

**Epidemiological Data
Chronic Kidney Diseases in Estonia
Annual Report 2012**

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Acknowledgments

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I Introduction

Estonia in brief

Official name: Republic of Estonia

Area – 45 227 square km

Population:

- 1.342409 million (1 Jan 2007 est. by Statistics Estonia)
- 1.340935 million (1 Jan 2008 est. by Statistics Estonia)
- 1.340415 million (1 Jan 2009 est. by Statistics Estonia)
- 1.340127 million (1 Jan 2010 est. by Statistics Estonia)
- 1.340194 million (1 Jan 2011 est. by Statistics Estonia)
- 1.339662 million (1 Jan 2012 est. by Statistics Estonia)

The last official census was taken in 2011

Larger cities:

Tallinn (pop. 400 292)

Tartu (103 740)

Narva (66 151)

Kohtla-Järve (44 821)

Pärnu (44 024)

Medical Faculty: at Tartu University (1632)

Renal replacement therapy (RRT) in Estonia.

The collection of RRT patient's epidemiology data in Estonia is ongoing constantly from 1996 as a part of epidemiological research. The study has been approved by the Ethics Committee on Human Research of the Tartu University, Estonia (latest approval protocol from 2012). Aggregated RRT patient data were annually sent to ERA-EDTA registry. The RRT epidemiological report is based on individual and centre questionnaires. Data were obtained from all nephrology centres and units.

Centres of nephrology in Estonia (Figure 1, big red circles):

- 1) Tartu University Hospital, Department of Internal Medicine, Division of Nephrology with satellites (small white circles), transplantation at the Department of Surgery, Division of Urology and Transplantation.
- 2) North-Estonian Regional Hospital, Department of Internal Medicine, Division of Nephrology with satellites (small white circles).
- 3) West-Tallinn Central Hospital, Department of Internal Medicine, Division of Nephrology with satellites (small white circles).

Haemodialysis units at regional hospitals (3 small red circles): East-Viru Regional Hospital, Kuressaare Hospital, Narva Hospital

Private Haemodialysis units (8, big white circles): Pärnu, Narva, Viljandi, Rakvere, Paide, Haapsalu, Rakvere, Jõgeva, Keila

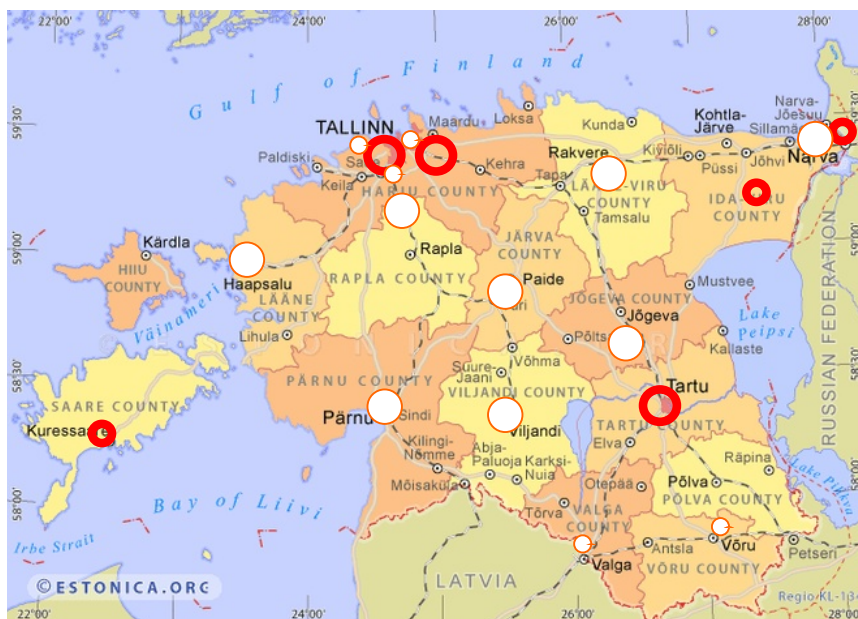


Figure 1. Nephrology centres (big red circles), satellites (small white circles), HD units at regional hospitals (small red circles) and private HD units (big white circles).

II Incidence of RRT

Table 1. Incidence of RRT 2007–2012

	2007	2008	2009	2010	2011	2012
New RRT pts (day1)	136	88	74	100	87	107
New RRT pts (day91)	130	85	70	98	81	100
Incidence pmp (Day 1)	95,7	65,7	54,5	74	64	82,3
Gender Day 1						
M	80	43	42	53	52	55
F	56	45	31	47	35	52
Mean age Day 1						
M	54,5	52,2	61,9	55,96	59,8	57,5
F	59,4	53,8	59,0	59,0	58,0	62,2
Treatment						
HD	85	87	32	74	61	83
PD	50	49	41	25	25	22
KT	1	2	1	1	1	2

The incident numbers almost similar during last five years. There are more male patients among incident RRT patients. Mean age became higher. Penetration of peritoneal dialysis is only 22%.

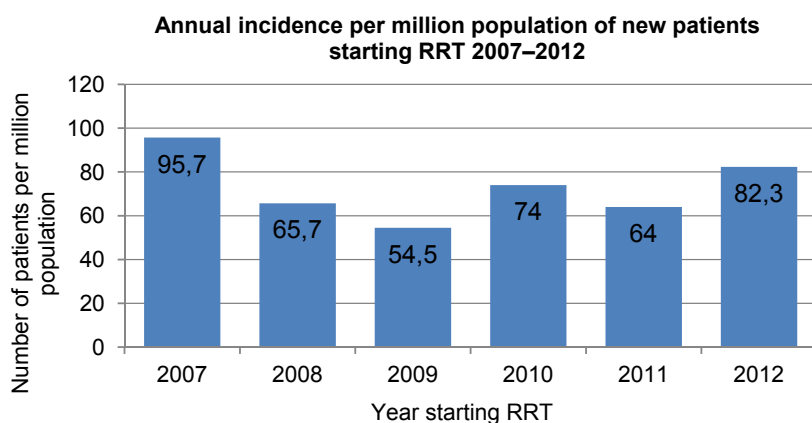


Figure 2. Incidence trends: incidence has remained low during last six years.

III Incident patient' diagnoses

Diabetes and hypertension are leading causes of stage 5 CKD patients. Glomerulonephritis and pyelonephritis are the next most common diagnosis among new RRT patients (Fig. 3 A and B).

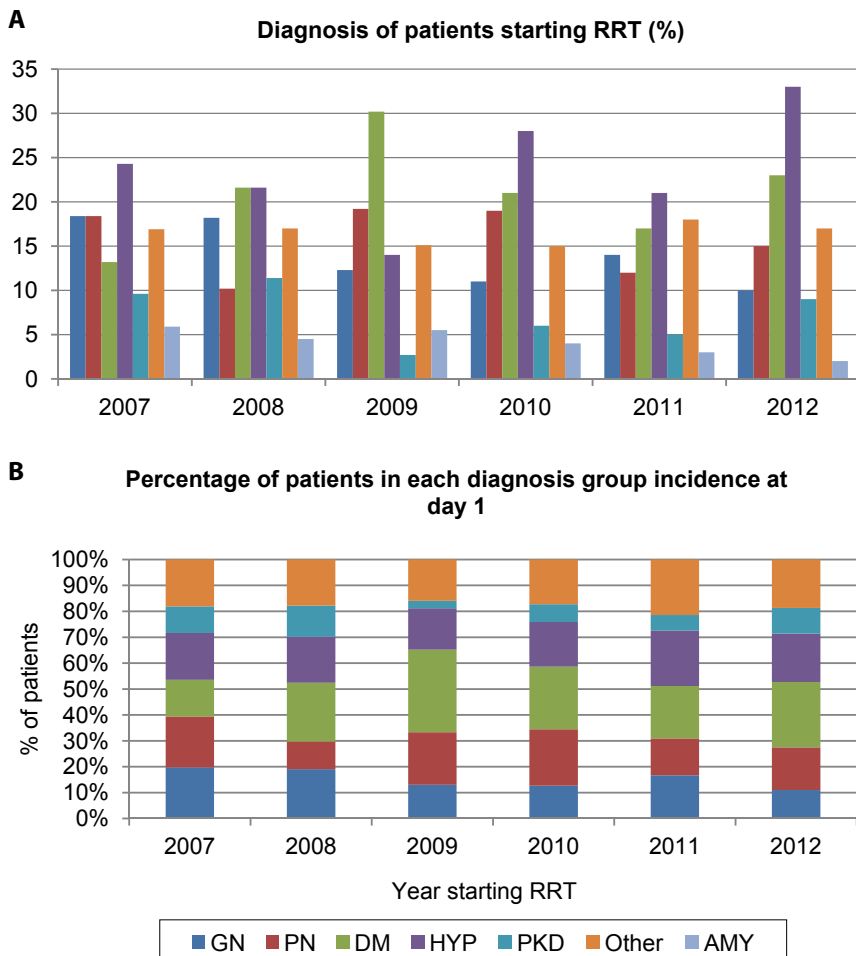


Figure 3. A and B. Percentage of patients in each diagnosis group starting RRT 2007–2012

IV Prevalence of RRT

Table 2. RRT patients total numbers and prevalence per million population according to treatment modality.

Prevalence	per million (nr)	pmp (%)	Total number of pt-s
HD	195	35	257
PD	32	6	42
KT	329	59	434
RRT	552	100%	733

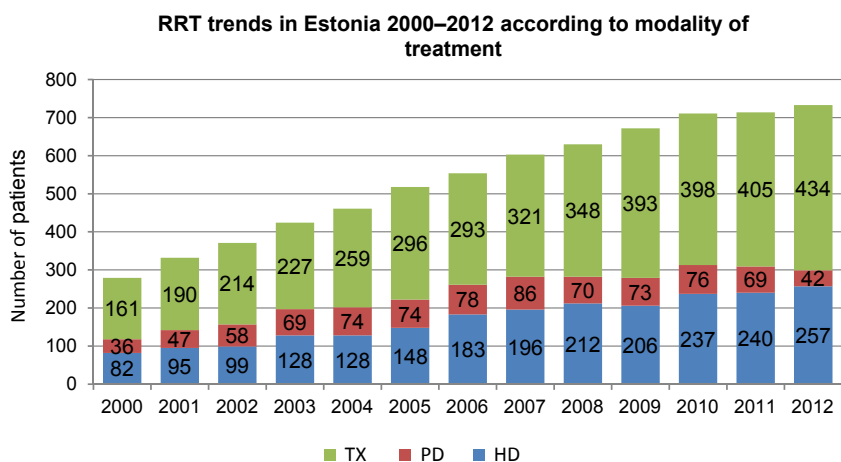


Figure 4. Prevalent patient's total numbers have stayed almost similar during three last years 2010-2012

V Prevalent data in nephrology centres and units

Table 3. Prevalent RRT patients 2007–2011 according to centres and units

HD	2007	2008	2009	2010	2011	2012
TU Hospital	22	34	37	41	27	28
WTCH	67	70	71	79	88	91
NERH	34	24	30	50	43	40
Children's Hospital	1	0	0	0	0	0
HD cabinets	73	84	67	67	82	81
Sum	197	212	205	237	240	252
PD	2007	2008	2009	2010	2011	2012
TU Hospital	39	26	32	41	30	17
WTCH	22	20	17	17	24	11
NERH	23	24	22	16	12	9
Children's Hospital	1	2	2	2	1	1
HD cabinets	0	0	0	0	2	1
Sum	85	72	73	76	69	39
KT	2007	2008	2009	2010	2011	2012
TU Hospital	134	144	160	158	153	159
WTCH	151	158	174	174	172	185
NERH	36	46	58	65	75	84
Children's Hospital	0	1	0	1	3	3
HD cabinets	0	0	0	0	2	5
Sum	321	349	392	398	405	435
All	2007	2008	2009	2010	2011	2012
TU Hospital	195	204	229	240	210	204
WTCH	240	248	262	270	284	287
NERH	93	94	110	131	130	145
Children's Hospital	2	3	2	3	4	2
HD cabinets	73	84	67	67	86	93
Sum	603	633	670	711	714	733

HD units	2007	2008	2009	2010	2011	2012
IVKH	11	12	7	7	8	8
Narva/Narva Hos- pital	12 / 1	11 / 5	10 / 4	10 / 6	11 / 7	9
Kuressaare	6	8	9	8	6	8
Rapla						4
Rakvere	7	9	3	5	4	10
Paide	1	2	2	1	4	4
Pärnu	12	17	15	12	14	20
Haapsalu	4	4	1	1	6	10
Viljandi	9	11	8	8	7	8
Võru	3	2	2	3	9	8
Valga	2	1	4	1	2	
Jõgeva	5	5	4	4	6	5
Keila	0	3	2	1	2	2
Sum						79

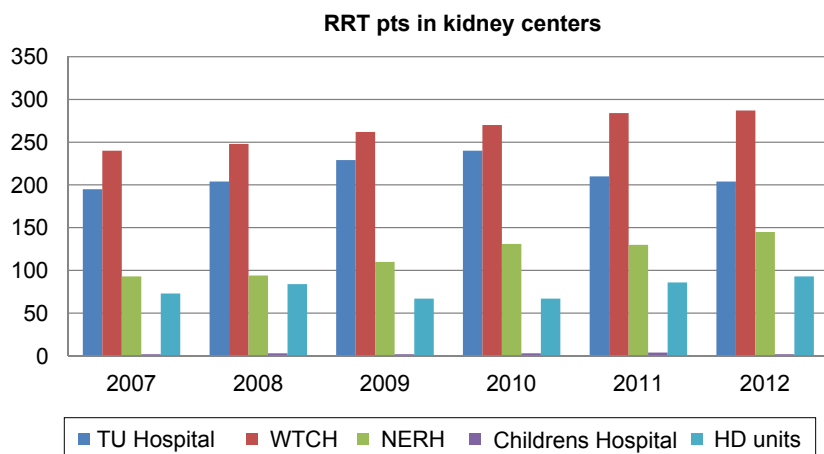
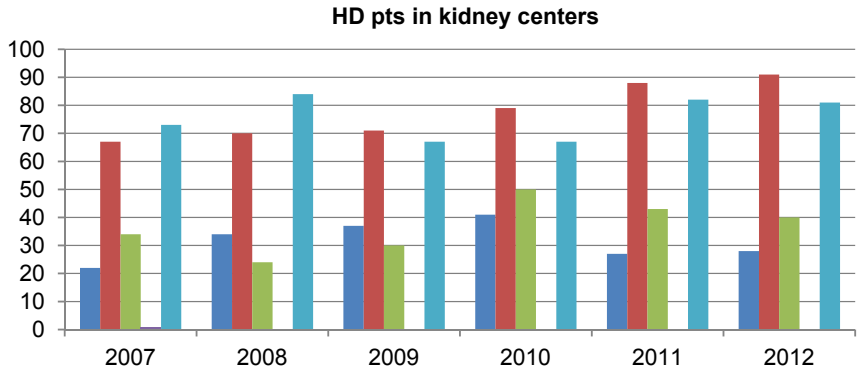
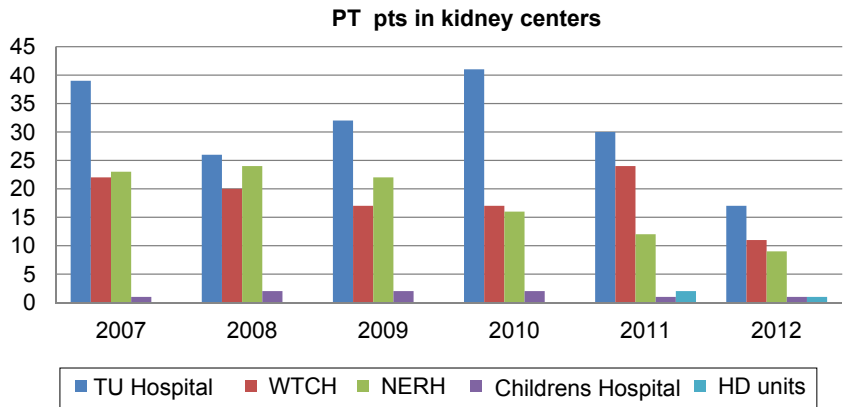


Figure 5. Prevalent RRT patients in centres and units during 2007–2012

A



B



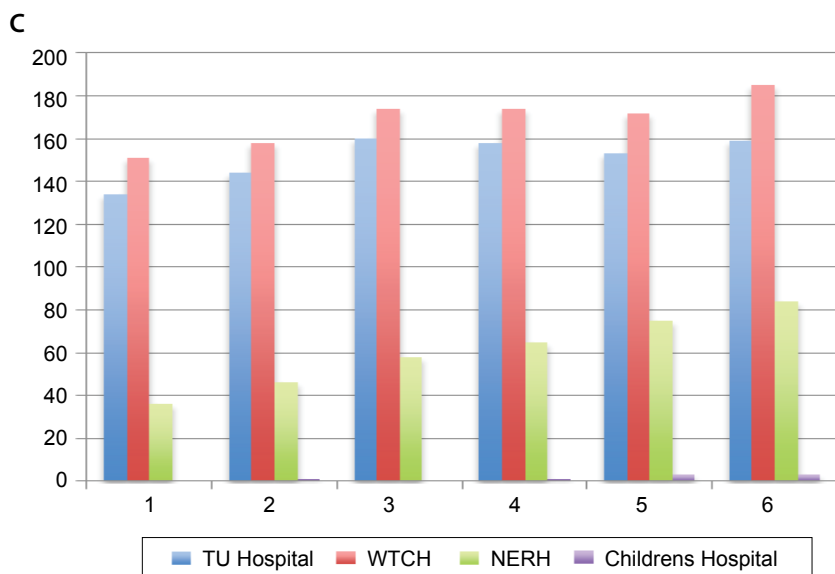


Figure 6. A, B, C, prevalent HD, PD and kidney transplant patients in different centres and units during 2007–2012

VI Prevalent RRT patient's trends

Table 4. Prevalence of RRT – trends in Estonia 2000–2012

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
RRT pts nr	279	332	371	424	461	528	554	603	630	672	711	714	733
Increase	7.3%	18.7%	11.7%	14.3%	8.7%	13.0%	6.3%	8.8%	4.5%	6.7%	5.8%	0.4%	2.7%
RRT prevalence pmp	193	245	274	314	342	384	392	449	470	498	530	536	552
Dialysis pts no	118	142	157	197	202	225	261	282	282	279	313	309	299
HD	82	95	99	128	128	148	183	196	212	206	237	240	257
PD	36	47	58	69	74	74	78	86	70	73	76	69	42
KT	161	190	214	227	259	296	293	321	348	393	398	405	434
KT (%)	57.7%	57.2%	57.7%	53.5%	56.2%	56.8%	52.9%	53.2%	55.2%	58.5%	56.0%	56.7%	59.2%

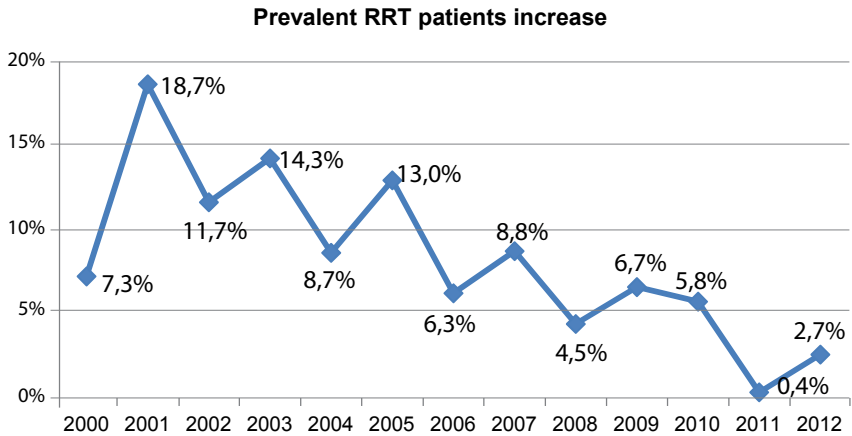


Figure 7. Prevalent RRT pts increase became lower during last ten years. This means that the beside the increasing of RRT population the annual growth is not any more so high compared with the beginning of the century. However, the increase of RRT prevalence was only 0.4% in 2011 and 2.7% in 2012.

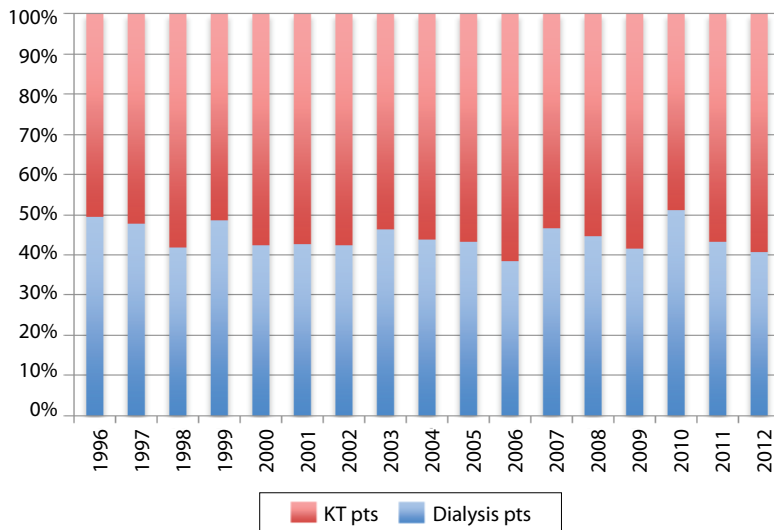


Figure 8. Kidney transplantation patients have formed more than 50% from all RRT patients during 1996-2012

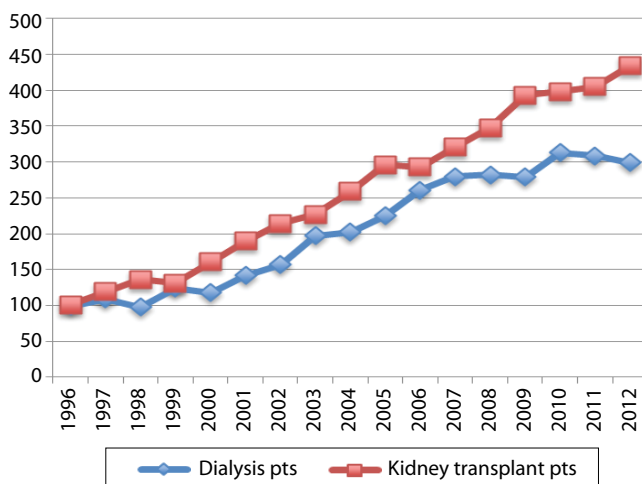


Figure 9. RRT trends in Estonia 1996–2012 according to modality of treatment.

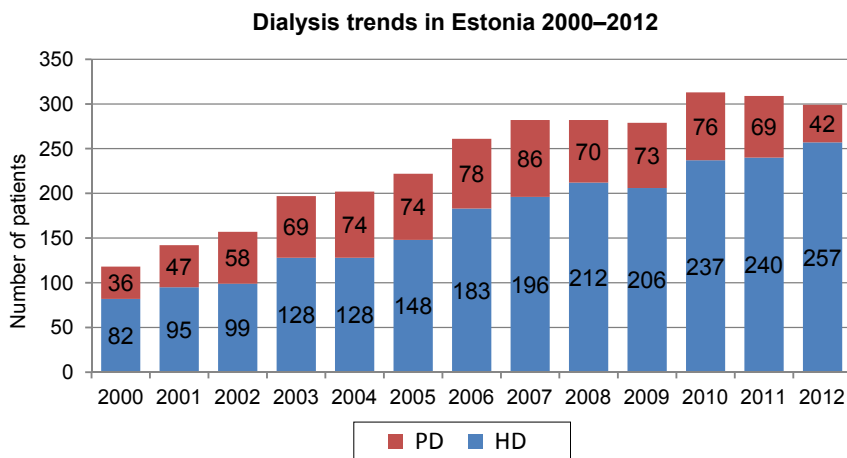


Figure 10. Hemo- and peritoneal dialysis trends in Estonia. The figure shows that peritoneal dialysis pts population diminishes during last years.

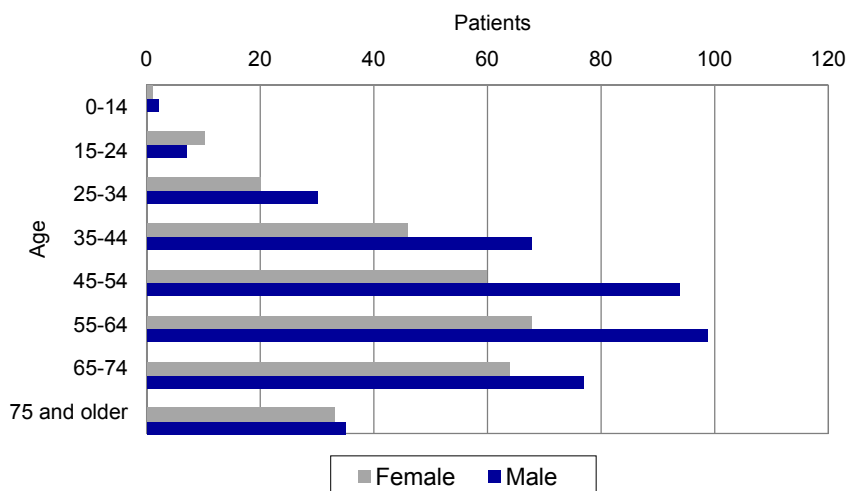
VII Prevalent patients demography

Table 5. Demographic data of prevalent RRT patients

	2007		2008		2009		2010		2011		2012	
	M	F	M	F	M	F	M	F	M	F	M	F
HD	110	86	113	99	112	94	139	98	143	97	140	117
PD	48	38	40	30	37	36	40	36	35	34	20	23
KT	185	136	204	144	235	158	228	170	234	171	250	184
RRT pts	343	260	357	273	384	288	407	304	412	302	410	324

A

Prevalent RRT population 2011



B

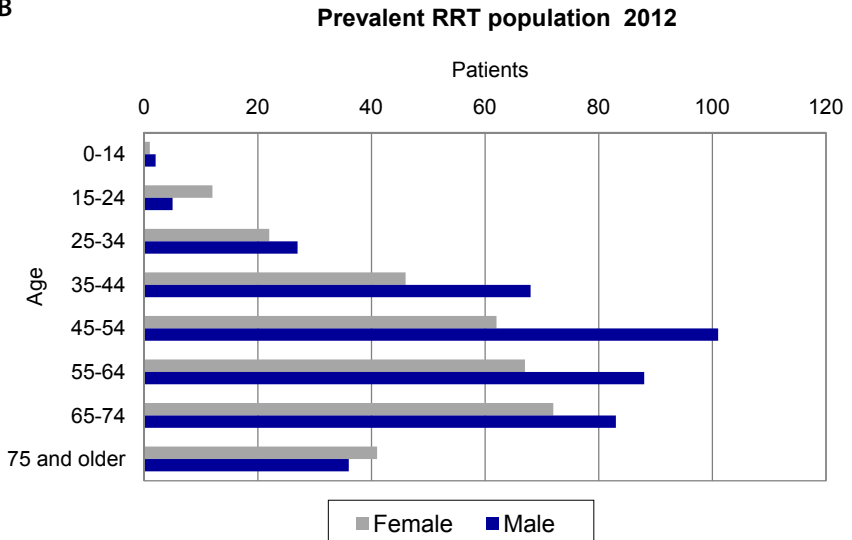


Figure 11. Prevalent RRT population in different age groups in Estonia in 2011 and 2012

VIII Prevalent RRT patient's diagnoses

Diagnoses of prevalent RRT patients

Table 6. Number and percentage of pt in each diagnosis group according to treatment mode 2012

	HD nr	HD %	PD nr	PD %	Transplant nr	Trans- plant %
Glomerulonephritis	36	17.5	6	8.2	149	37.9
Hypertension	47	22.8	18	24.7	27	6.8
IDDM	14	6.8	11	15.1	68	17.3
NIDDM	20	9.7	13	17.8	9	2.3
PCKD	13	6.3	3	4.1	44	11.2
Pyelonephritis	44	21.4	12	16.4	72	18.3
Other diagnoses	32	15.5	10	13.7	24	6.1

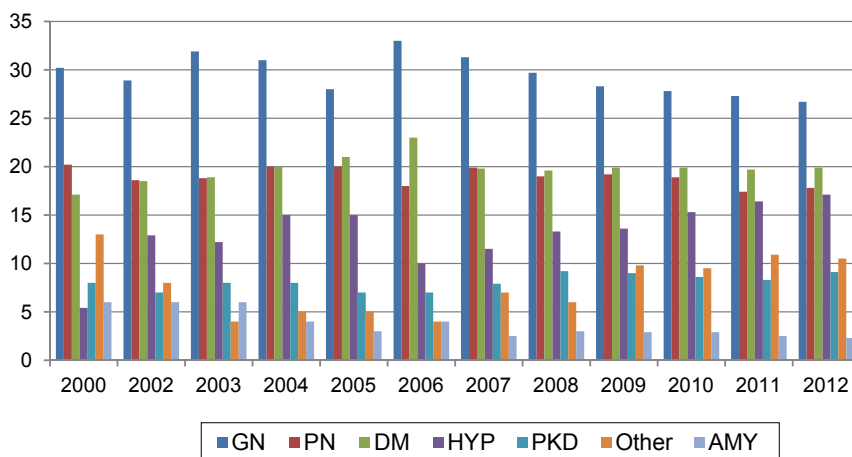


Figure 12. Percentage of patients in each diagnosis group receiving RRT 2000–2012.

The most common kidney diagnosis of RRT patients was glomerulonephritis with ~30%. Diabetes was the second most common diagnosis instead of pyelonephritis that remained to the third place from 2003.

Table 7. Percentage of patients in each diagnosis group

%	2000	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
GN	30.2	28.9	31.9	31	28	33	31.3	29.7	28.3	27.8	27.3	26.7
PN	20.2	18.6	18.8	20	20	18	19.9	19	19.2	18.9	17.4	17.8
DM	17.1	18.5	18.9	20	21	23	19.8	19.6	19.9	19.9	19.7	19.9
HYP	5.4	12.9	12.2	15	15	10	11.5	13.3	13.6	15.3	16.4	17.1
PKD	8	7	8	8	7	7	7.9	9.2	9	8.6	8.3	9.1
Other	13	8	4	5	5	4	7	6	9.8	9.5	10.9	10.5
AMY	6	6	6	4	3	4	2.5	3	2.9	2.9	2.5	2.3

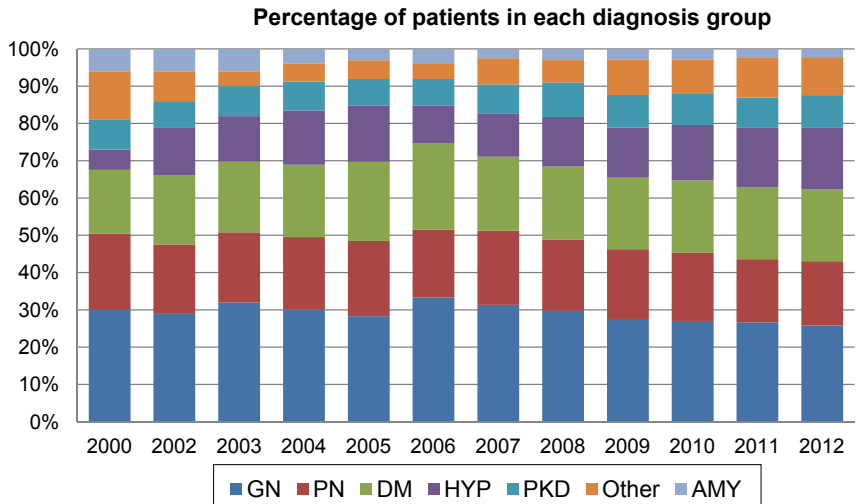


Figure 13. Percentage of patients in each diagnosis group.

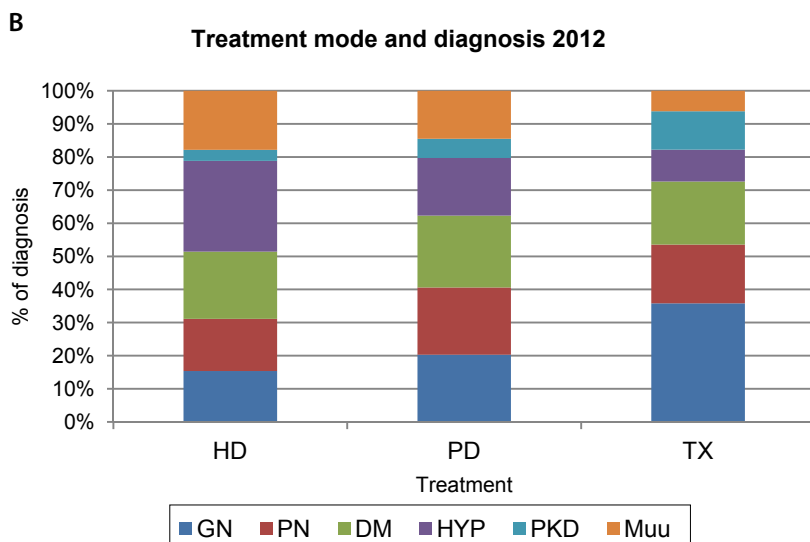
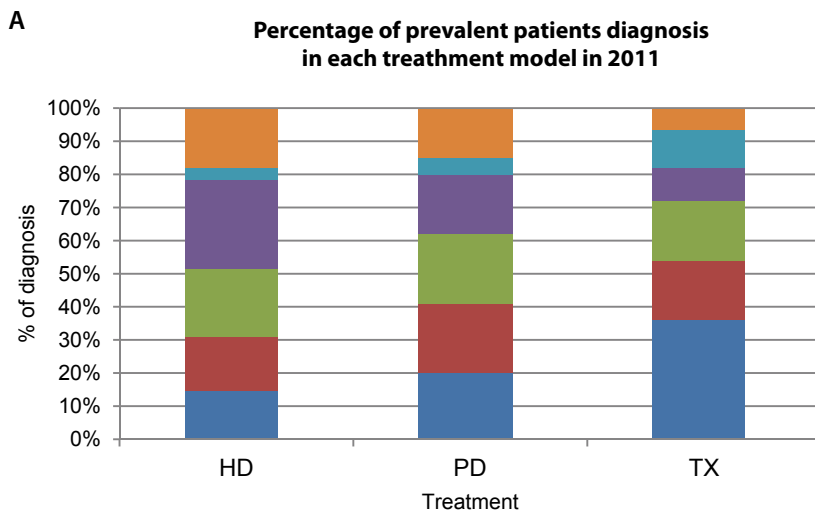


Figure 14. Prevalent patient diagnoses in each RRT patient's group A) 2011 and B) 2012.

IX Kidney transplantation

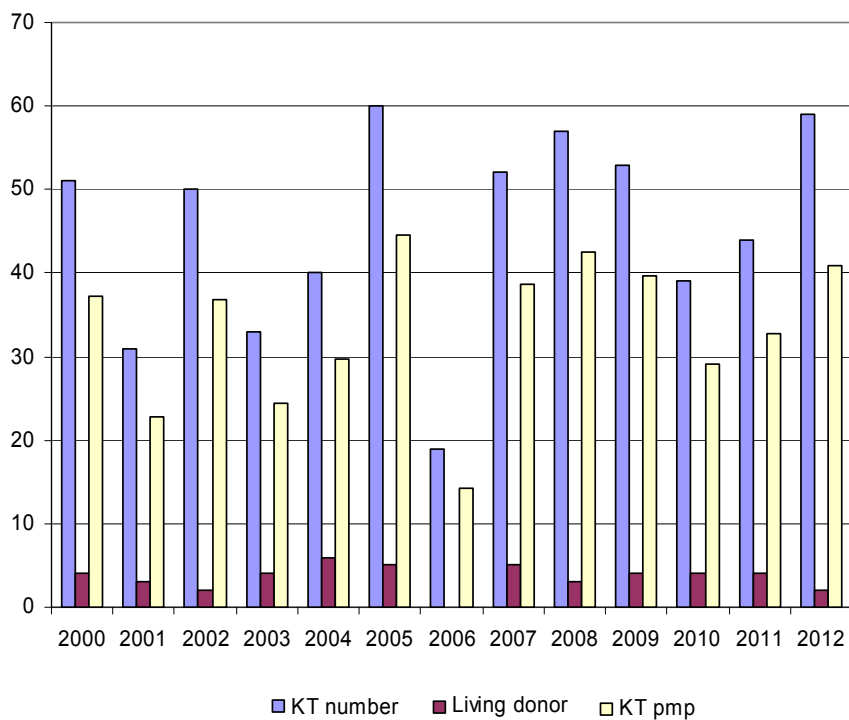


Figure 15. Kidney transplantation total numbers and transplantation number per million in Estonia during 2000-2012

X Survival

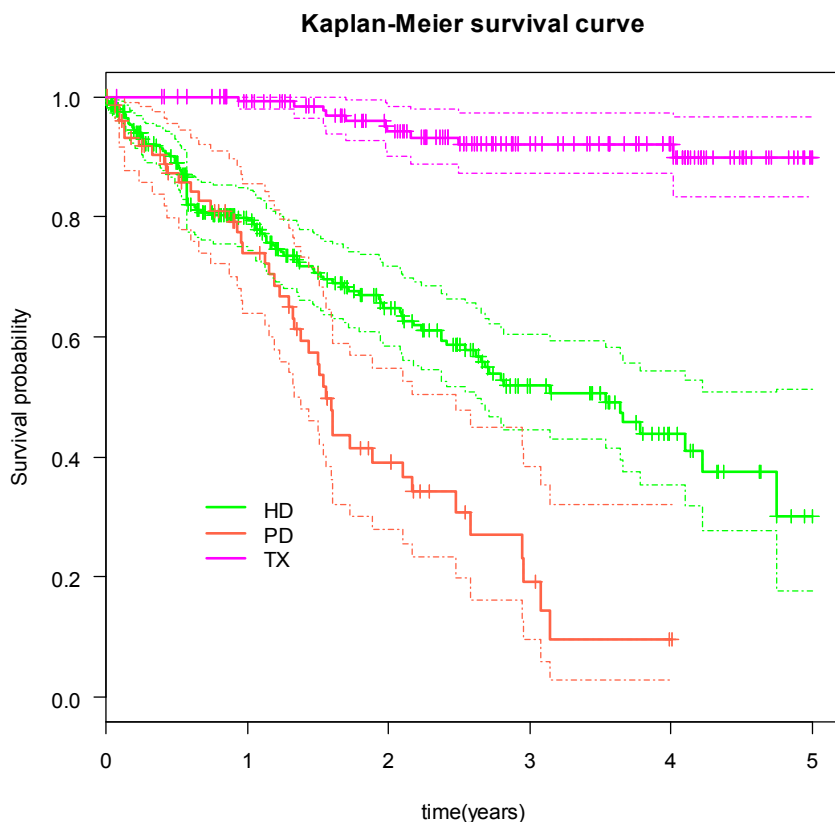


Figure 16. 5-year survival of haemodialysis, peritoneal dialysis and kidney transplant patients.

The start date for the survival analyses is the first date of RRT. The end date is the date of death or the censor date of 31 December 2012'

XI Anaemia and biochemical data

Table 8. Anaemia and biochemical measures mean data (2011) in RRT patients groups.

		Haemodialysis patients	Peritoneal dialysis patients	Kidney trans- plant patients
Hb(g/l)	mean ± SD	112.0 ± 12.2	114.0 ± 13.9	125.0 ± 15.1
CRP (mg/l)	mean ± SD	11.9 ± 20.0	11.3 ± 25.9	4.1 ± 6.7
Albumin (g/l)	mean ± SD	38.5 ± 5.1	35.1 ± 4.3	42.4 ± 4.7
Cholesterol (mmol/l)	mean ± SD	4.6 ± 1.1	5.9 ± 1.6	5.6 ± 1.3
PTH (pmol/l)	mean ± SD	35.4 ± 39.9	29.5 ± 29.9	17.2 ± 15.2
iCa (mmol/l)	mean ± SD	1.17 ± 0.1	1.14 ± 0.1	1.29 ± 0.2
Alb-corrected Ca (mmol/l)				
mean ± SD		2.59 ± 0.3	2.48 ± 0.2	2.39 ± 0.3
P (mmol/l)	mean ± SD	1.78 ± 0.6	1.87 ± 1.5	1.18 ± 0.4