecular weight heparin in 17.8% (N = 240) of hemodialysis patients, while unfractionated heparin was used in the majority (79.3%) of hemodialysis patients.

2012

In 2012 66.2% (1361/2054) of prevalent RRT patients were treated with chronic hemodialysis (61.5% men, mean age 65.3 ± 14.1 years, median 67 years, range 14 - 96), 21% were classified as having diabetic nephropathy as the primary renal disease, and 31% were reported as having diabetes.

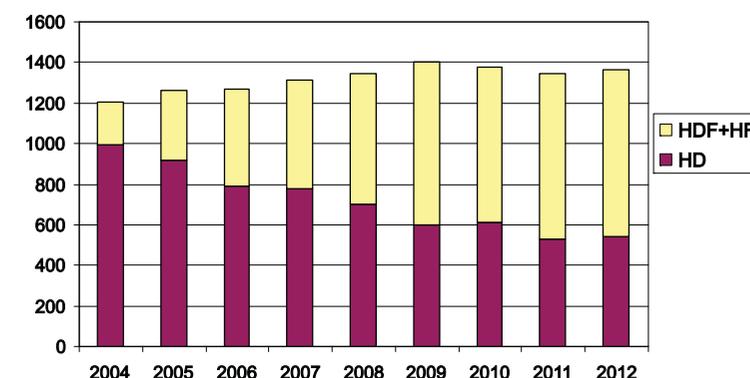
Regarding dialysis prescription, the majority of patients, 813 (60%), were treated with hemodiafiltration, 545 with bicarbonate hemodialysis and 3 patients with hemofiltration. The percentage of patients treated with convective techniques has increased in the past years, as shown in Figure 17. In the majority of hemodialysis patients (89.0%), ultrapure dialysis fluid was used (including patients treated with convective techniques).

A minority of patients was treated with twice-weekly dialysis (9.5%, N = 129) or once-weekly hemodialysis (0.7%, N = 9), 18 patients (1.3%) with 4-times-weekly hemodialysis, and the vast majority, 88.0% (1203 / 1363), were treated with 3-times-weekly hemodialysis. The average weekly time on dialysis was 12.8 ± 2.5 hours (3 - 24 hours, including patients treated with once- or twice-weekly dialysis), the median weekly time on hemodialysis was 12.5 hours. Regular night-shift in-hospital hemodialysis and nocturnal hemodialysis was offered at the Dialysis Center Zaloška to employed patients, students and pupils. 85 patients (6.2%) were dialyzed in the single-needle dialysis mode.

The mean dry body weight of hemodialysis patients was 72.1 ± 16.6 kg (median 71 kg). The mean blood flow was 275 ± 45 ml/min. Anticoagulation was performed using low molecular weight heparin in 18.9% (N = 258) of hemodialysis patients, while unfractionated heparin was used in the majority (76.8%) of hemodialysis patients.

The longest duration of hemodialysis treatment in Slovenia 41 years and 10 months (at the end of November 2014), in a 72-year old lady, in good clinical and perfect mental condition.

Figure 17. Increasing percentage of convective techniques in prevalent hemodialysis patients in the period from 2004-2012.



Very old patients (≥80 years) on dialysis

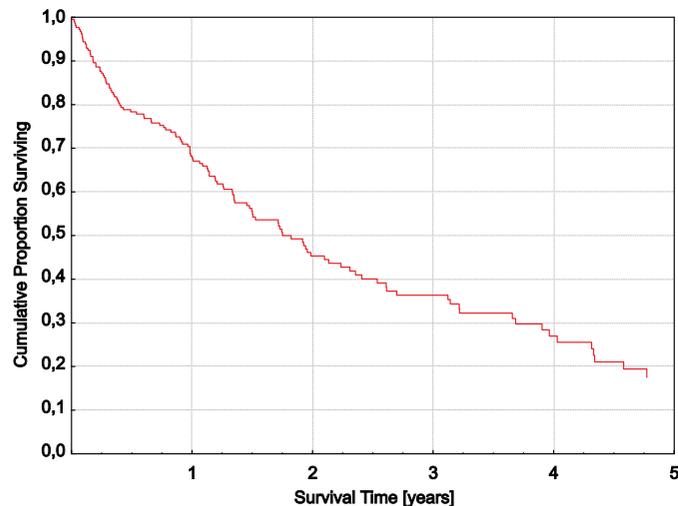
In the 2004 - 2010 period, there were 214 patients ≥ 80 years of age when starting RRT. They represent 13% of all incident (day 1) patients in this period, which is a significant portion. Their median age was 83 (inter-quartile range (IQR) 81-85) years, 48% were male and 26% had diabetes (as a comorbidity). Most common primary renal diseases were: unknown (34%), nephrosclerosis (22%) and diabetic nephropathy (18%).

At the end of their first year on RRT (or prior to death for patients not surviving by the end of first year) all patients were treated with hemodialysis and the dialysis prescription was as follows: 10% were treated with convective methods, 29% were treated in single-needle mode. Median weekly duration of dialysis was 12 (IQR 8-12) hours; 70% had 3 procedures, 29% had two and 1% had only one procedure weekly. Vascular access was AV fistula in 48%, catheter in 45% and unknown in 7%.

Survival

Patients were followed until Dec 31st, 2010 and survival was censored in case of recovery of renal function (4 cases) or transplantation (no case). In the observed period 127 (59%) patients died, median survival was 21 months, 1-, 2-, 3- and 5-year survival rates were 68%, 45%, 36% and 18% respectively. Median expected survival for such a group of patients using data from national statistics would be 7.3 years. We believe that the observed survival, while being shorter compared to healthy, age-matched population, is still good. The cause of death was: cardio-vascular (45%), unknown (23%), infection (17%), other (9%) and malignancy (6%).

Figure 18. Survival in very old (≥80 years) incident (day 1) patients



Vascular access in prevalent hemodialysis patients

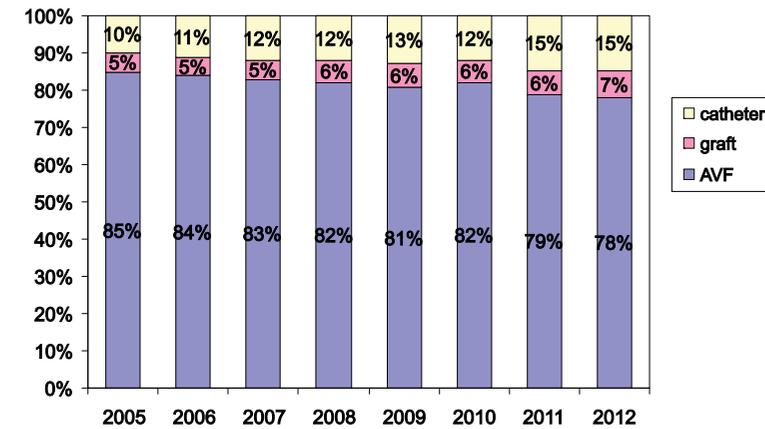
2011

On December 31, 2011 the vascular access in prevalent hemodialysis patients was: native arteriovenous fistula (AVF) in 79% (N = 1066), PTFE (polytetrafluoroethylene) graft in 6% (N = 80), and catheter in 15% (N = 201). Hemodialysis catheters (N = 201) were: temporary (noncuffed) in 90.5% and permanent silastic in 9.5% (N = 19) of patients; precurved jugular in 83%, subclavian in 14%, and femoral in 3% of patients; single-lumen in 78% and double-lumen in 22% of patients.

2012

On December 31, 2012 the vascular access in prevalent hemodialysis patients was: native arteriovenous fistula (AVF) in 78% (N = 1061), PTFE (polytetrafluoroethylene) graft in 7% (N = 101), and catheter in 15% (N = 201). Hemodialysis catheters (N = 201) were: temporary (noncuffed) in 87% and permanent silastic in 13% (N = 26) of patients. Vascular accesses in prevalent dialysis patients from 2005 to 2012 are presented in Figure 19.

Fig. 19. Vascular access in prevalent hemodialysis patients from 2005-2012.



Dialysis patients and waiting list for kidney transplantation

2009

According to the referrals from the Kidney Transplant Center, 8% of dialysis patients (121 / 1477) were on the waiting list for deceased donor kidney transplantation at December 31, 2009, with an additional 236 patients (16%) under work-up for enrollment. 24% of the patients were not included because of their age (and associated comorbidities), 22% because of medical contraindications, 6% for other reasons, and 23% of dialysis patients reportedly refused to be transplanted. Some of these patients have significant comorbidities. The patients referred as refusing kidney transplantation and being >65 years of age were counted as not referred to the waiting list because of age (although there is no upper age limit for enrollment in the waiting list for kidney transplantation).

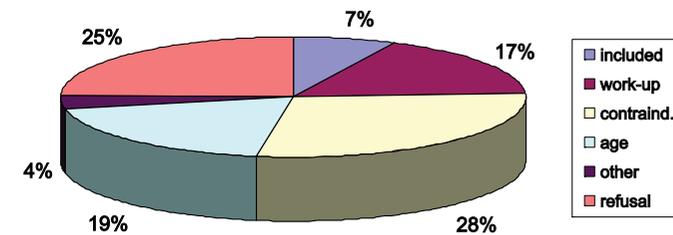
2010

According to the referrals from the Kidney Transplant Center, 8% of dialysis patients (110 / 1441) were on the waiting list for deceased donor kidney transplantation at December 31, 2010, with an additional 233 patients (16%) under work-up for enrollment. 23% of the patients were not included because of their age (and associated comorbidities), 26% because of medical contraindications, 3% for other reasons, and 25% of dialysis patients reportedly refused to be transplanted.

2011

According to the referrals from the Kidney Transplant Center, 7% of dialysis patients (103 / 1407) were on the waiting list for deceased donor kidney transplantation at December 31, 2011, with an additional 238 patients (17%) under work-up for enrollment. 19% of the patients were not included because of their age (and associated comorbidities), 28% because of medical contraindications, 4% for other reasons, and 25% of dialysis patients reportedly refused to be transplanted.

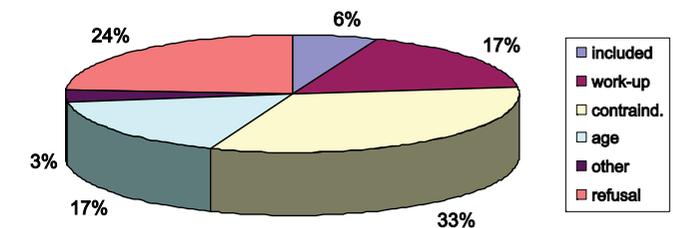
Fig. 20. Dialysis patients and waiting list status on December 31, 2011.



2012

According to the referrals from the Kidney Transplant Center, 6% of dialysis patients (84 / 1363) were on the waiting list for deceased donor kidney transplantation at December 31, 2012, with an additional 234 patients (17%) under work-up for enrollment. 17% of the patients were not included because of their age (and associated comorbidities), 32% because of medical contraindications, 3% for other reasons, and 24% of dialysis patients reportedly refused to be transplanted.

Fig. 21. Dialysis patients and waiting list status on December 31, 2012.



Kidney transplantation

There is one transplant center in Slovenia, located at the University Medical Center Ljubljana. There are 10 donor hospitals in Slovenia. Slovenia has been a member of Eurotransplant since January 1, 2000.

The important milestones of kidney transplantation in Slovenia were:

- 1969: Histocompatibility laboratory was founded
- 1970: The first kidney transplantation in Slovenia (from living related donor) was performed
- 1985: Transplantation Law of Republic of Slovenia was accepted
- 1986: The first kidney transplantation from deceased donor was performed
- 1998: National transplant organization Slovenija-transplant was founded
- 2000: Slovenia was accepted to Eurotransplant
- 2000: National Transplant law was accepted

Establishment of a national transplant organization Slovenija-transplant resulted in an increase in the number of kidney transplantations and the acceptance of Slovenia into Eurotransplant. Joining the Eurotransplant has resulted in better HLA matching, shorter waiting time, and better chances for transplantation for highly sensitized patients. However, as expected longer cold ischemia time was observed. Local grafts (43%) had significantly shorter cold ischemia time compared to shipped grafts (17 ± 6 hours compared to 22 ± 6 hours, $p < 0.001$). Delayed graft function in Eurotransplant era (2000-2012) was reported in 23.5% patients.

The total number of kidney transplantations performed in Slovenia from 1970 to December 31, 2012 was 979, 126 from a living related donor and 853 from a deceased donor. The total number of patients with functioning kidney grafts (residents only, pediatric patients included) was 638 on December 31, 2012. Of these patients, 625 (98%) received grafts from deceased and 13 (2%) from living related donors. Kidney transplantations for younger children are performed in Austria (Graz), mainly for very small number and high complexity of these patients. Median transplant waiting time for adult patients with end stage renal disease in Slovenia in 2012 was 1.1 years.

Patient and graft survival data are presented in the figures 22-25. Both patient as well as graft survival are better than Eurotransplant average.

Fig. 22. Kidney graft survival in Slovenia from 2000-2013.

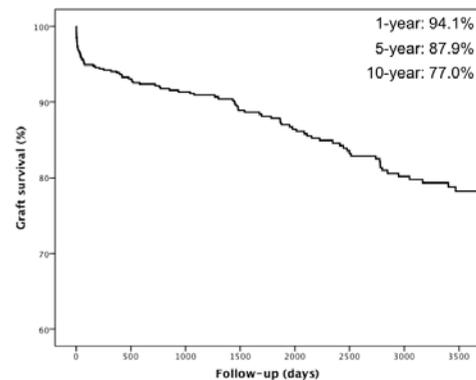


Fig. 23. Deceased donor kidney graft survival in Slovenia compared to Eurotransplant (ET), from 2000-2012.

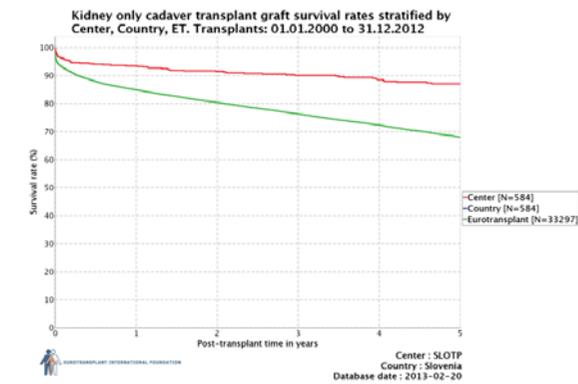


Fig. 24. Patient survival after kidney transplantation in Slovenia from 2000-2013.

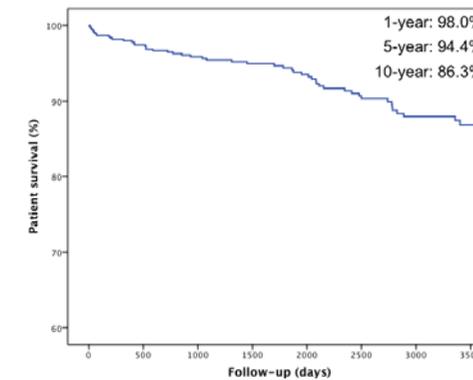
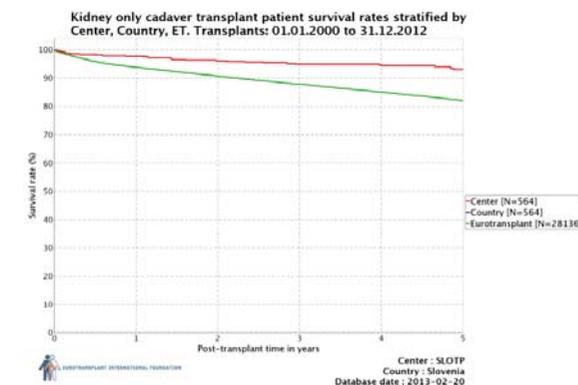


Fig. 25. Patient survival after kidney transplantation in Slovenia compared to Eurotransplant (ET), from 2000-2012.



2009

Forty-four kidney transplantations were performed in Slovenia in 2009 (22 pmp), 43 from deceased donor and one from living related donor. There was no preemptive transplantation in 2009. Twelve kidney graft recipients died in 2009 with functioning grafts, and 13 patients started chronic dialysis because of end-stage kidney graft failure (3 of them died within 91 days after graft failure). The total number of patients with functioning kidney grafts (residents only, pediatric patients included) was 537 on December 31, 2009, 518 from deceased and 19 from living related donor.

2010

Sixty-one kidney transplantations were performed in Slovenia in 2010 (30 pmp), all from deceased donor. There was no preemptive transplantation in 2010. Five kidney graft recipients died in 2010 with functioning grafts, and 20 patients started chronic dialysis because of end-stage kidney graft failure (5 of them died within 91 days after graft failure). The total number of patients with functioning kidney grafts (residents only, pediatric patients included) was 579 on December 31, 2010, 562 from deceased and 17 from living related donor.

2011

Forty-six kidney transplantations were performed in Slovenia in 2011 (22.4 pmp), all from deceased donors. Two patients were transplanted preemptively. Eleven kidney graft recipients died in 2011 with functioning grafts, and 15 patients started chronic dialysis because of end-stage kidney graft failure (5 of them died within 91 days after graft failure). The total number of patients with functioning kidney grafts (residents only, pediatric patients included) was 604 on December 31, 2011, 589 from deceased and 15 from living related donor.

2012

Sixty-two kidney transplantations were performed in 2012 (30.6 pmp), all from deceased donors. Two patients were transplanted preemptively. Fourteen kidney graft recipients died in 2012 with functioning grafts, and 13 patients started chronic dialysis because of end-stage kidney graft failure (4 of them died within 91 days after graft failure). The total number of patients with functioning kidney grafts (residents only, pediatric patients included) was 638 on December 31, 2012, 625 from deceased and 13 from living related donor.

Erythropoiesis stimulating agents (ESA)**2011**

In the last week of December, 2011, out of 1347 patients treated with hemodialysis 89% have received ESA and 11% did not. The type of ESA received in hemodialysis patients is shown in Figure 26.

In the last week of December, 2011, out of 60 patients treated with peritoneal dialysis 88% have received ESA and 12% did not. The type of ESA received in peritoneal dialysis patients is shown in Figure 27.

In the last week of December, 2011, out of 604 patients with functioning kidney graft 13% have received ESA and 87% did not. The type of ESA received in transplant patients is shown in Figure 28.

Figure 26. ESA therapy in prevalent hemodialysis patients.

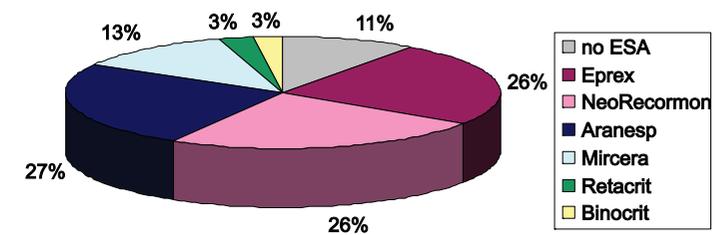


Figure 27. ESA therapy in prevalent peritoneal dialysis patients.

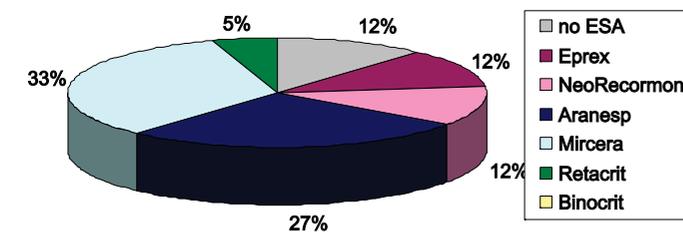
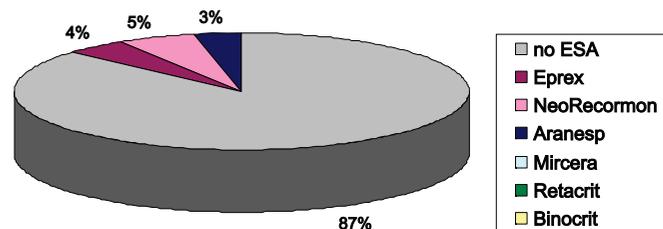


Figure 28. ESA therapy in transplant patients.



2012

In the last week of December, 2012, out of 1363 patients treated with hemodialysis 85% have received ESA, out of 55 patients treated with peritoneal dialysis 85% have received ESA and out of 638 patients with functioning kidney graft 11% have received ESA.

Apheresis procedures at the Department of Nephrology, University Medical Center Ljubljana

Apheresis procedures (membrane plasma exchange, LDL apheresis with dextrane-sulphate columns - Kaneka and protein A immunoadsorption) are performed at the Dialysis Center Zaloška, Department of Nephrology, University Medical Center Ljubljana.

Table 8. Number of apheresis (membrane plasma exchange, LDL apheresis and protein A immunoadsorption) procedures performed in the period from 1997-2013.

	All apheresis procedures	Membrane plasma exchange	LDL apheresis	Immunoadsorption (protein A)
1997	183	113	27	43
1998	251	136	17	98
1999	296	180	64	52
2000	452	293	65	94
2001	443	231	61	151
2002	480	235	54	191
2003	572	242	80	250 (24 new*)
2004	569	246	78	245 (22 new)
2005	673	410	34	229 (21 new)
2006	609	416	19	174 (17 new)
2007	674	426	18	230 (18 new)
2008	526	338	24	164 (8 new)
2009	683	513	33	137 (7 new)
2010	793	657	33	103 (5 new)
2011	1120	981	29	110 (10 new)
2012	922	795	24	103 (9 new)
2013	949	820	19	110 (19 new)

*new refers to the first use of Fresenius (Excorim) protein A Immunisorba columns.

Summary – Renal Replacement Therapy in Slovenia in 2012

- Population of 2,058,123 inhabitants;
- 24 renal centers (23 dialysis, 1 transplant center);
- Prevalence rate (2012) 998 per million of population, 2.1% increase compared to 2011, incidence rate 126 per million of population;
- Median age of incident patients 69 years, 60.1% men, 43.2% diabetics;
- RRT modality in prevalent patients: 66.2% hemodialysis, 31.1% functioning kidney graft, 2.7% peritoneal dialysis;
- Crude death rate (incident patients at day one included): hemodialysis 14.5%, peritoneal dialysis 8.7% (14.2% for all dialysis patients), kidney transplantation 2.9%, all renal replacement therapy patients (dialysis and transplanted) 10.8%;
- 60% of prevalent hemodialysis patients are treated by on-line hemodiafiltration;
- Nocturnal (8-hour) in-hospital hemodialysis program available;
- Vascular access of prevalent hemodialysis patients: 78% native arteriovenous fistula, 7% PTFE graft and 15% hemodialysis catheter;
- 62 kidney transplantations performed in 2012, all from deceased donor, through Euro-transplant;
- Preemptive kidney transplantation program available;
- The longest RRT survival – 41 years and 10 months (hemodialysis only).

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Date: _____

RENAL REPLACEMENT THERAPY QUESTIONNAIRE FOR 2012 – DIALYSIS AND KIDNEY TRANSPLANTATION – INDIVIDUAL PATIENT

Renal center: _____

Questionnaire is provided for:

- All patients treated with renal replacement therapy in your renal center for **end-stage renal failure on December 31, 2012**
- All patients treated with renal replacement therapy who died during 2008 in your renal center (even if they were dialyzed for ESRD only once):

Patient: _____ code _____ Sex: _____ Date of birth: _____

Type of RRT on December 31, 2012: **HD** **CAPD** **Automated** **PD** **Tx**

Primary renal disease: _____ EDTA code: _____

Date and type of first RRT in life ever: HD PD Tx **Date:** _____

Comorbidity at the end of 2008 :

- a) Diabetes mellitus Type 1 2
- b) Ischemic heart disease
- c) Peripheral art. occlusive dis.
- d) Cerebrovascular dis.
- e) Malignant dis. _____

Comorbidity at the start of RRT:

- a) Diabetes Type 1 2
- b) Ischemic heart disease
- c) Periph. art. occlusive dis.
- d) Cerebrovascular dis.
- e) Malignant dis. _____

Dates of changes in RRT, chronologically (e.g. HD from, 1. Tx date Donor cadaveric or living related, restarted HD from, 2. Tx date Donor cadaveric or living related, PD from, Not requiring dialysis from),

Transfer of the patient from another renal center in 2012 (vacation dialysis not counting):

The patient came from: _____

Date: _____

Positive for transmissible diseases (mark): hepatitis B hepatitis C MRSA other: _____

Patient on RRT who died in 2012 in your renal center:

Date of death: _____ Cause of death: _____ EDTA code: _____

Epoetin dose (per week) in the last week of December 2012: Dose: _____ No. of applications/week: _____

EPO (mark): _____ Epoetin: _____ NeoRecormon: _____ Aranesp: _____ Route of application: i.v. s.c.

Is the **dialysis patient** treated in your renal center on 31 December 2012 included in the **waiting list for cadaveric kidney transplantation**?

yes no

If not, please explain why:

a) medical contraindications

b) refusal

c) diagnostic workup (preparing for enrollment)

d) age

e) other

Remarks: _____

Signature: _____

ADDITIONAL QUESTIONNAIRE FOR HEMODIALYSIS PATIENTS TREATED AT YOUR DIALYSIS CENTER (FOR ESRD) ON DECEMBER 31, 2012

Patient Code: _____

If »positive« for transmissible disease, mark the isolation policy:
 A) isolated room
 B) isolated HD monitor
 C) last in the dialysis shift
 D) not isolated

Type of hemodialysis procedure in the last week of December 2012:
 BHD
 Online HDF
 Online HF
 AFBF

Ultrapure dialysis fluid: yes no

Number of HD procedures per week in the last week of December 2012: _____

Number of hours of HD per week in the last week of December 2012 (e.g. 12; 13,5; 15...): _____

If HF/HDF, the amount of fluid exchanged per procedure: _____

If HF/HDF (mark) predilutional postdilutional combination

Dialyzer in the last week of December 2012 _____

Dry body weight in the last week of December 2012: _____

Blood flow in the last week of December 2012 (ml/min) : _____

Single-needle procedure: yes no

Anticoagulation (last week of December 2012): Unfractionated heparin: _____ Dose per HD: _____

Low molecular weight heparin (original name): _____ dose per HD: _____

Vascular access on December 31, 2012:

Type	native	Gore-tex		
Position of anastomosis	forearm	elbow	arm	thigh
Side	right	left		

CATHETER

jugular	subclavian	femoral
right	left	
temporary (noncuffed)		silastic
single-lumen		double-lumen

Remarks: _____

Signature: _____

Date: _____

RENAL REPLACEMENT THERAPY QUESTIONNAIRE FOR 2012 – DIALYSIS CENTER

Renal center: _____

Number of RRT patients on December 31, 2012

All: _____ HD: _____ PD: _____

Number of hemodialysis stations on December 31, 2012:

Number of »positive« dialysis patients on December 31, 2012:

Hepatitis B _____ Hepatitis C _____ HBV+HCV _____ HIV: _____

MRSA: _____ Other: _____

The isolation policy of »positive« patients (mark):

HBV pos. A) Dedicated rooms B) Dedicated monitors C) Last in shift D) No isolation

HCV pos. A) Dedicated rooms B) Dedicated monitors C) Last in shift D) No isolation

MRSA pos. A) Dedicated rooms B) Dedicated monitors C) Last in shift D) No isolation

Remarks: _____

Number of employed physicians in renal center: _____

Number of employed graduate renal nurses: _____

Number of employed medical technicians: _____

Number of employed administrative personnel: _____

Number of employed technicians for hemodialysis monitor maintenance: _____

Additional personnel employed in renal center: _____

Remarks: _____

Number of HD procedures performed in 2012 (data for state insurance):

All: _____ Type I: _____ Type III: _____

Number of acute HD procedures performed in 2012 (data for state insurance):

Acute renal failure treated with dialysis – number of patients in 2012:

Of these, the number of patients treated: a) only with intermittent HD: _____ patients
 b) only with CRRT: _____ patients
 c) with combined HD and CRRT: _____ patients

Number of dialysis patients treated with epoetins on December 31, 2012:

All: _____ HD: _____ PD: _____

Number of predialysis patients treated with epoetin on December 31, 2012 (approximations according to available data, assuming that predominantly nephrologists from dialysis centers prescribe epoetins to predialysis patients): _____

New patients starting chronic dialysis in 2012:

All: _____ HD: _____ PD: _____

Number of dialysis patients who died in 2012 (even if they were dialyzed for ESRD only once):

All: _____ HD: _____ PD: _____

Number of dialysis patients included in waiting list for cadaveric renal transplantation on December 31, 2012:

All: _____ HD: _____ PD: _____

Number of hemodialysis monitors on December 31, 2012:

Types of hemodialysis monitors on December 31, 2012:

Fresenius: _____ Gambro: _____ Integra: _____ Prisma: _____ Other: _____

Remarks: _____

Signature: _____ E-mail: _____

NephroQuest questionnaire:

Blood samples for monthly lab values are taken before

- a) midweek dialysis
- b) the first dialysis in the week

CRP level

- a) non high-sensitive method
- b) high-sensitive method

Date: _____

RENAL REPLACEMENT THERAPY QUESTIONNAIRE FOR 2012 – CENTER FOR KIDNEY TRANSPLANTATION

Number of kidney transplantations performed in 2012: _____

Out of these: 1. Tx _____ 2. Tx _____

Cadaveric: _____ Living related: _____

Of all transplantations performed in 2012, the number of functioning kidney grafts on December 31, 2012 was: _____

Of all transplantations in 2012, there were _____ diabetics.

Number of kidney transplantations according to age of patients:

< 15 years _____

< 18 years _____

> 60 years _____

Total number of kidney transplantations from 1970 to December 31, 2012:

All: _____ LRD: _____ Cadaveric: _____

Number of patients with functioning kidney graft on December 31, 2012: _____

Number of patients who died in 2012 with a functioning kidney graft: _____

Number of patients with failed kidney graft who started chronic dialysis in 2012: _____

Number of Tx patients receiving epoetin on December 31, 2012: _____

Number of dialysis patients on the waiting list for cadaveric kidney transplantation on December 31, 2012: _____

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