



Udruženje ljekara za nefrologiju, dijalizu i  
transplantaciju bubrega u Bosni i Hercegovini

# RENAL REPLACEMENT THERAPY IN BOSNIA AND HERZEGOVINA IN YEAR 2012

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- County Hospital Orasje - department for Dialysis Odzak, Želimir Stipancic





# Centers for dialysis and transplantation in Bosnia and Herzegovina



DIJALYSIS CENTERS in B&H	Total number of patients in 2011. (by centers in FBiH, RS & Brčko district)
Banjaluka	197
Bihac	112
Bijeljina	307
Brcko	74
Doboj	127
Foca	20
Gradiska	37
Gracanica	95
Ilidza	59
Istocno Sarajevo	75
Konjic	26
Laktasi	101
Livno	34
Mostar	179
Odzak	94
Pedijatrijska klinika KCU Sarajevo	1
Prijedor	88
Sarajevo-KCU Klinika za HD	234
Sarajevo-KCU Klinika za nefrologiju	86
Samac	93
Tesanj	49
Travnik	128
Trebinje	32
Tuzla	290
Zenica	244
Zvornik	88
Zivinice	67
<b>TOTAL:</b>	<b>2.937</b>





## Distribution of dialysis patients in B&H at the day 31.12.2012. by age group and sex

Age group	Male	Female
0-19	16 (1,1%)	11 (1,0%)
20-44	278 (19,1%)	163 (14,9%)
45-64	677 (46,6%)	463 (42,4%)
65-74	300 (20,6%)	277 (25,4%)
75+	182 (12,5%)	178 (16,3%)
Median	59,4 year	62,3 year





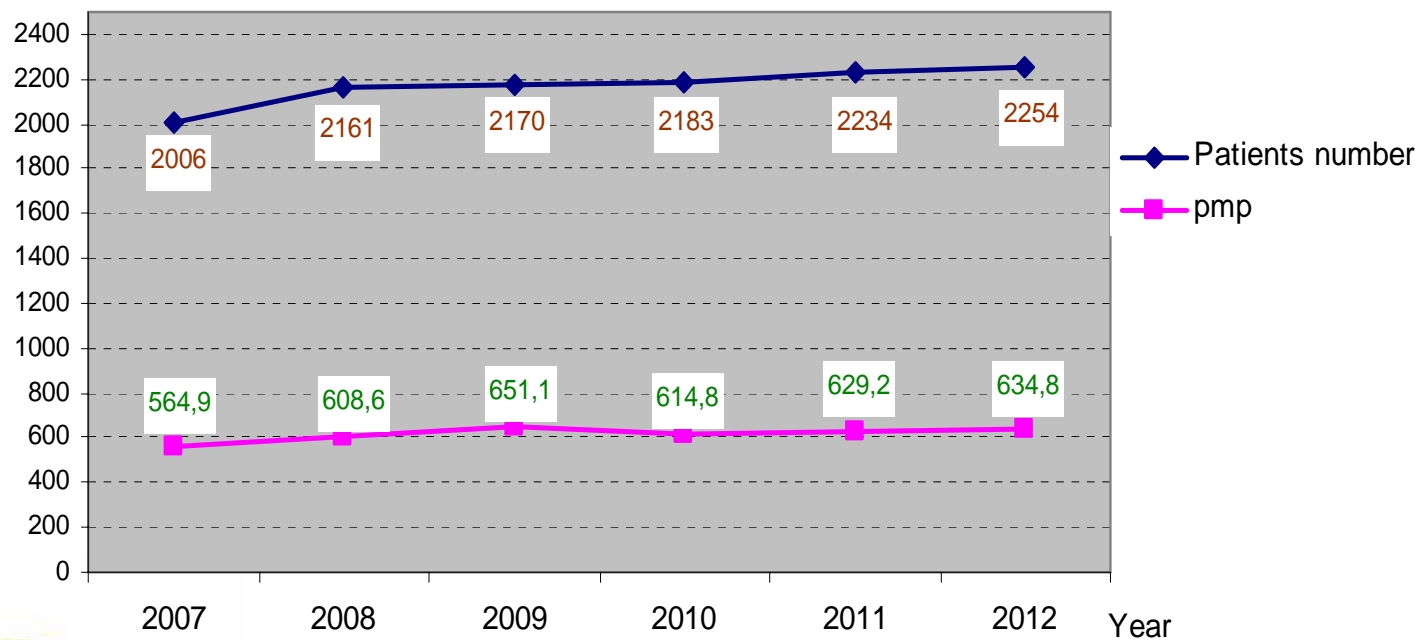
# Epidemiology chronic renal failure - prevalence

- Prevalence
- Incidence
- Primary renal disease
- Treatments Modality
- Blood transmitted diseases
- Vascular access
- Survival
- Acute renal failure
- Outcome





## Prevalence >90 day





## Age groups of prevalence patients (>90 dana)

December 31. 12.2012.	0-19	20-44	45-64	65-74	75+
Males (n)	9	205	594	278	175
Females (n)	9	126	426	261	170
<b>Total (n/%)</b>	<b>18 (0,8%)</b>	<b>331 (14,7%)</b>	<b>1020 (45,3%)</b>	<b>540 (24,0%)</b>	<b>345 (15,3%)</b>





## Epidemiology chronic renal failure - incidence

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## Incidence in B&H (at day 1) – comparation 2002.-2012.

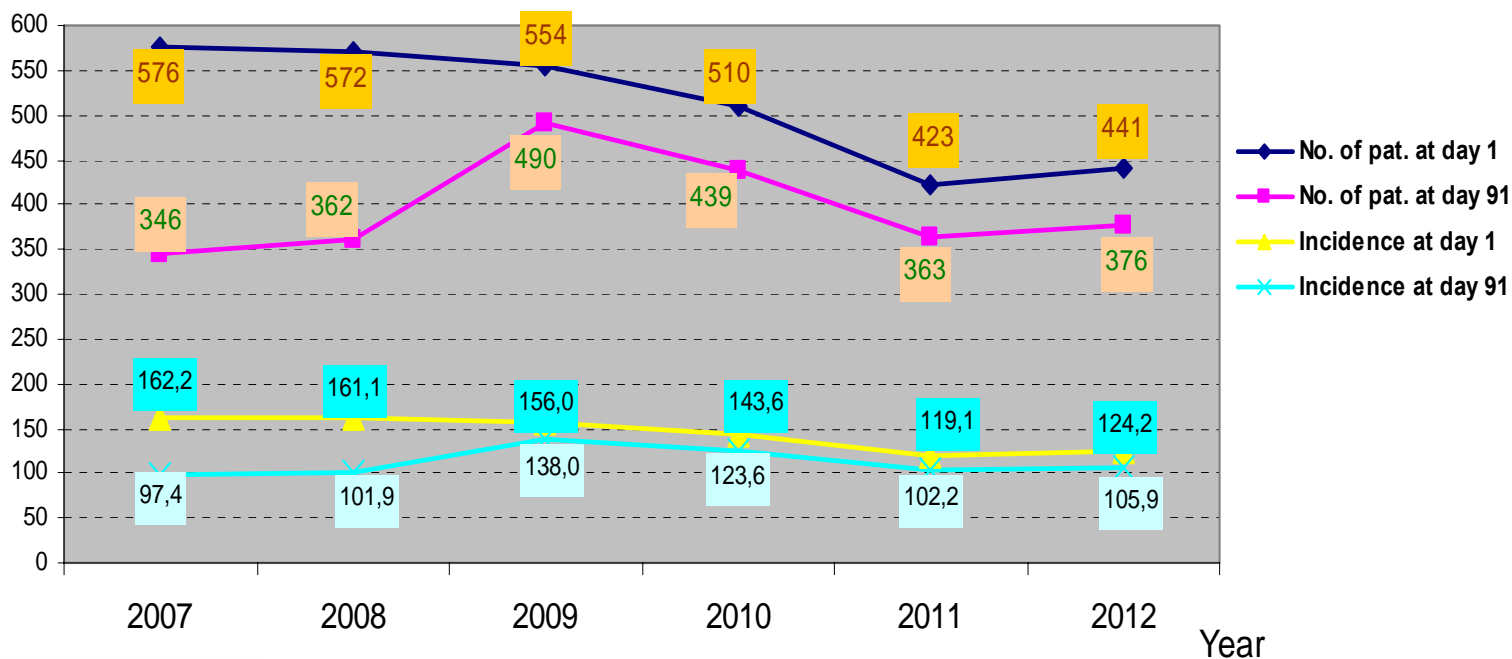
Entity	Incidence in B&H (at day 1)			
	Year 2002		Year 2012	
	N	pmp	N	pmp
Federation BiH	-*	-*	269	-*
R. Srpska	-*	-*	160	-*
DC Brcko	-*	-*	12	-*
Bosnia and Herzegovina	420	109,7	441	125,7



-\* No data



## Incidence (pmp)



**Note:**

The increase (or decrease) incidence was relatively because there are no reliable data on population in Bosnia and Herzegovina



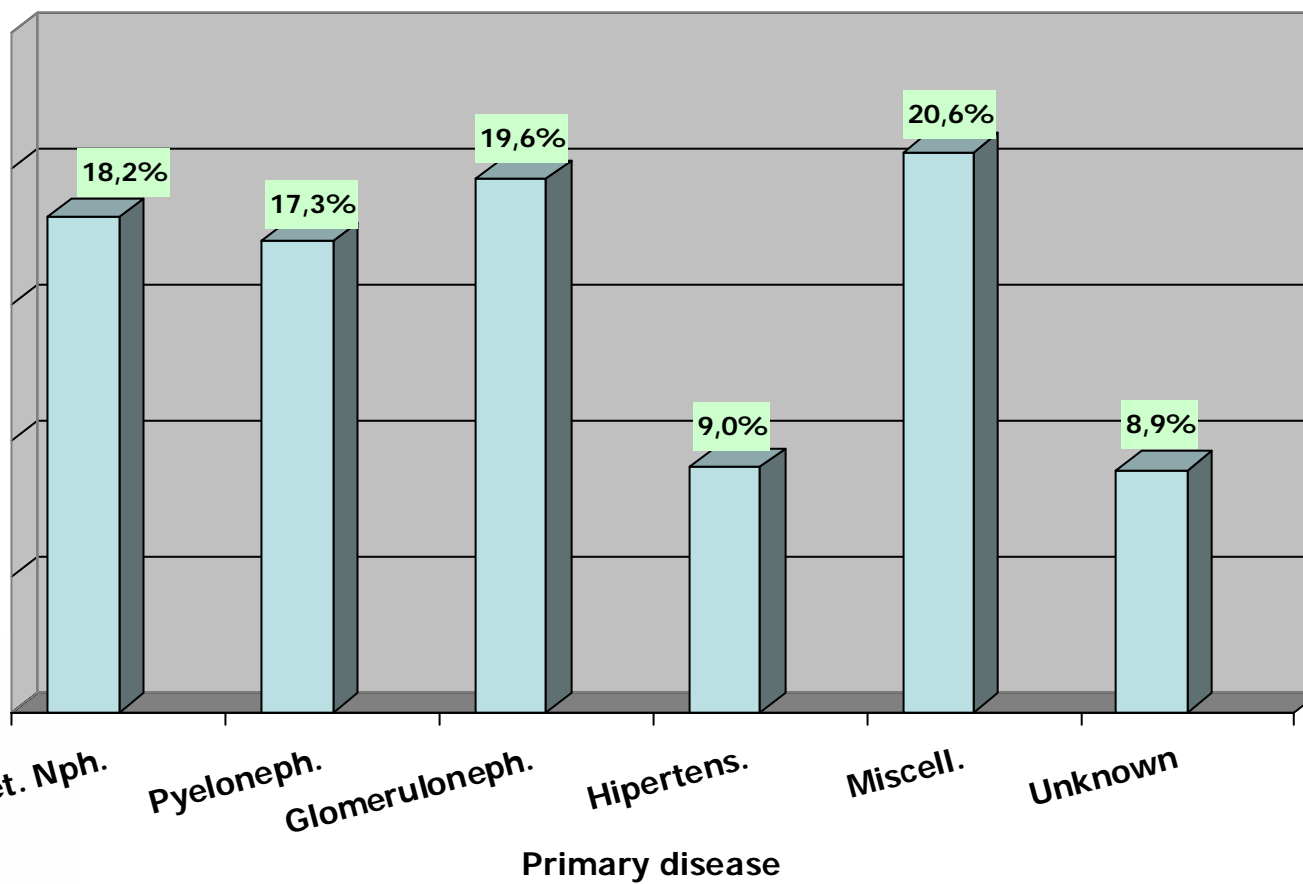
# Primary renal disease

- Prevalence
- Incidence
- **Primary renal disease**
- Treatments Modality
- Blood transmitted diseases
- Vascular access
- Survival
- Acute renal failure
- Outcome





## Primary renal disease in Year 2012





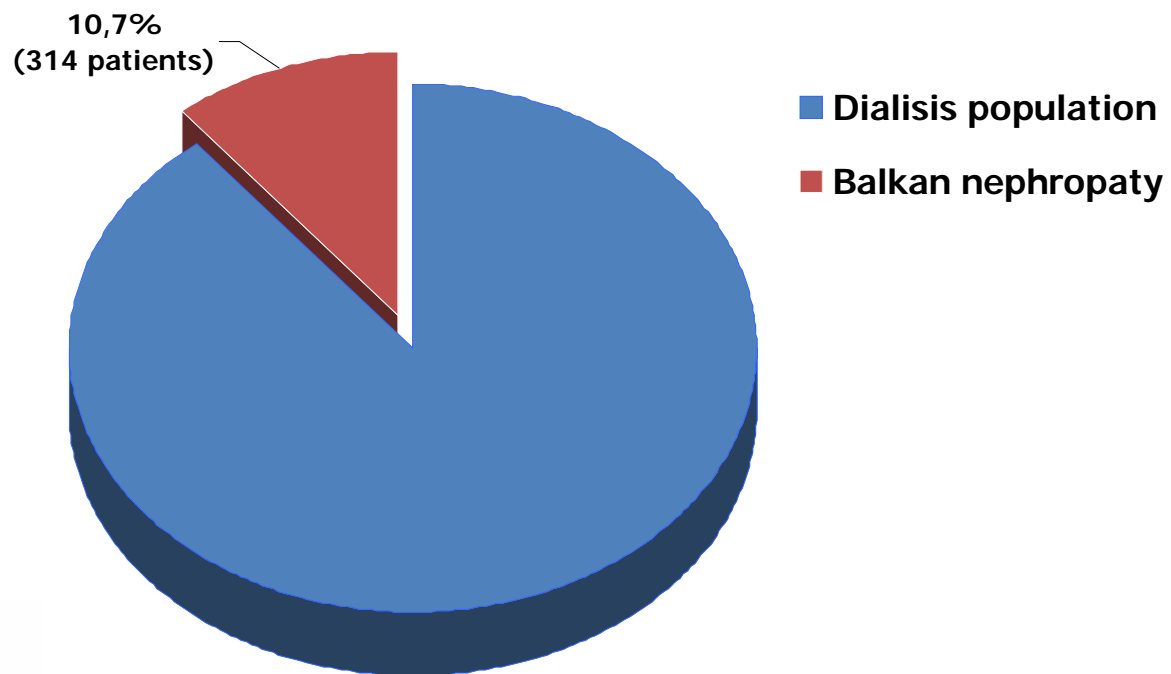
## Balkan endemic nephropathy in Year 2012

- Balkan endemic nephropathy is the most endemic renal disease in the north-east of Bosnia
- Of 314 patients with Balkan nephropathy 83,7% were older than 65 years
- Patients with Balkan nephropathy constitute 10,7% of the total number of dialysis patients





## Balkan endemic nephropathy in Year 2012





## Balkan endemic nephropathy per Years

At day December 31	2005	2006	2007	2008	2009	2010	2011	2012
Number of patient/pmp	246/70	270/77	285/81	306/87	306/87	291/83	328/94	<b>314/89,5</b>
Males (%)	48,4%	44,6%	44,2%	47,4%	50%	51,2%	51,5%	<b>50,6%</b>
Females (%)	51,6%	55,4%	55,8%	52,6%	50%	48,8%	48,5%	<b>49,4%</b>





## Age group of patients with Balkan endemic nephropathy at day 31.12.2012

December 31. 12.2012	0-19	20-44	45-64	65-74	75+
Males (n/%)	0 / 0,0%	1 / 0,7%	28 / 20,3%	58 / 42,0%	51 / 37,0%
Females (n/%)	0 / 0,0%	0 / 0,0%	20 / 14,8%	55 / 40,7%	60 / 44,4%







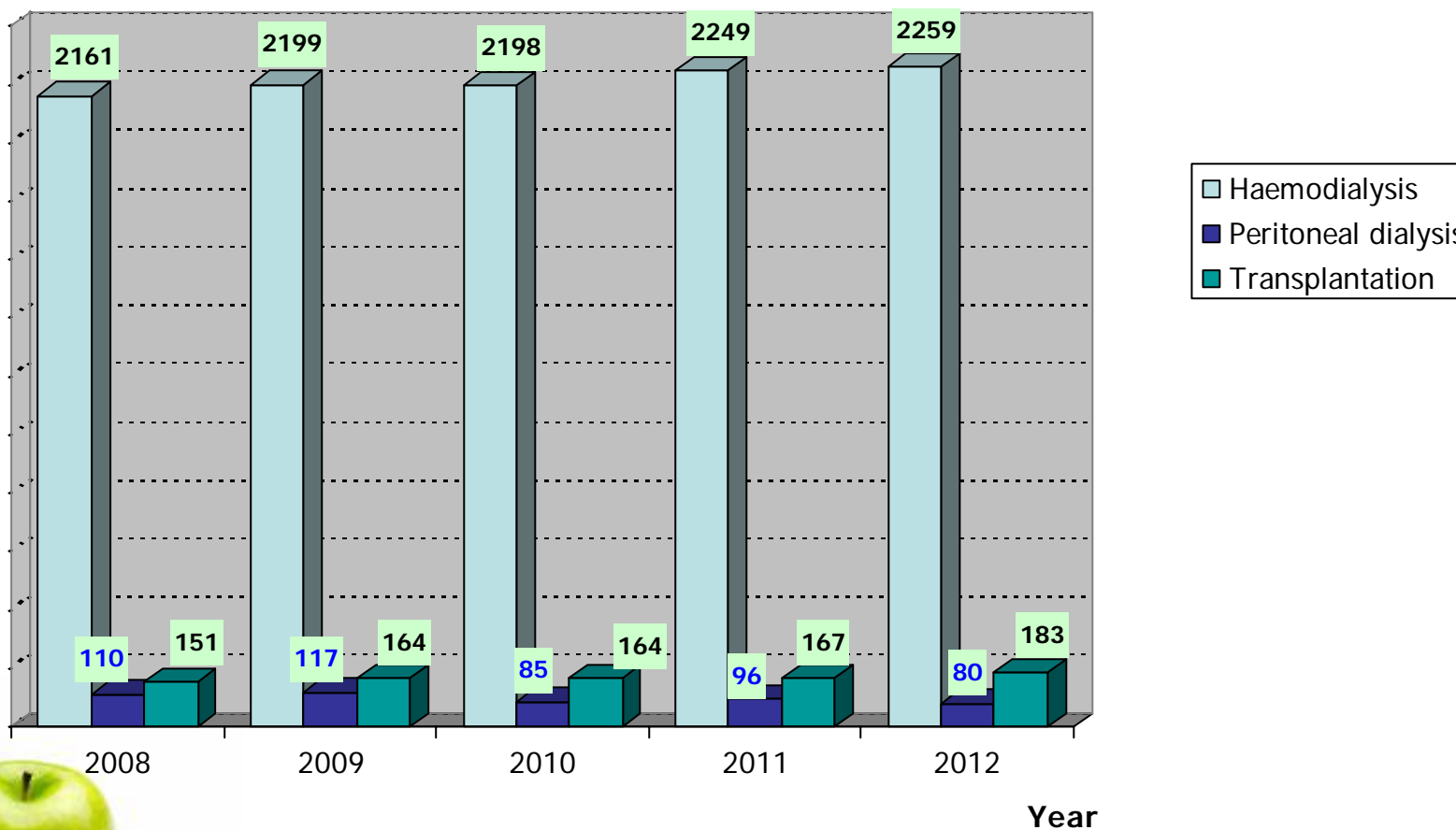
# Epidemiology chronic renal failure –Treatment modality

- Prevalence
- Incidence
- Primary renal disease
- **Treatments Modality**
- Blood transmitted diseases
- Vascular access
- Survival
- Acute renal failure
- Outcome





## Modality patients treatment in the last 5 years (December 31)





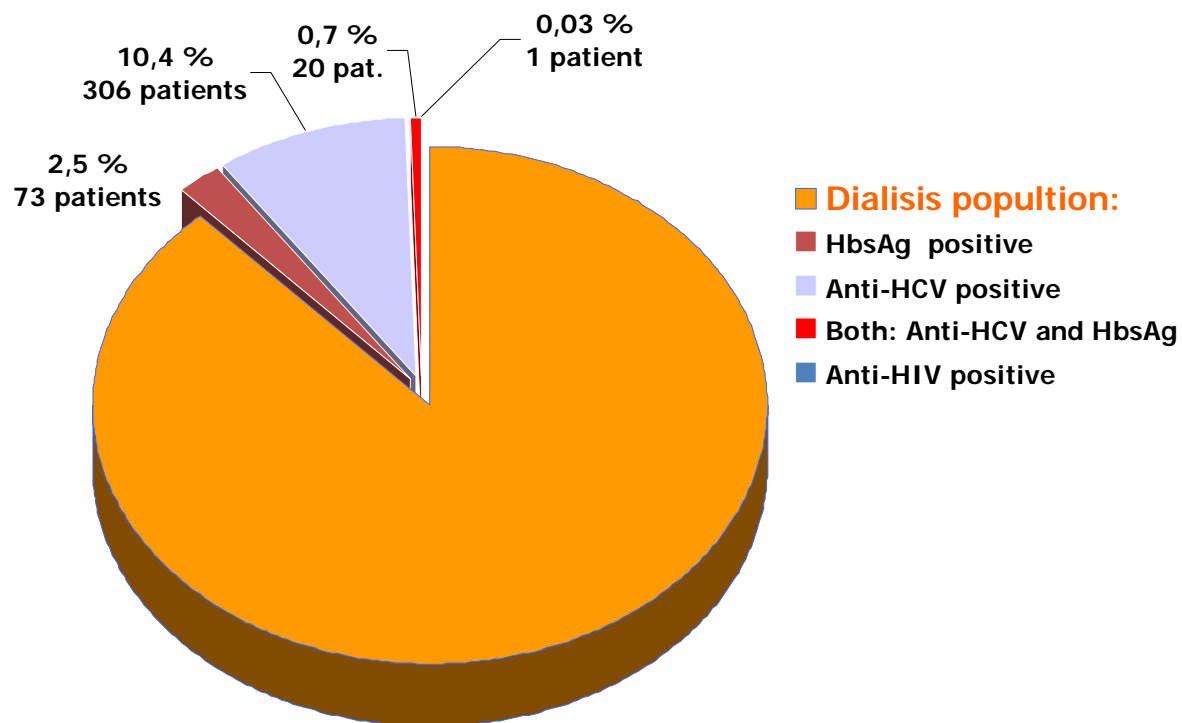
## Blood transmitted diseases

- Prevalence
- Incidence
- Primary renal disease
- Treatments Modality
- **Blood transmitted diseases**
- Vascular access
- Survival
- Acute renal failure
- Outcome





## Blood transmitted diseases (all patients in Year 2012)





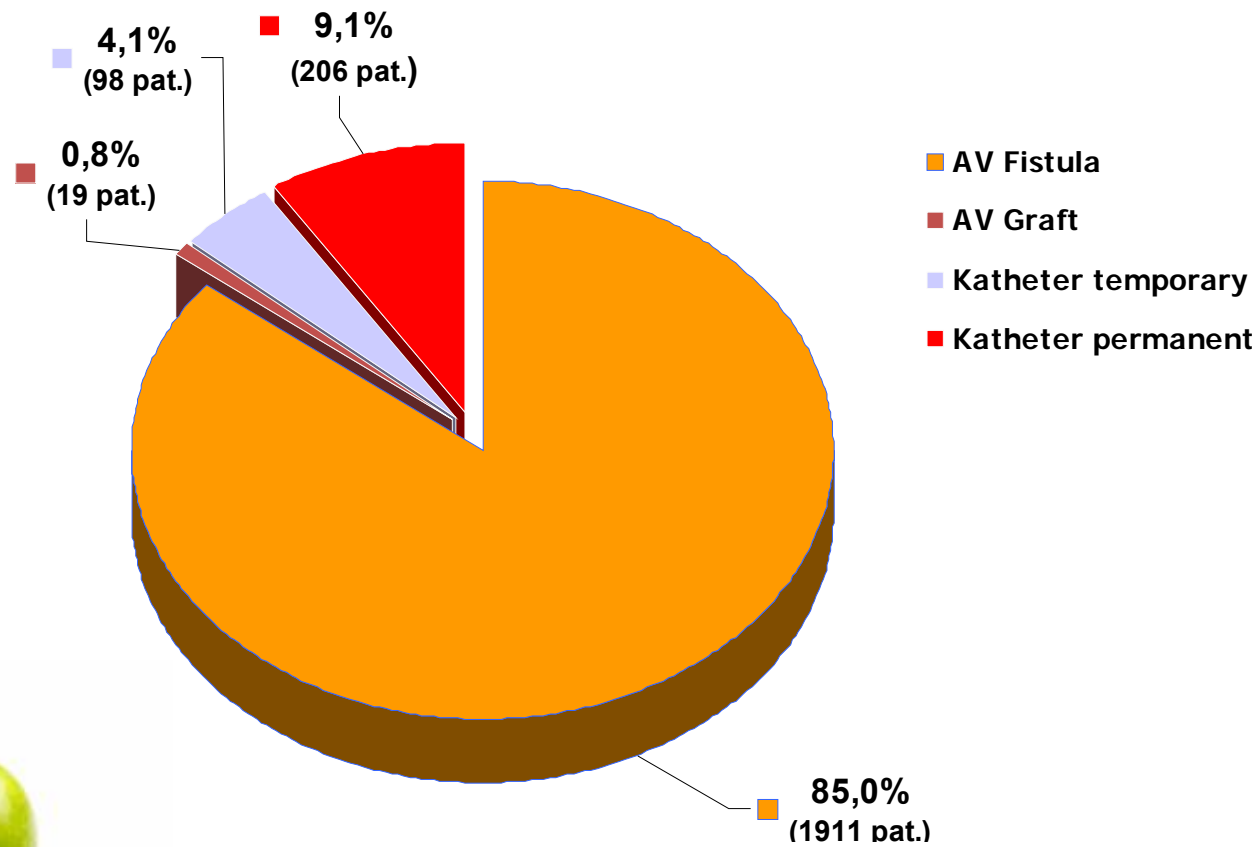
## Vascular access

- Prevalence
- Incidence
- Primary renal disease
- Treatments Modality
- Blood transmitted diseases
- **Vascular access**
- Survival
- Acute renal failure
- Outcome



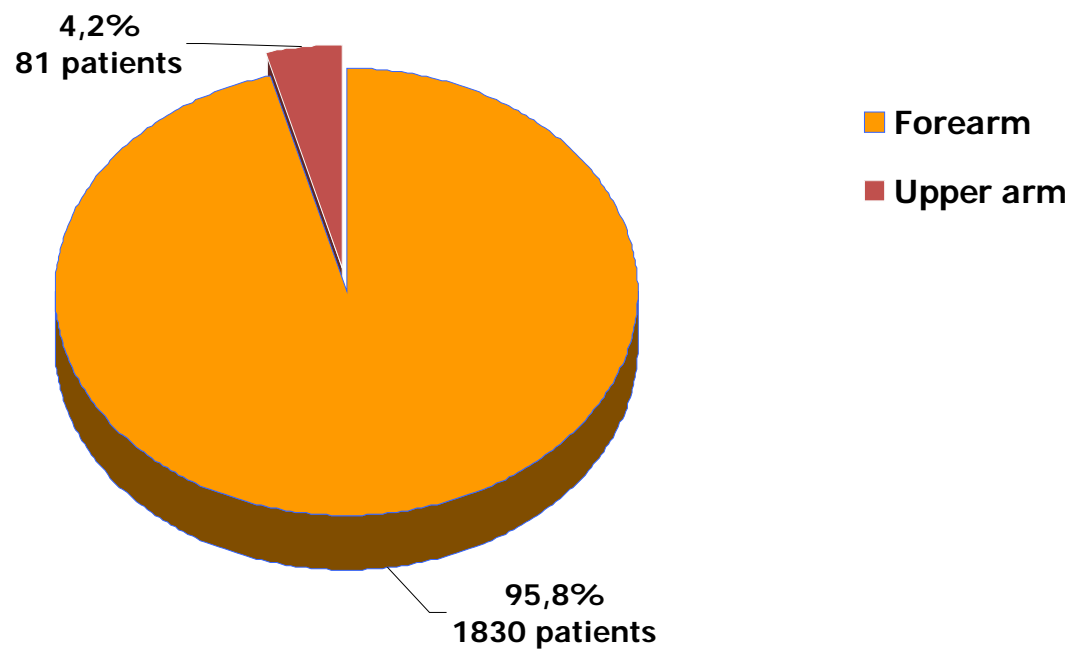


## Vascular access (all patients in Year 2012)



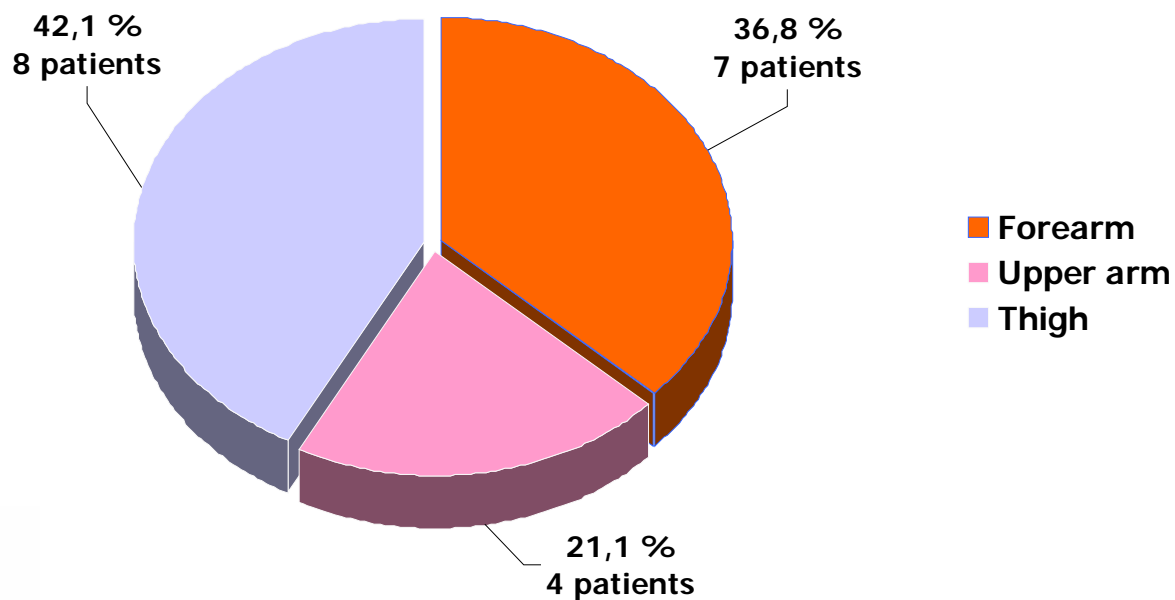


## Vascular access - AV fistula





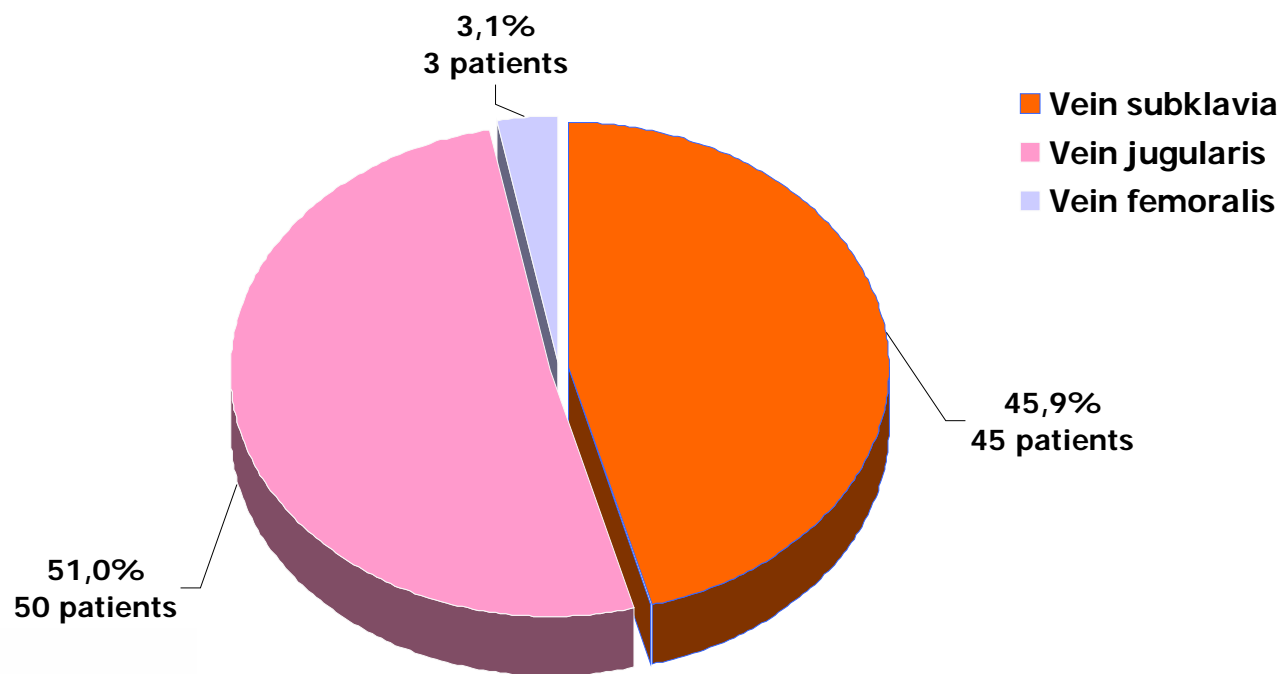
## Vascular access - AV graft







## Vascular access – temporary catheter





## Vascular access – permanent catheter

**Permanent catheter at the end  
Year 2012 had 206 (9.1%) patients**





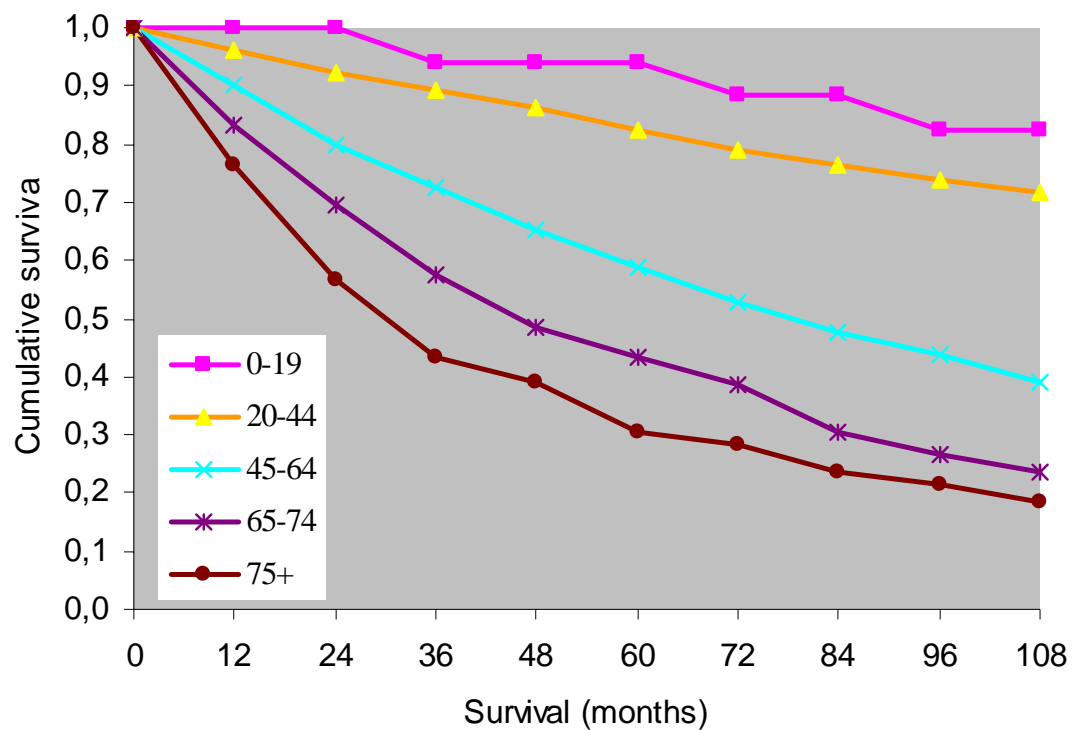
## Survival (cohort 2003.-2012., at day 91, adjusted)

- Prevalence
- Incidence
- Primary renal disease
- Treatments Modality
- Blood transmitted diseases
- Vascular access
- **Survival**
- Acute renal failure
- Outcome

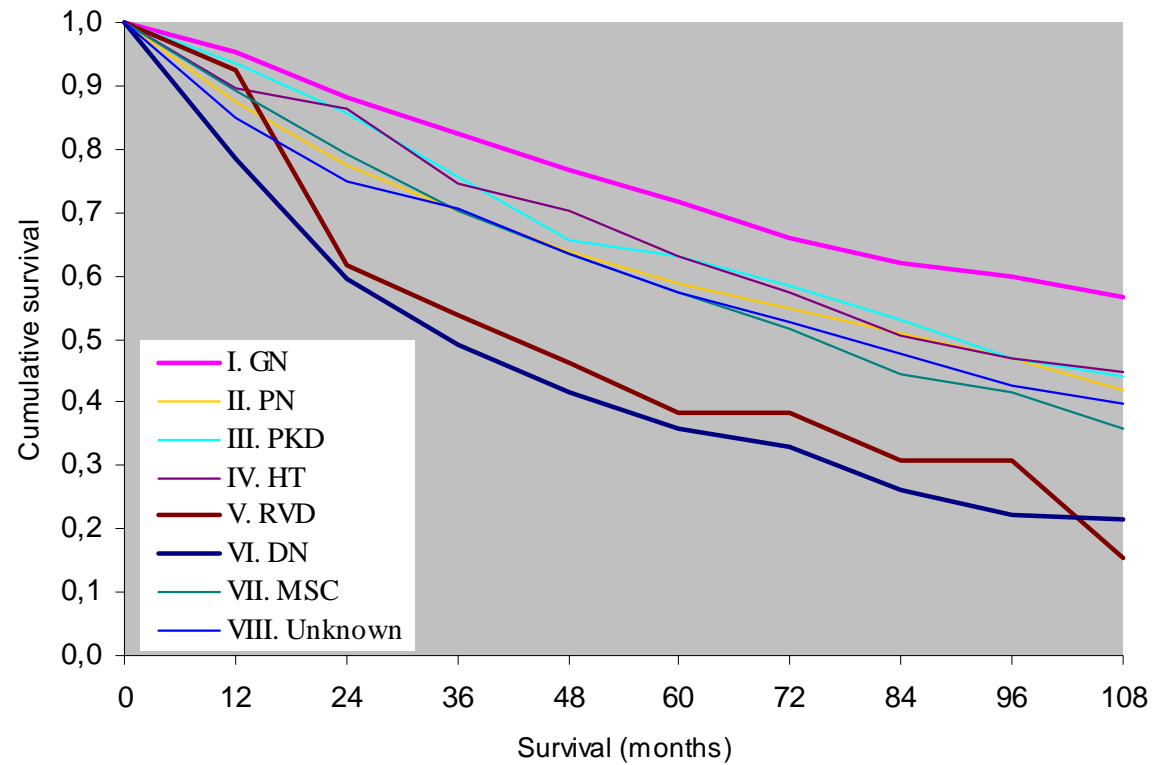




## Survival (by age group)

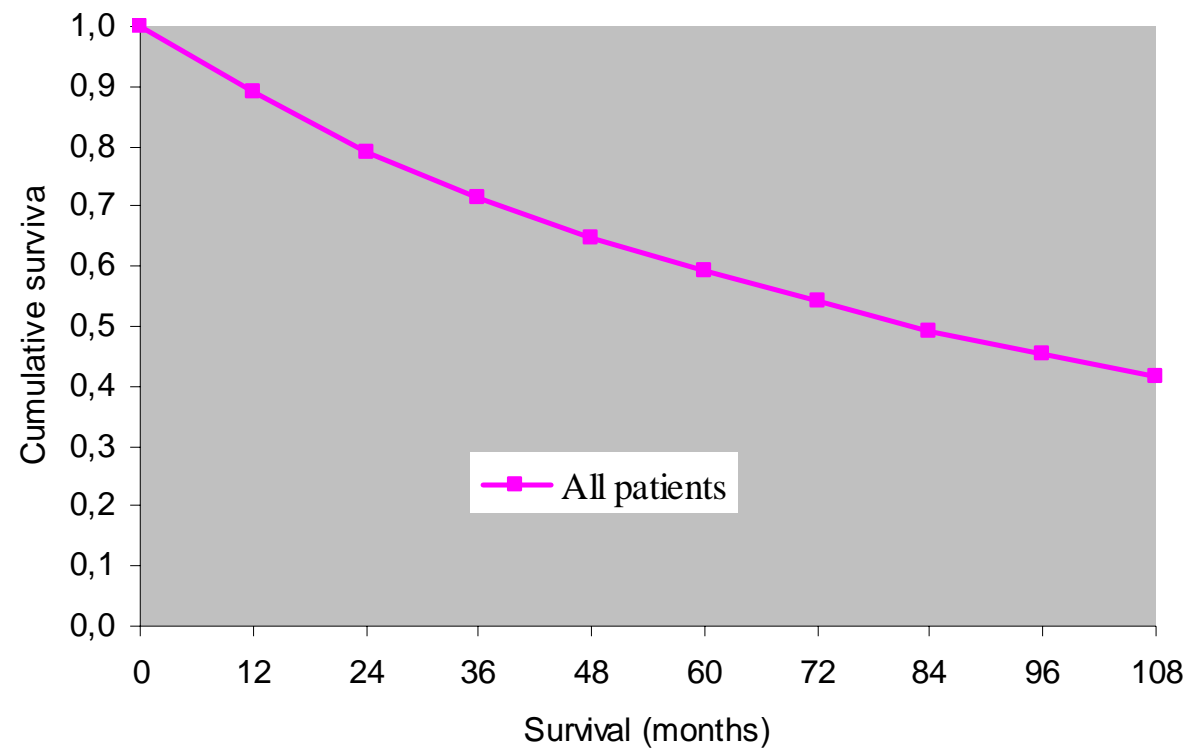


# Survival (by groups of diseases)





## Survival (all patients)





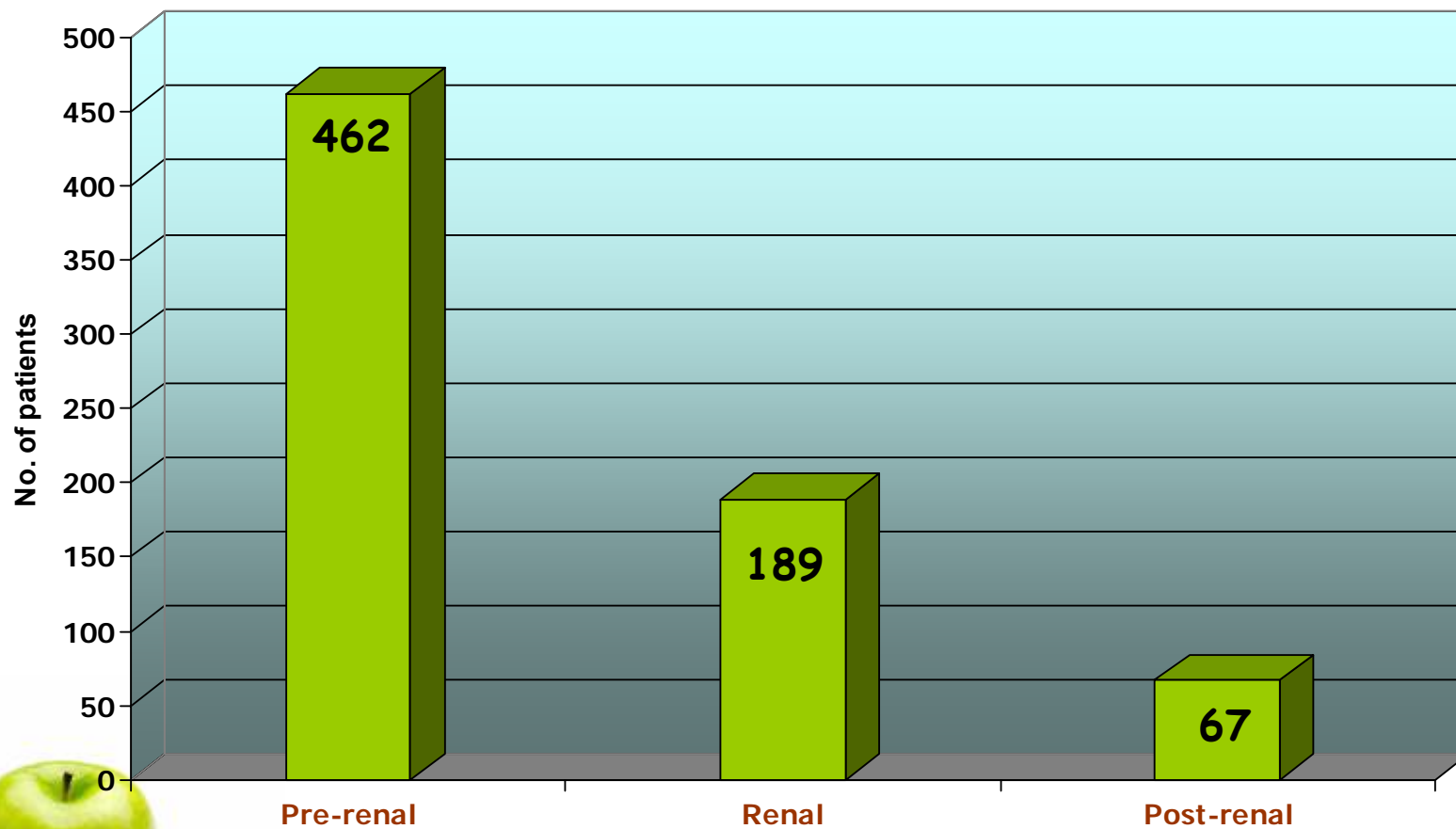
## Acute renal failure in Year 2012

- Prevalence
- Incidence
- Primary renal disease
- Treatments Modality
- Blood transmitted diseases
- Vascular access
- Survival
- Acute renal failure
- Outcome





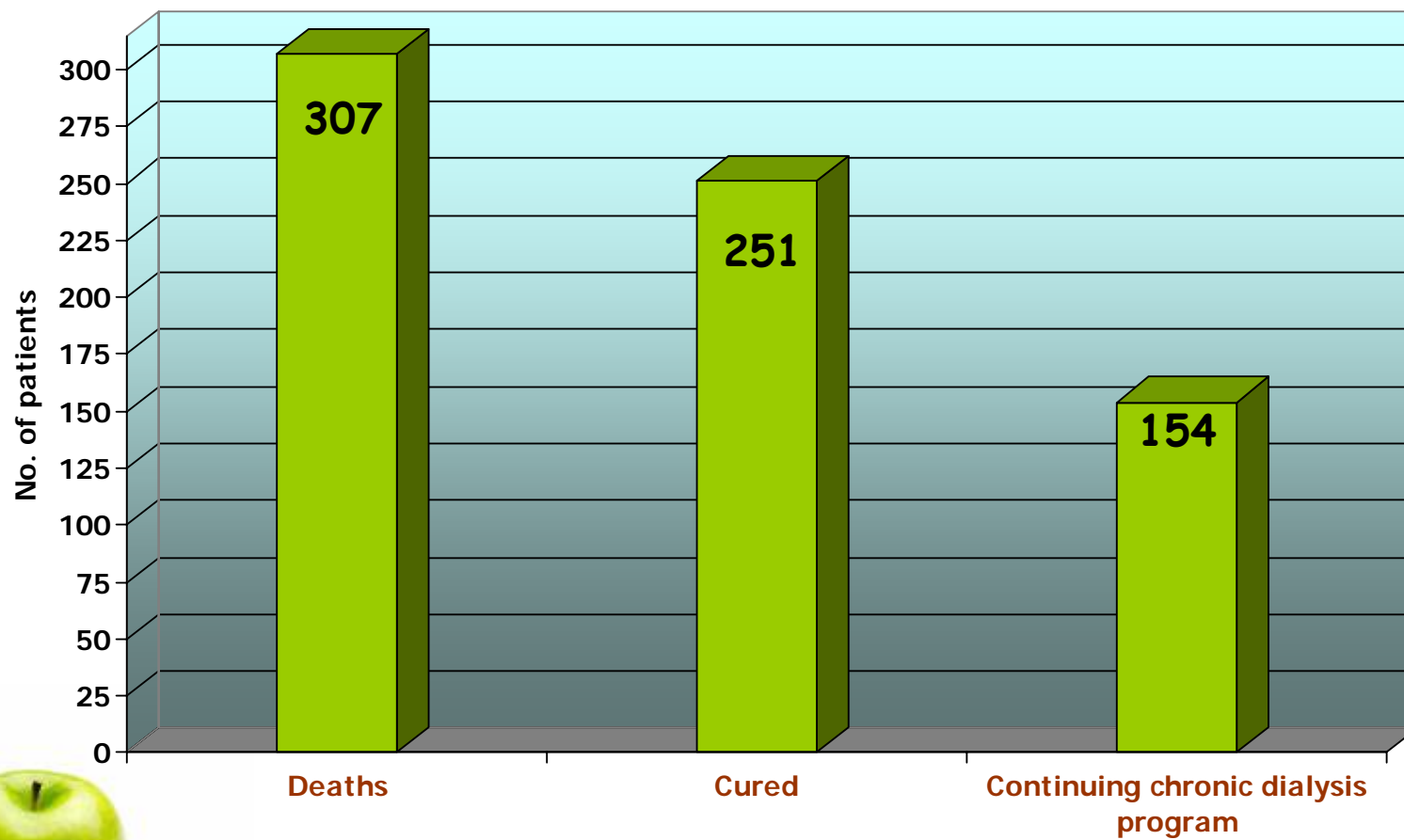
## Causes acute renal failure







## Outcome acute renal failure





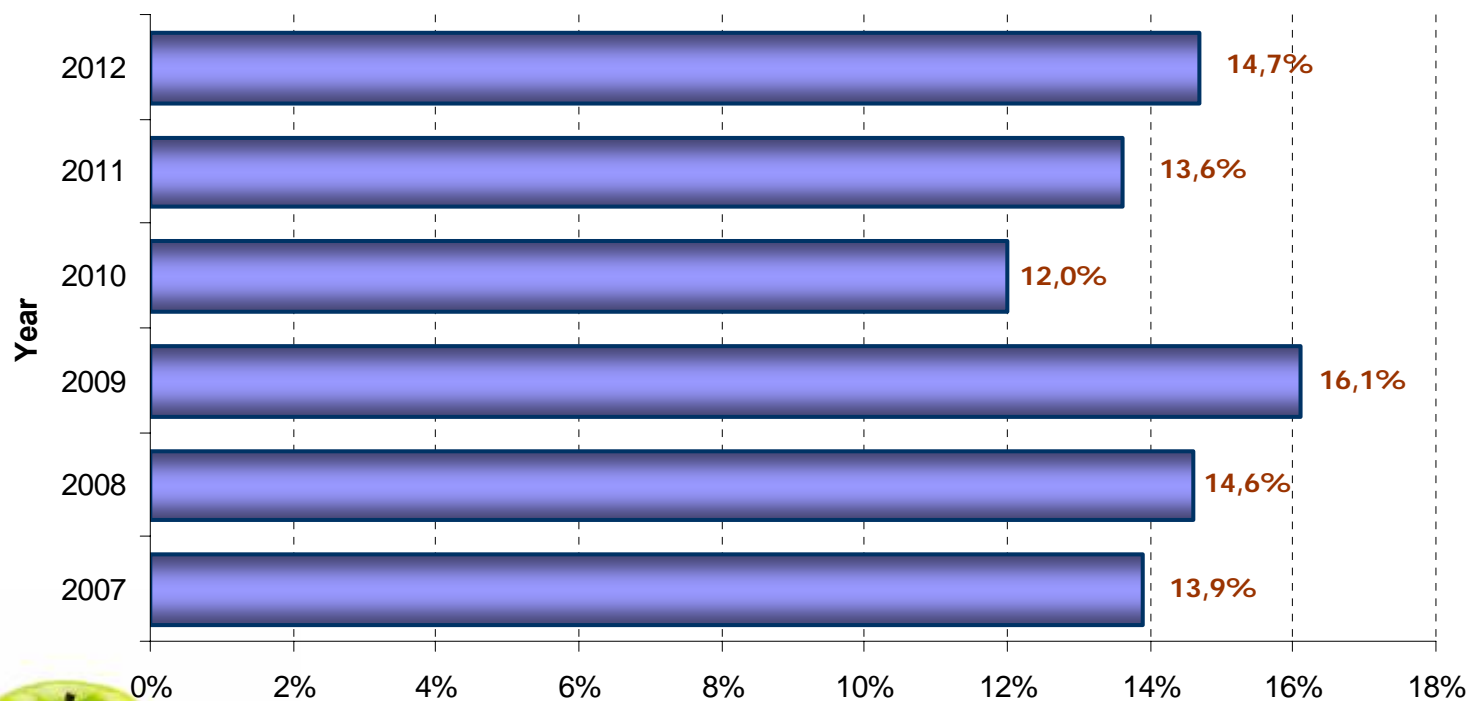
# Outcome

- Prevalence
- Incidence
- Primari renal disease
- Treatments Modality
- Blood transmitted diseases
- Vascular access
- Survival
- Acute renal failure
- Outcome



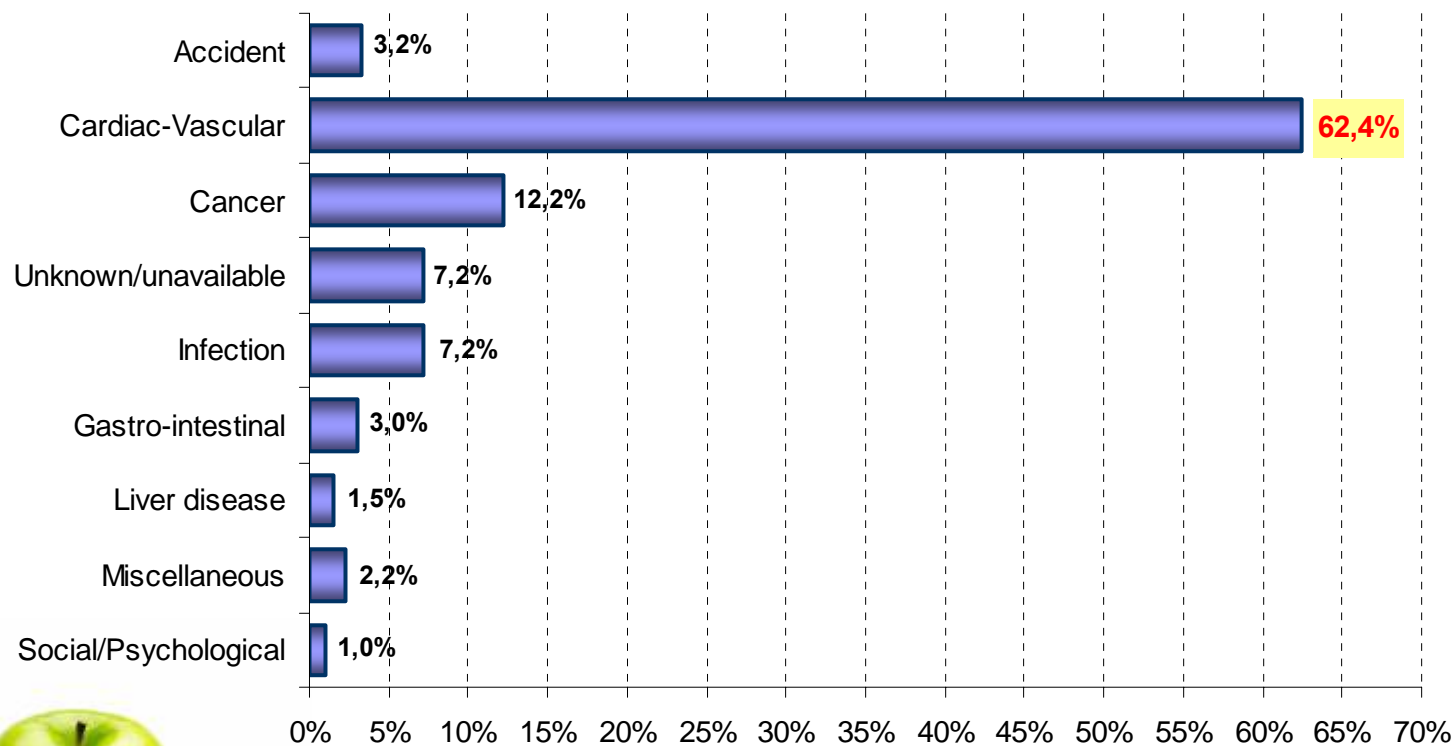


## Mortality rate of patients on dialysis by Years



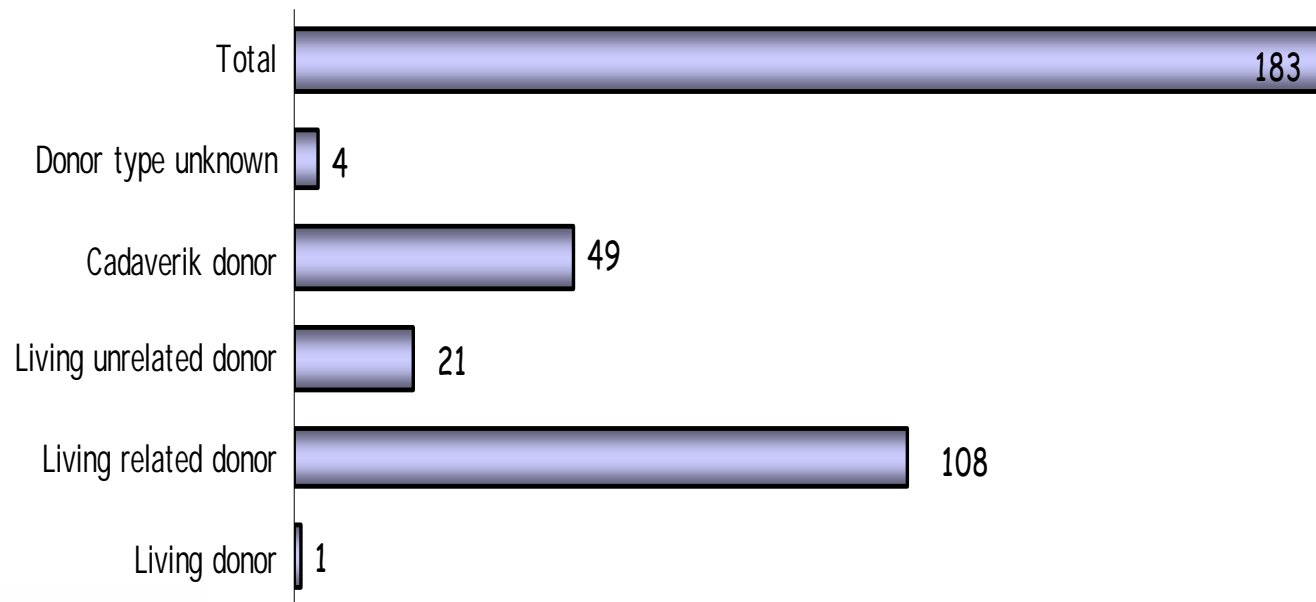


# Causes of mortality of dialysis patients in Year 2012





# The structure and the number of patients with functional renal graft in B&H (as at 31.12.2012)





## Conclusions

- Number of dialysis patients in Bosnia and Herzegovina continues to increase; 2002<sup>nd</sup> (when the register is established) the number was 1.531 and December 31.2011 year 2.544, an increase of 66,2%.
- The incidence of dialysis patients >90 days 2012th amounted to 105.9., but talk about the increase or decrease of the same is questionable, because there is no reliable data on the population in Bosnia and Herzegovina.
- The most common causes of renal failure in Bosnia and Herzegovina are:
  - Glomerulonephritis
  - Pyelonefritis
  - Diabetes mellitus (typ I i II)
  - + Balkan nephropathy, and
  - Hypertension





## Conclusions (continued)

- Diabetes mellitus Typ I i II is present in 534 patients in Year 2012, or 18,2% compared to the total number of patients.
- Balkan endemic nephropaty is present in 314 patients, or 10,7% compared to the total number of patients.
- Mortality in Year 2012 of 14,7% can be explained by the age of patients on dialysis, as in Year 2012 there were a total of 39,7% of patients aged over 65 years.

