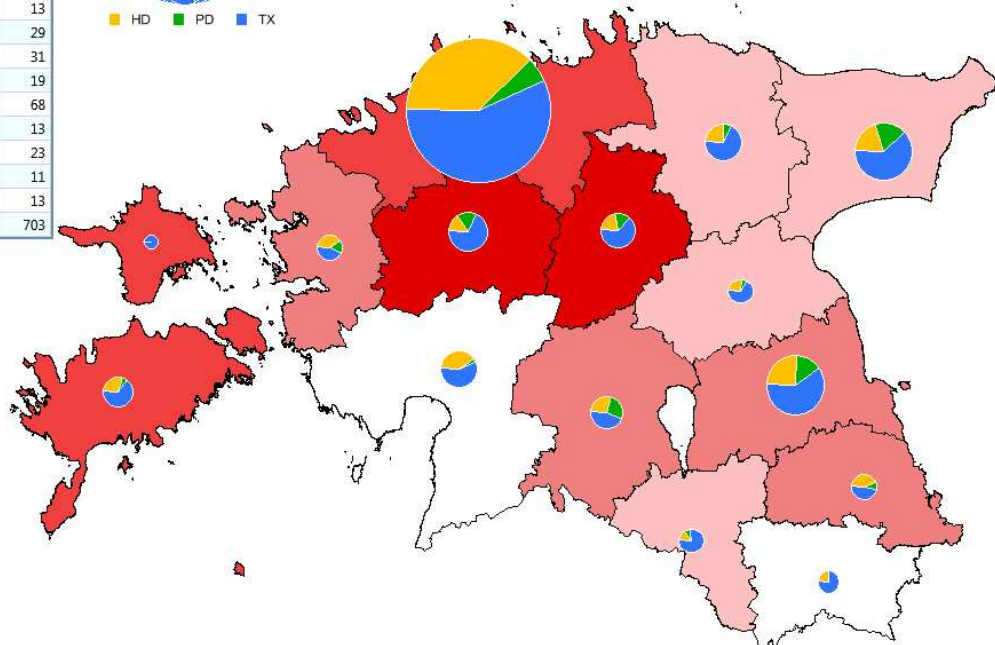
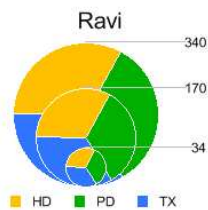




Epidemiological Data Chronic Kidney Diseases in Estonia Annual Report 2011

Maakond	HD	PD	TX	Kokku
Harjumaa	127	18	189	334
Hiiumaa	0	0	6	6
Ida-Virumaa	13	12	39	64
Jõgevamaa	4	1	9	14
Järvamaa	6	4	16	26
Läänemaa	5	2	5	12
Lääne-Virumaa	7	2	18	27
Põlvamaa	6	1	6	13
Pärnumaa	12	1	16	29
Raplamaa	5	5	21	31
Saaremaa	6	1	12	19
Tartumaa	18	10	40	68
Valgamaa	2	1	10	13
Viljandimaa	7	6	10	23
Võrumaa	3	0	8	11
(andmed puuduvad)	12	1	0	13
Kokku	233	65	405	703



Acknowledgments

Retrospective renal replacement therapy (RRT) patient's data analysis were performed by drs. Ülle Pechter¹ and Mai Rosenberg¹. The steering group would like to thank the staff in all the renal centers and units in Estonia for their kind help and hard work with RRT patient data collection.

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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)
- 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 center questionnaires. Data were obtained from all nephrology centers and units.

Centers of nephrology in Estonia (3, 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).

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

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



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

Incidence of RRT

Table 1. Incidence of RRT 2007-2011

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

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

Annual incidence per million population of new patients starting RRT 2007-2011

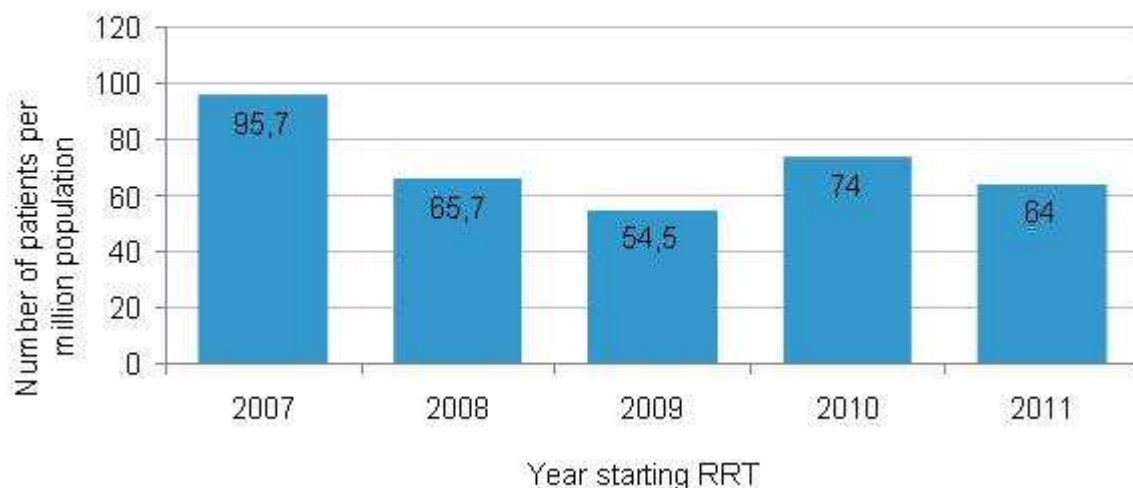
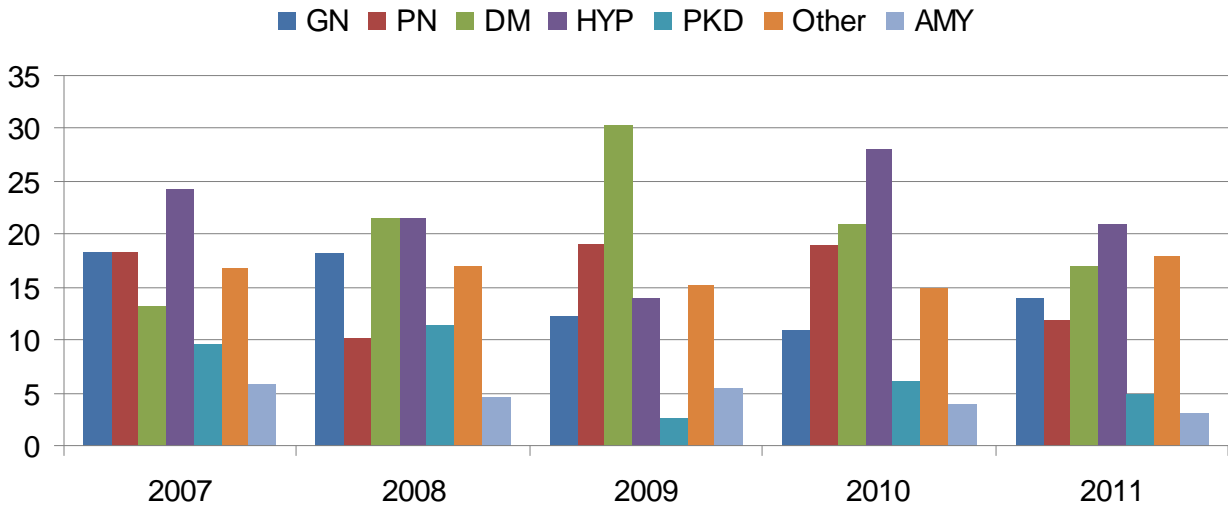


Figure 2. Incidence trends: almost similar incident numbers during last four years.

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).

A

Diagnosis of patients starting RRT (%)



B

Percentage of patients in each diagnosis group incidence at day 1 2007-2011

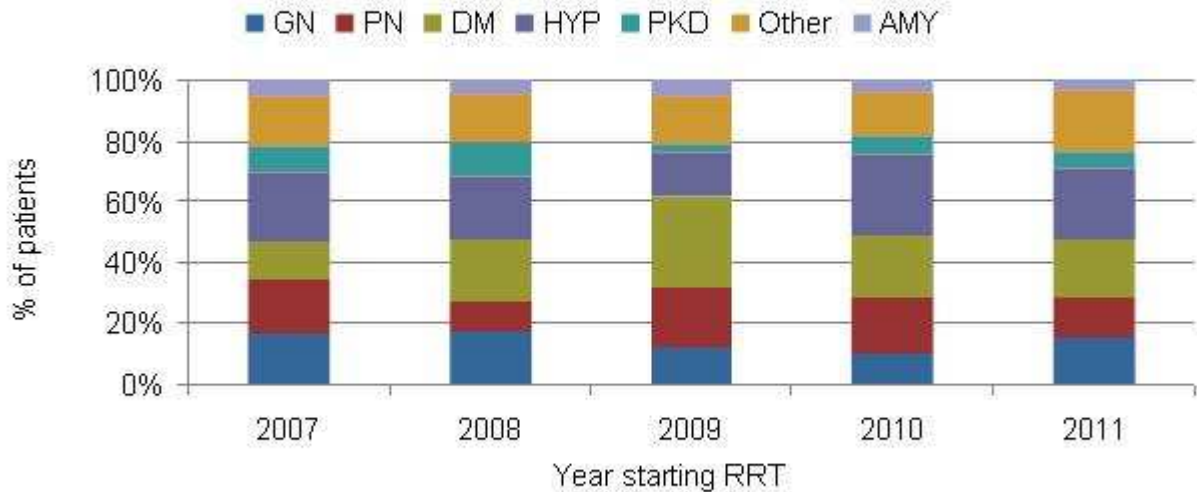


Figure 3 A and B. Percentage of patients in each diagnosis group starting RRT 2007-2011

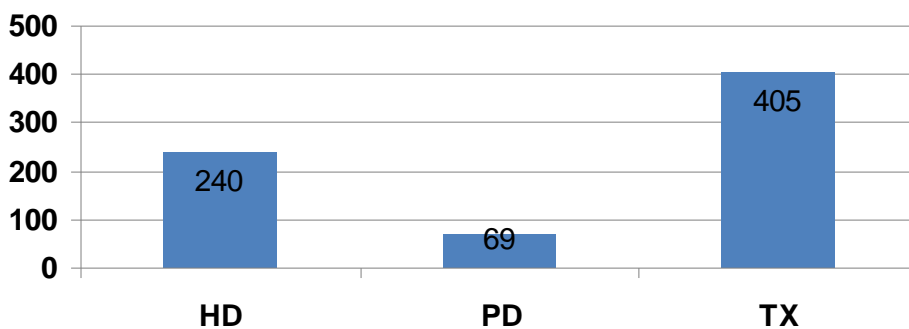
Prevalence of RRT

Table 2. Prevalent RRT patients numbers according treatment modality.

	<i>Prevalence per million (nr)</i>	<i>pmp (%)</i>	<i>Total number of pt-s</i>
HD	179	33	240
PD	51	10	69
TX	302	57	405
RRT	536	100%	714

A

Number of patients by established RRT in 2011



B

Percentage of established RRT in 2011

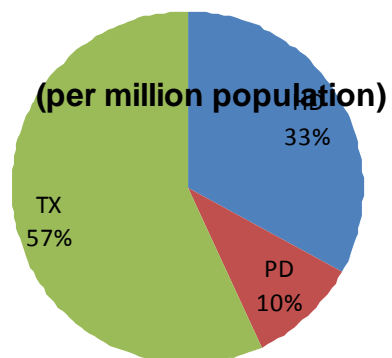


Figure 4 A and B. Prevalent patient's total number (A) and percentage (B) in 2011.

Table 3. Prevalent RRT patients 2007-2011 according to centers and units

Center	2007	2008	2009	2010	2011
TUH	195	204	229	240	210
WTCH	240	248	262	270	284
NERH	93	94	110	131	130
Childrens	2	3	2	3	4
HD units	73	84	67	67	86
	603	633	670	711	714

HD units	2007	2008	2009	2010	2011
Puru	11	12	7	7	8
Narva/Narva hos	12 / 1	11 / 5	10 / 4	10 / 6	11 / 7
Kuressaare	6	8	9	8	6
Rakvere	7	9	3	5	4
Paide	1	2	2	1	4
Pärnu	12	17	15	12	14
Haapsalu	4	4	1	1	6
Viljandi	9	11	8	8	7
Võru	3	2	2	3	9
Valga	2	1	4	1	2
Jõgeva	5	5	4	4	6
Keila	0	3	2	1	2
					86

NAR patsientide arv keskustes

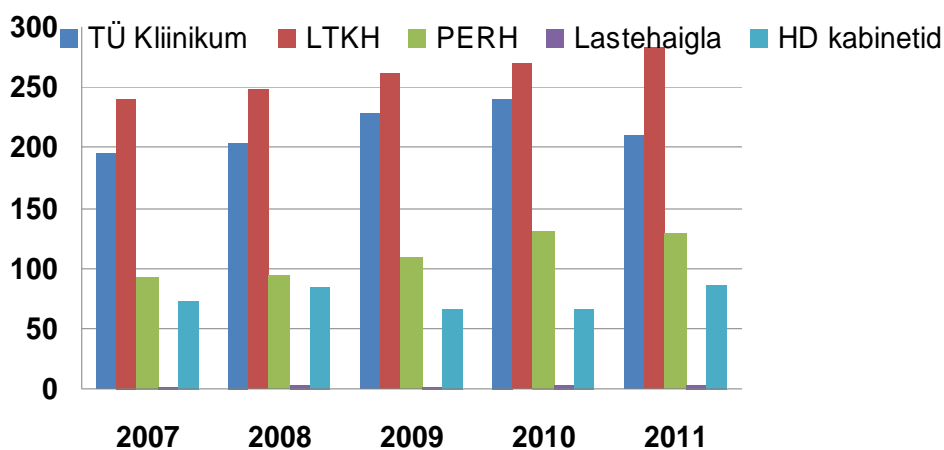
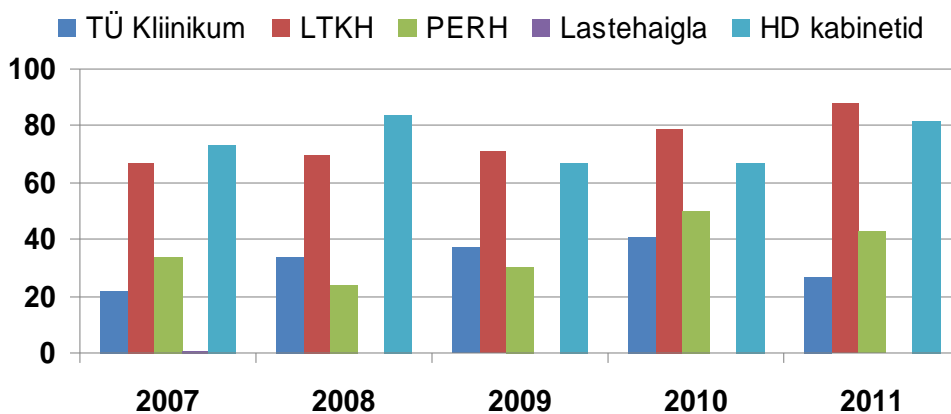
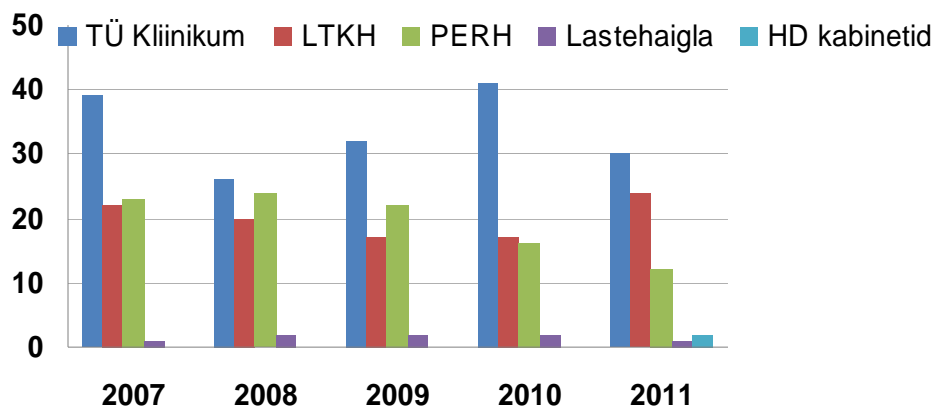


Figure 5. Prevalent RRT patients in centers and units during 2007-2011

HD patsiente keskustes



PD patsiente keskustes



TX patsiente keskustes

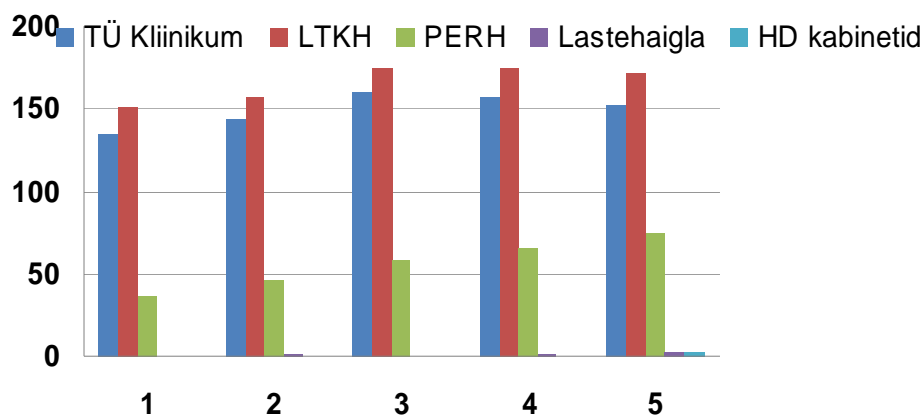


Figure 6. Prevalent HD, PD and transplant patients in different centers and units during 2007-2011

Table 4. Prevalence of RRT - trends in Estonia 2000-2011

	2000	2001	2003	2005	2007	2009	2010	2011
RRT patients's nr	279	332	424	528	603	672	711	714
Increase - %	7,3%	18,7%	14,3%	13,0%	8,8%	6,7%	5,8%	0,4%
RRT prevalence/million	193	245	314	384	449	498	530	536
Dialysis patient's nr	118	142	197	225	282	279	313	309
HD	82	95	128	148	196	206	237	240
PD	36	47	69	74	86	73	76	69
TX	161	190	227	296	321	393	398	405
TX (%)	57,7%	57,2%	53,5%	56,8%	53,2%	58,5%	56,0%	56,7%

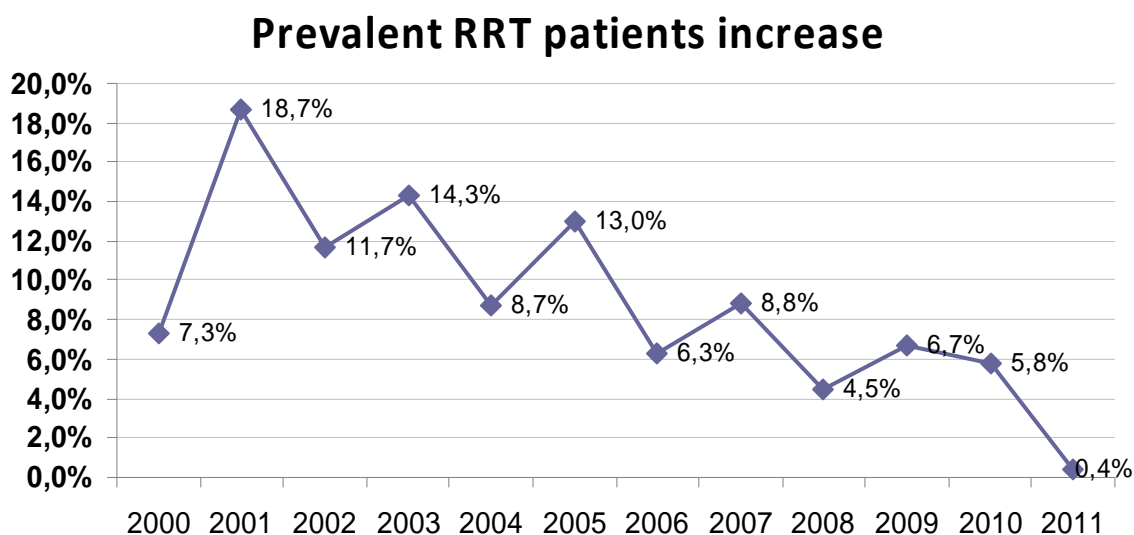


Figure 7. Prevalent RRT pts increase became lower during last ten years. This means that the beside the increasing of RRT population the annual growth is not any more so high compared with the beginning of the century. However, the increase of RRT prevalence was only 0,4% in 2011.

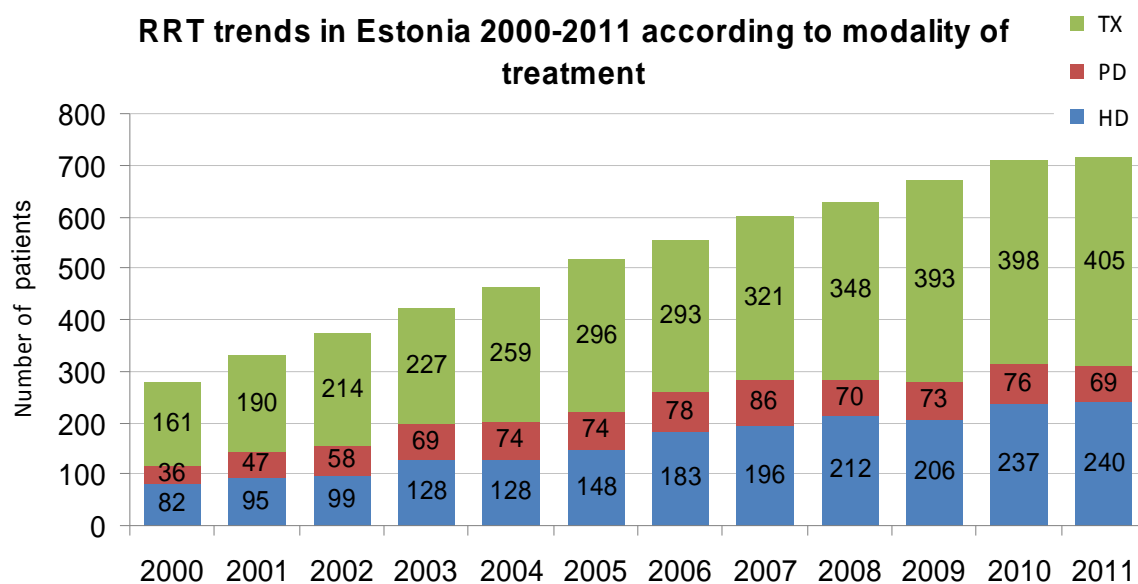


Figure 9. RRT trends in Estonia according to modality of treatment.

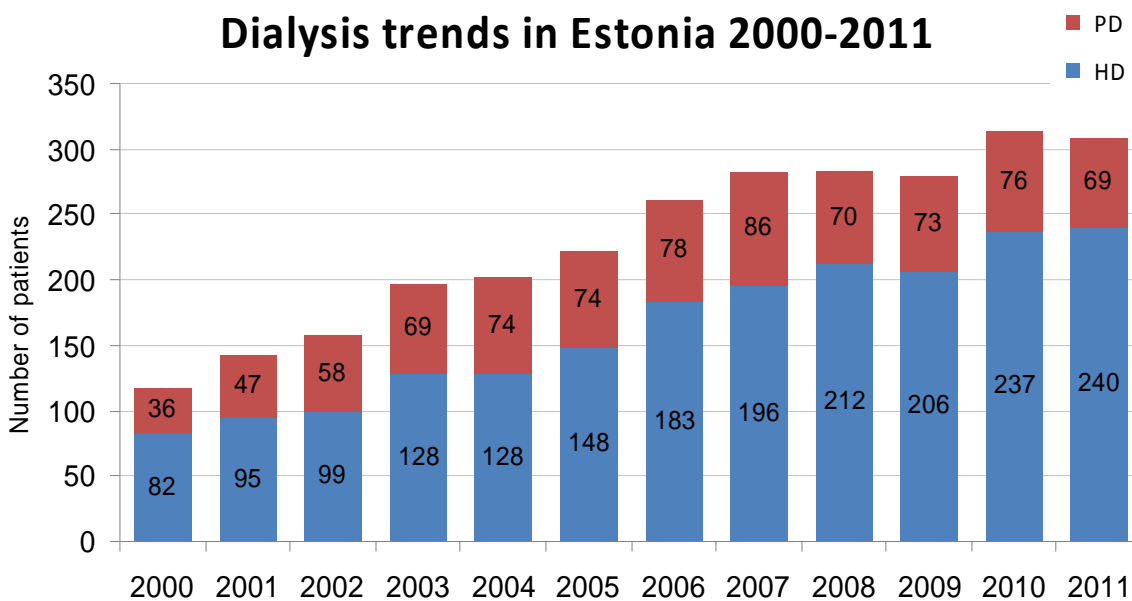


Figure 10. Hemo- and peritoneal dialysis trends in Estonia.

Table 5. Demographic data of prevalent RRT patients

Gender	2008		2009		2010		2011	
	M	F	M	F	M	F	M	F
HD	113	99	112	94	139	98	97	43
PD	40	30	37	36	40	36	34	35
TX	204	144	235	158	228	170	234	171
RRT pts	357	273	384	288	407	304	365	249

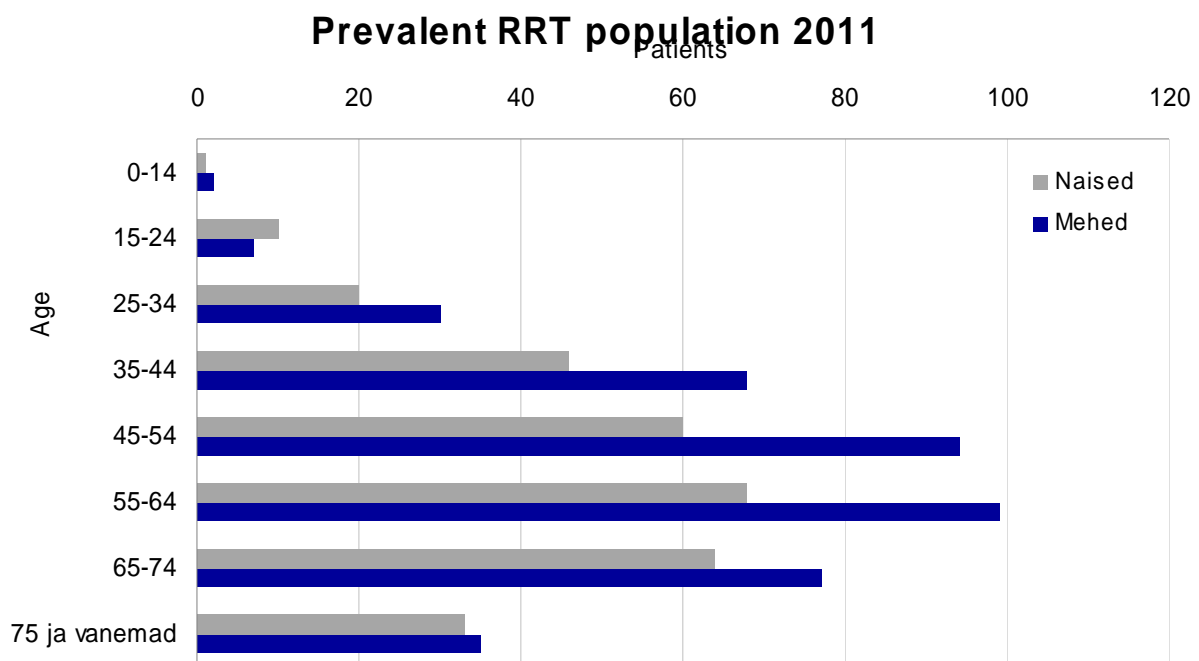


Figure 8. Prevalent RRT population in different age groups in Estonia

Diagnoses of prevalent RRT patients

Table 7. Number and percentage of pt in each diagnosis group according to treatment mode 2011

	HD nr	HD %	PD nr	PD %	Transplant nr	Transplant %
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

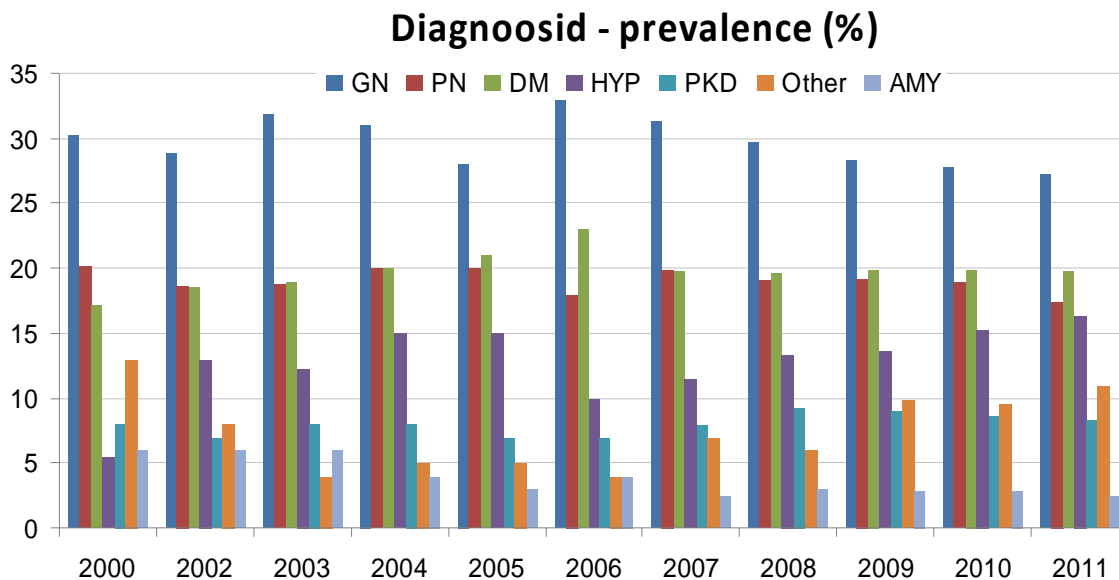


Figure 7. Percentage of patients in each diagnosis group receiving RRT 2000-2011. The most common kidney diagnosis of RRT patients was glomerulonephritis with ~30%. Diabetes was the second most common diagnosis instead of pyelonephritis that remained to the third place from 2003.

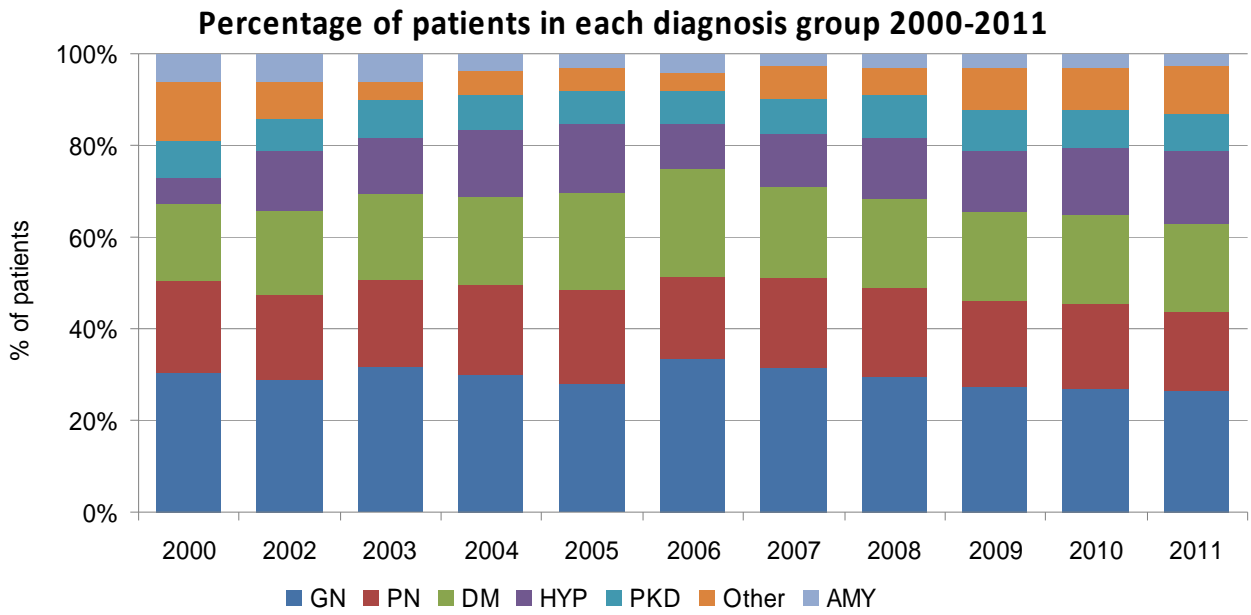


Figure 8. Percentage of patients in each diagnosis group.

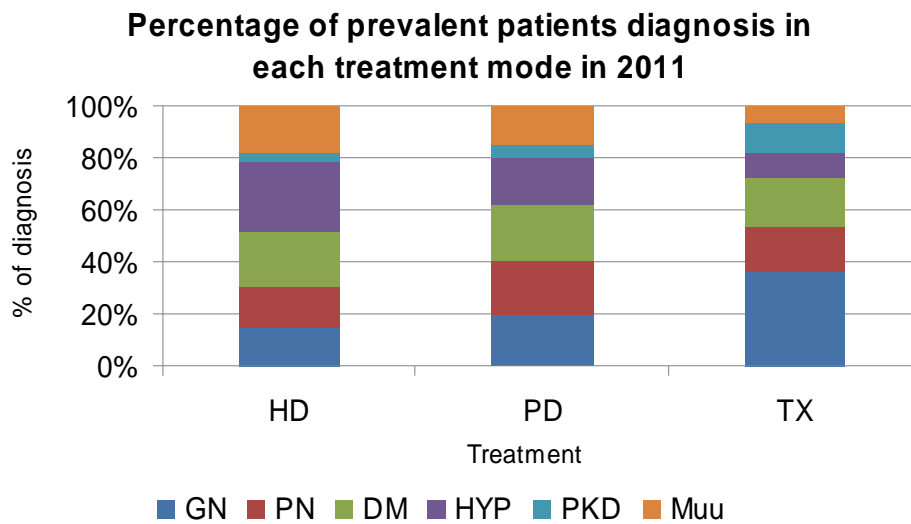


Figure 9. Prevalent patient diagnoses in each RRT patient's group.

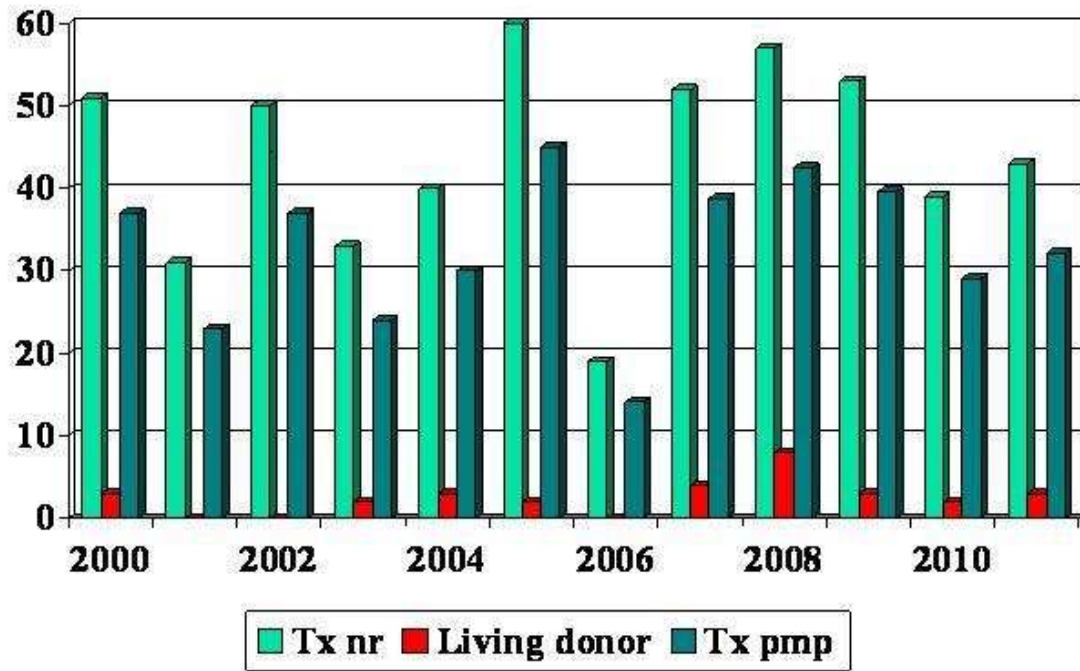


Figure 10. Kidney transplantation total numbers and transplantation number per million in Estonia during 2000-2011.