



RENAL REPLACEMENT THERAPY IN BOSNIA AND HERZEGOVINA IN 2017

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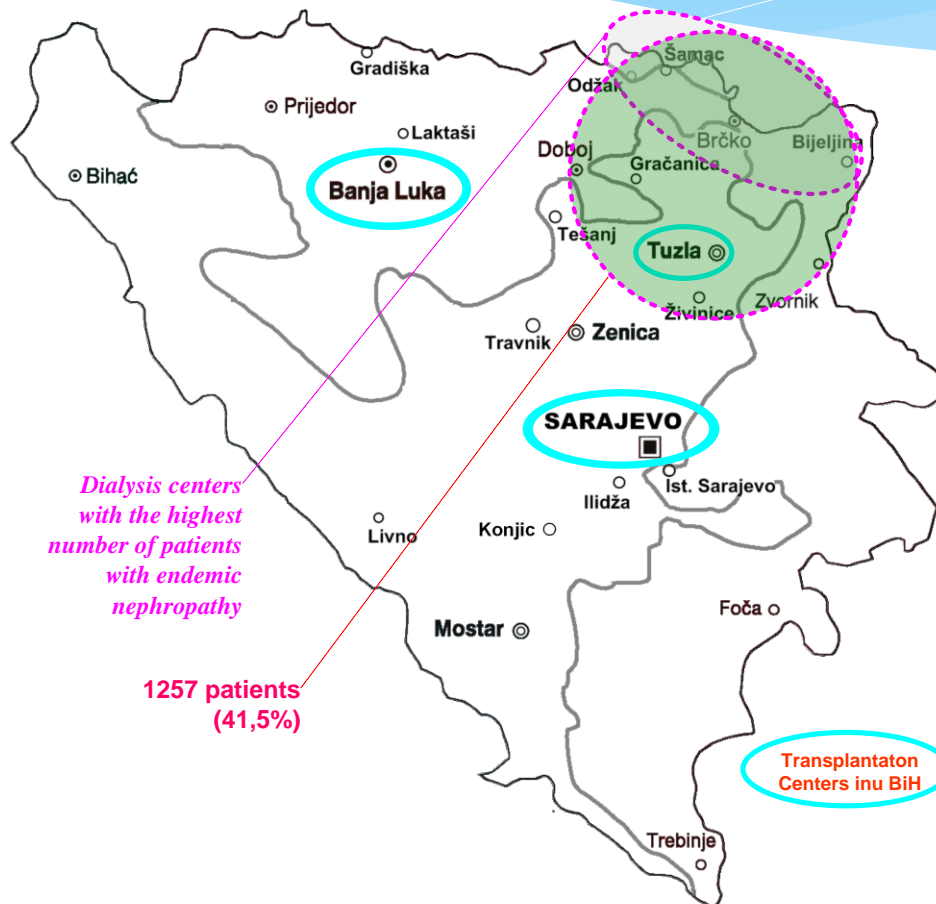


Zahvalnost

Kolegama iz centara za dijalizu i transplantaciju na učešću u prikupljanju podataka za Renalni registar Bosne i Hercegovine

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- * Trebinje, Branimir Cihoric
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Centers for dialysis and transplantation in Bosnia and Herzegovina





Epidemiology HBB - Incidence

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

Incidence in B&H (at day 1) - comparasion Years 2002-2017

Incidence u B&H (at day 1)

Year 2002

Year 2017

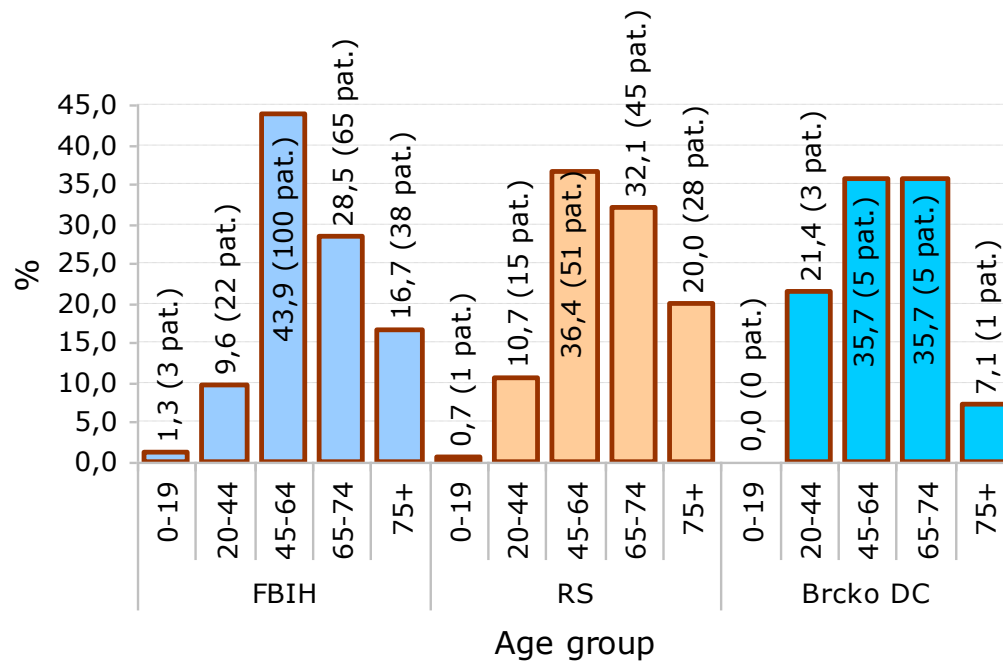
	N	pmp	N	pmp
Federation B&H	252	*	228	102,7
R. Srpska	120	*	140	114,0
Distrikt Brcko	18	*	14	167,6
Bosnia & Herzegovina	390	101,8	382	108,2

* In 2002 there were no official data on the number of inhabitants by entities and Brcko DC.

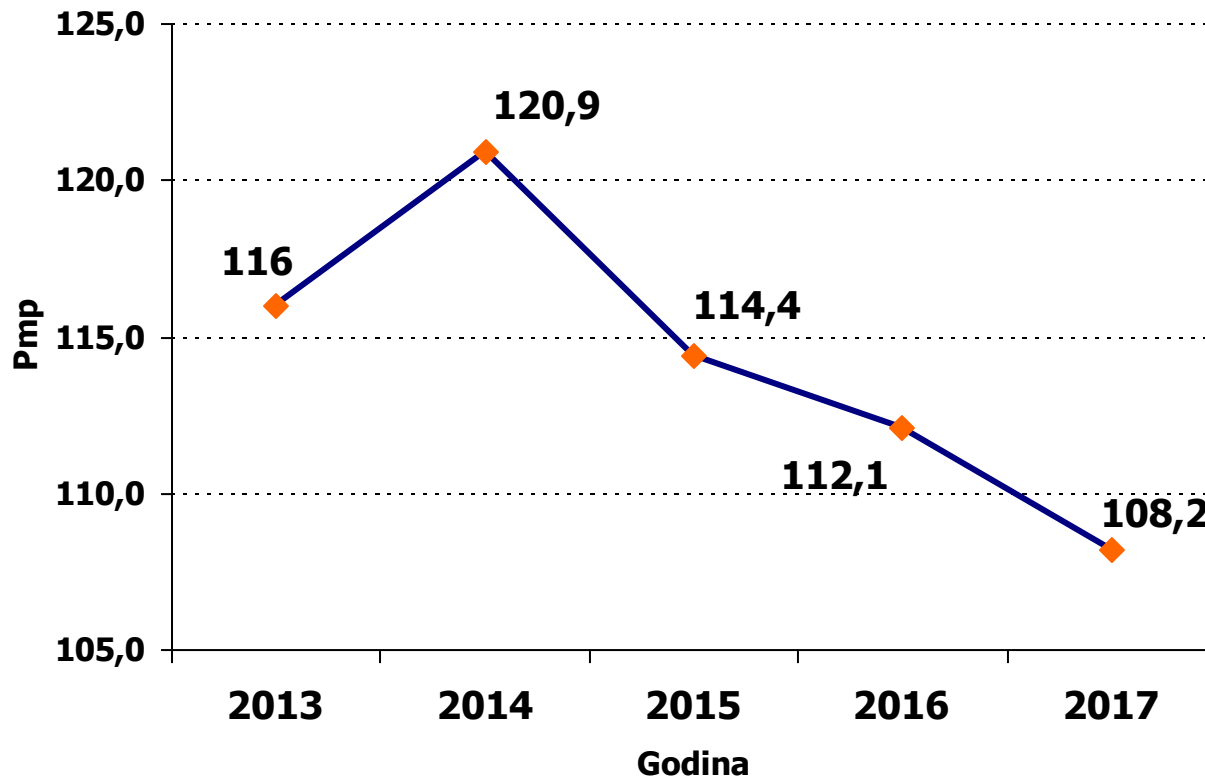
Incident patients (at day 1) by age, by entity and Brcko DC, in year 2017

Year 2017	Age group					Total (N)
	0-19	20-44	45-64	65-74	≥75	
Federation B&H	3 (1,3%)	22 (9,6%)	100 (43,9%)	65 (28,5%)	38 (16,7%)	228
R. Srpska	1 (0,7%)	153 (10,7%)	51 (36,4%)	45 (32,1%)	28 (20,0%)	140
Distrikt Brcko	0 (0,0%)	3 (21,4%)	5 (35,7%)	5 (35,7%)	1 (7,1%)	14
Bosnia and Herzegovina	4 (1,0%)	40 (10,5%)	156 (40,8%)	115 (30,1%)	67 (17,5%)	382

Incident patients (per day) in B&H, by age, by entities and Brcko DC in 2017 - graphical



Incidence in the last 5 years - graphical





Incident patients (at day 1) - abstract

- * Of 382 incident patients in 2017 (108,2 pmp), 231 patients were man (133,4 pmp) and 151 woman (83,9 pmp).
- * Man make up 60,5% of all incident patients at day 1.
- * Average age of the 382 incident patients is 61,8



Renal failure epidemiology - Prevalence

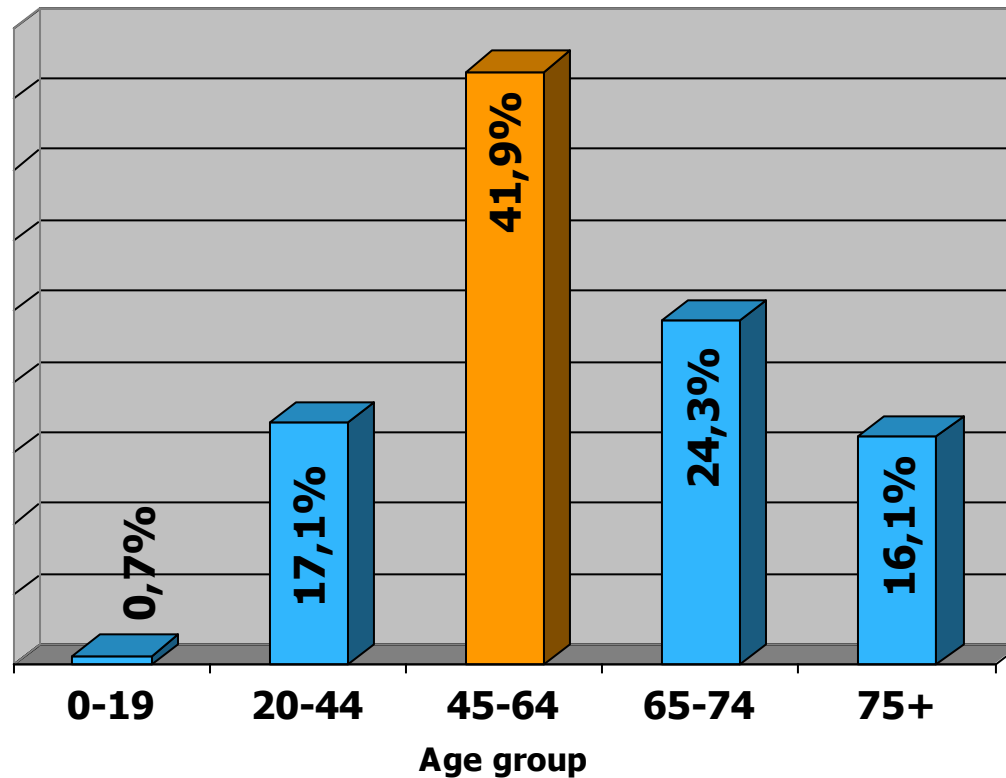
- * Incidence
- * **Prevalence**
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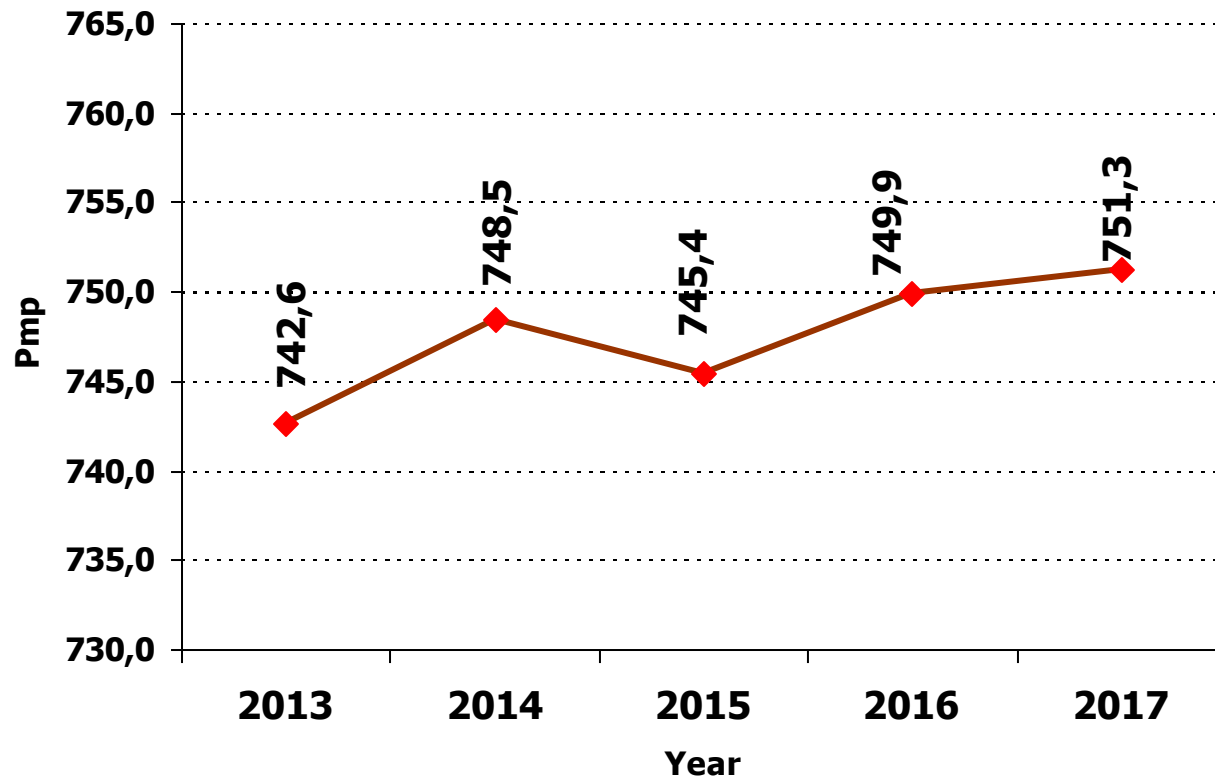
Distribution of dialysis patients by age and gender at day 31.12.2017

Age group	All	Males	Females
0-19	18 (0,7%)	11 (0,7%)	7 (0,7%)
20-44	453 (17,1%)	288 (18,0%)	165 (15,7%)
45-64	1111 (41,9%)	701 (43,8%)	410 (39,0%)
65-74	644 (24,3%)	374 (23,4%)	270 (25,7%)
75+	427 (16,1%)	227 (14,2%)	200 (19,0%)
Total :	2653	1601	1052
Mediana	61,0 godina	60,0 godina	63,0 godina

Prevalent patients age group on the 31.12.2017 - graphical



Prevalence in the last 5 years - graphical

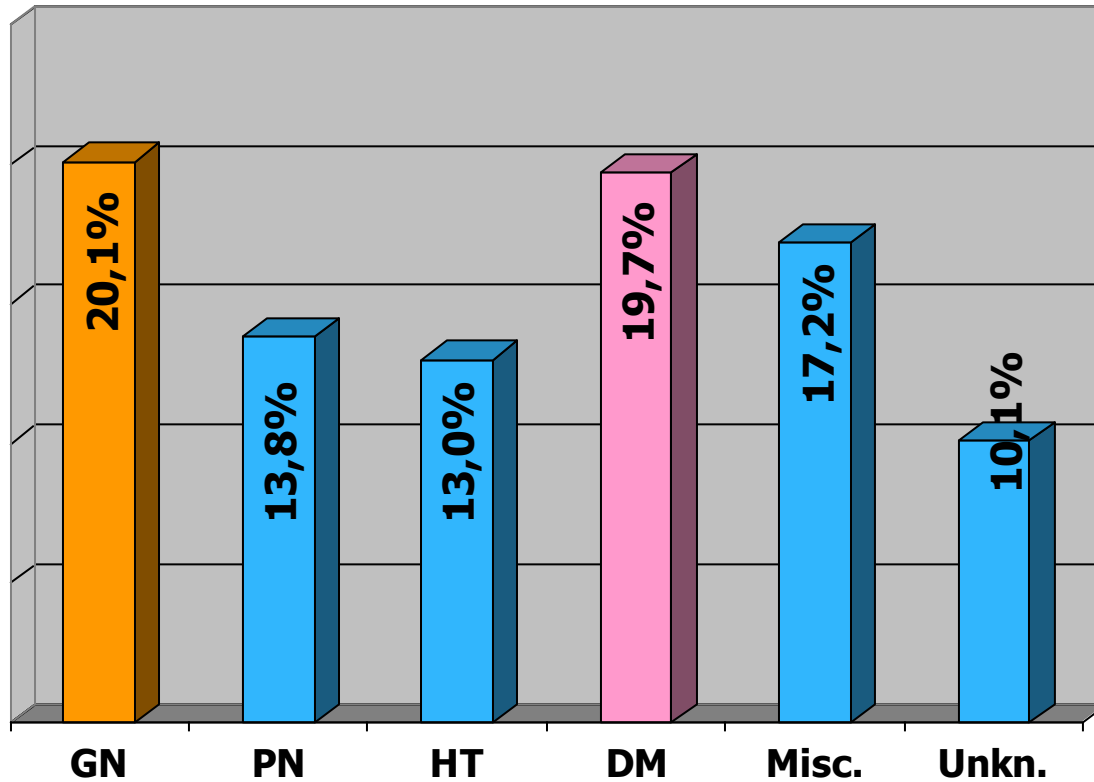




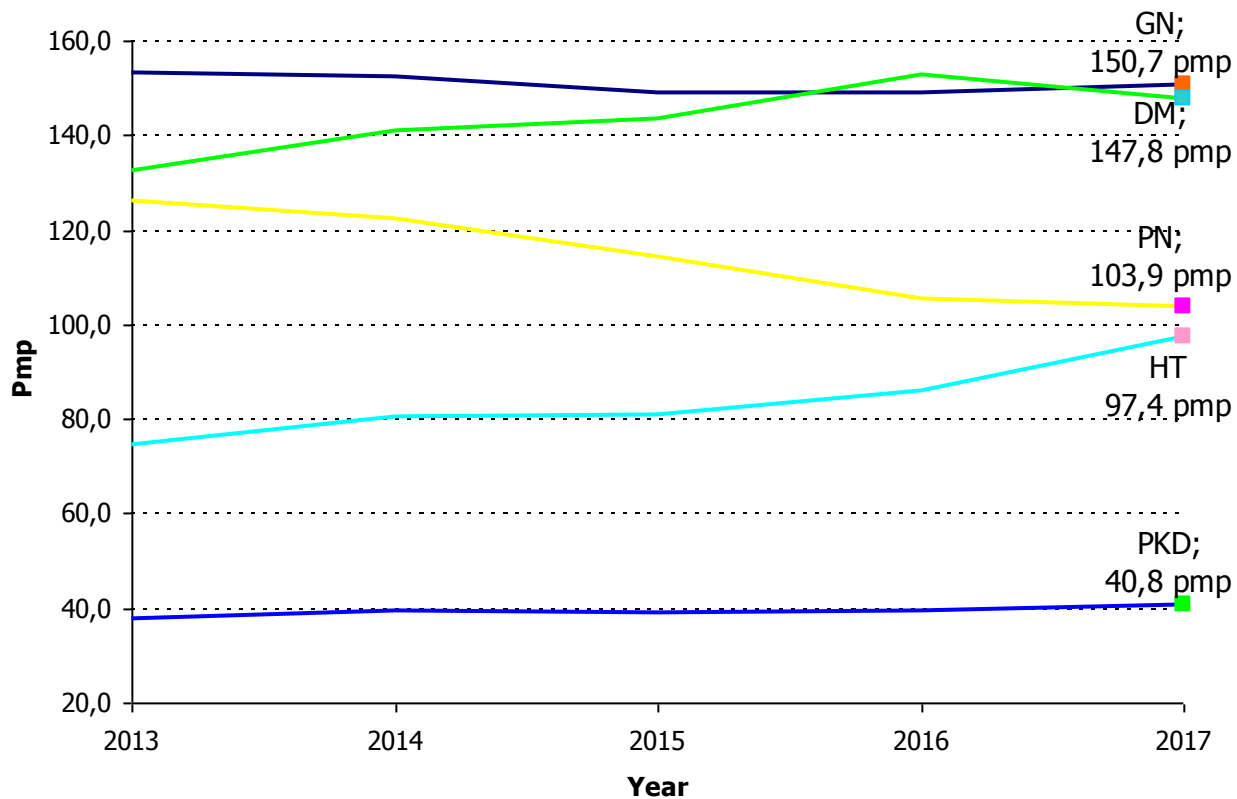
Epidemiology - Primary renal disease

- * Incidence
- * Prevalence
- * **Primary renal disease**
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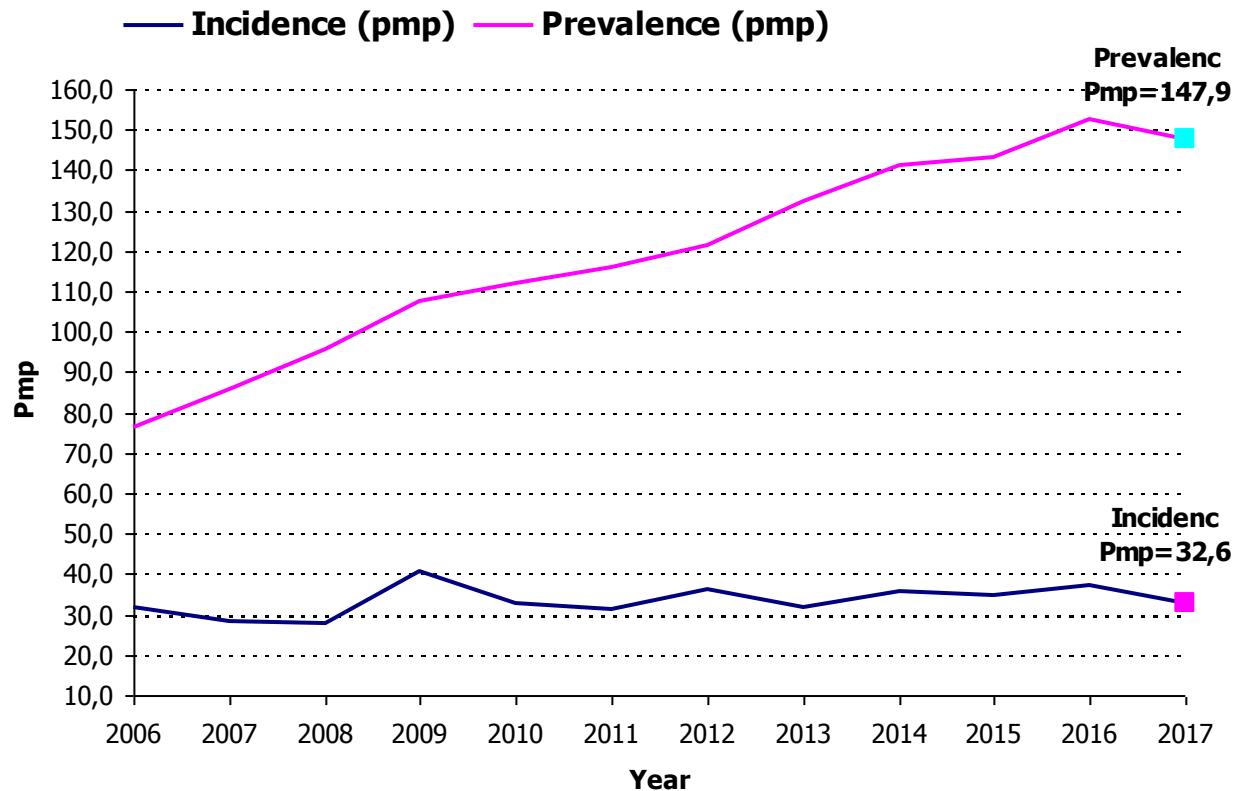
The most common causes of renal failure in prevalence of patients in B&H in 2017



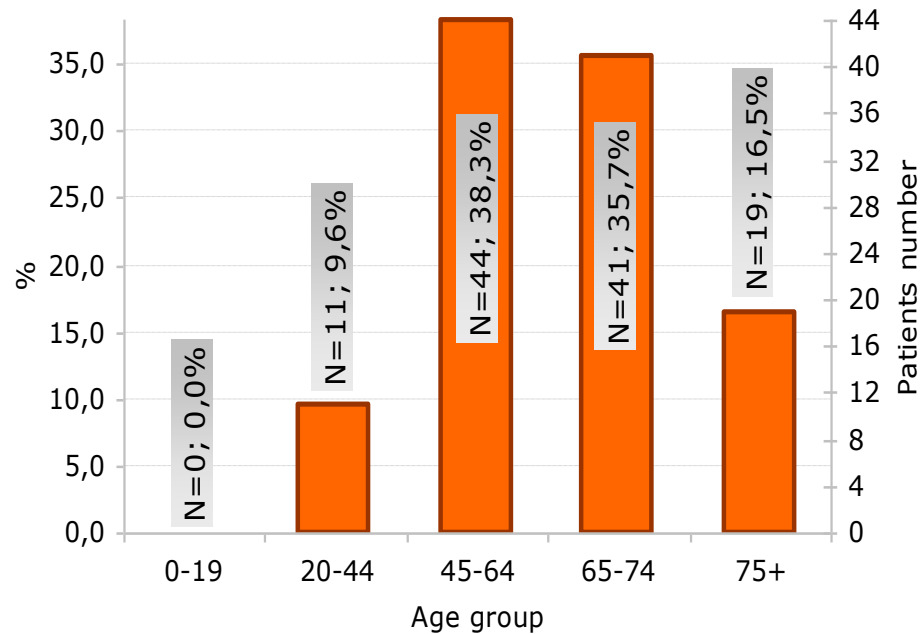
Prevalence of primary renal disease in the period 2013-2017 Years



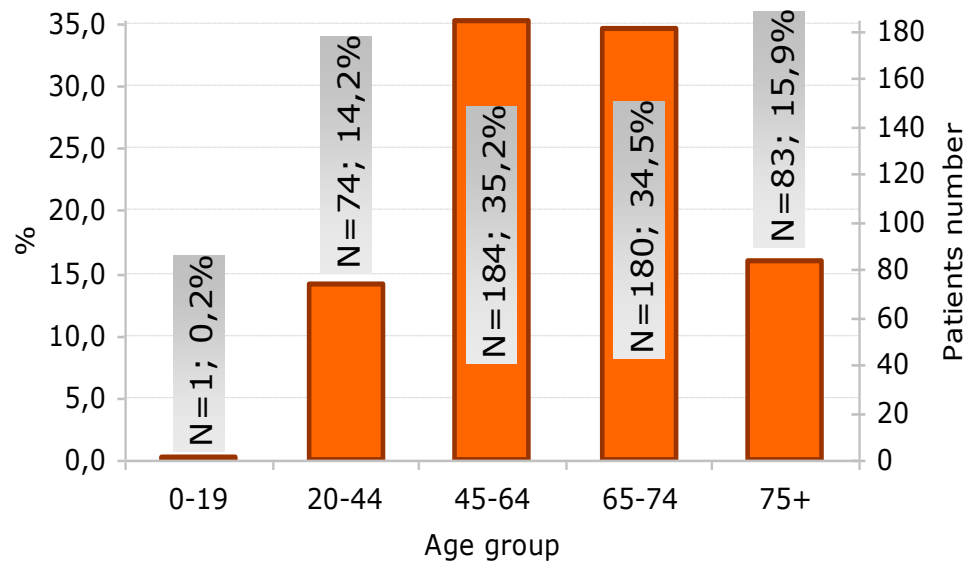
Diabetic nephropathy in the incidence and prevalence of patients in the period 2006-2017 Years



Diabetic nephropathy in 2017 (age group of incident patients with DM)



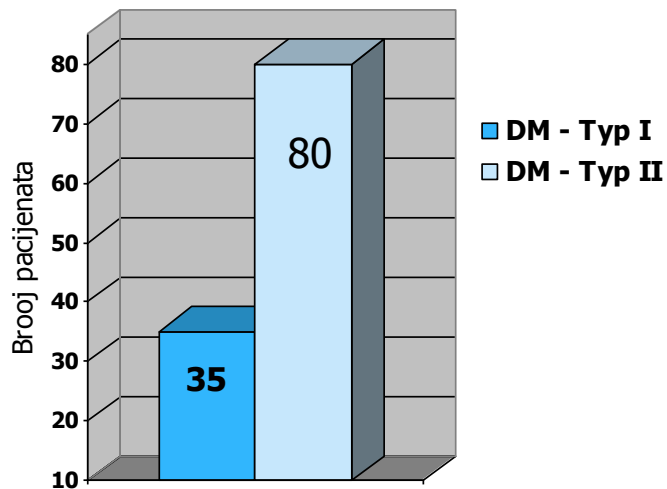
Diabetic nephropathy in 2017 (age group of prevalent patients with DM)



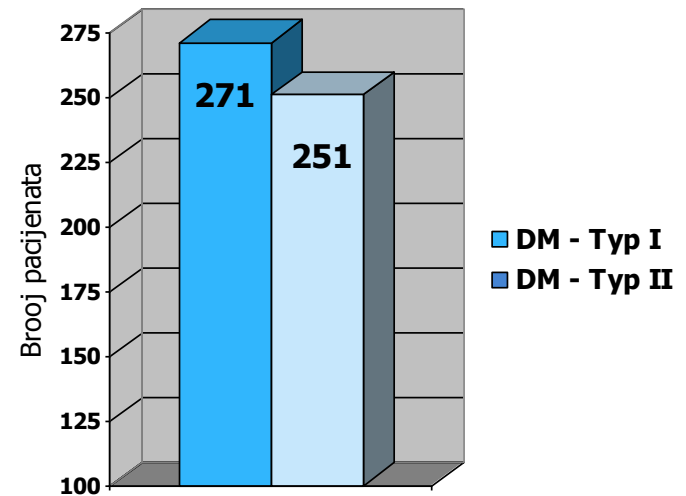
Diabetic nephropathy in year 2017

Diabetes typ

**Diabetic nephropathy
INCIDENT PATIENTS (at day 1)**



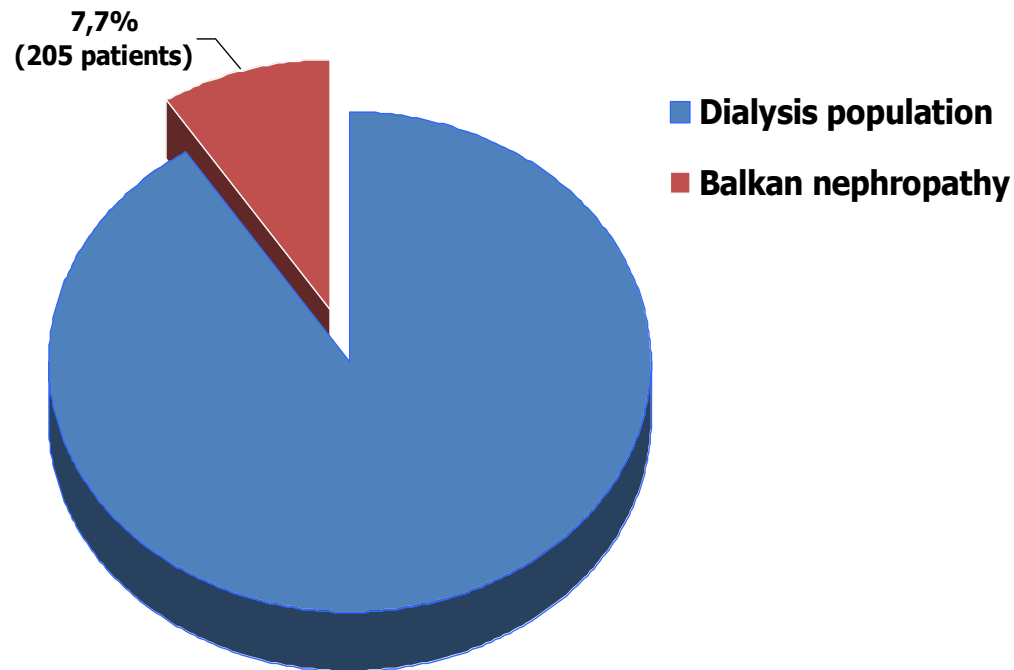
**Diabetic nephropathy
PREVALENT PATIENTS**



Balkan endemic nephropathy in year 2017 - Introduction

- Balkan endemic nephropathy is the most endemic renal disease in the north-east of Bosnia.
- Of **205** patients with Balkan nephropathy **89,7%** were older than **65** years of age.
- Patients with Balkan nephropathy constitute **7,7%** of the total number of dialysis patients in Bosnia and Herzegovina.

Balkan endemic nephropathy in year 2017 - gaphical





Balkan endemic nephropathy 2008 - 2017

31.12. godine	Number of patients /pmp	Males (%)	Females (%)
2008*	305/86,9 pmp	49,8%	50,2%
2009	295/84,1 pmp	50,8%	49,2%
2010	301/85,8 pmp	50,5%	49,5%
2011	286/81,5 pmp	52,5%	47,5%
2012	271/77,2 pmp	50,9%	49,1%
2013	251/71,6pmp	50,6%	49,4%
2014	246/70,1 pmp	51,2%	48,8%
2015	234/66,3 pmp	51,3%	48,7%
2016	226/64,0 pmp	52,2%	47,8%
2017	205/58,1 pmp	50,2%	49,8%

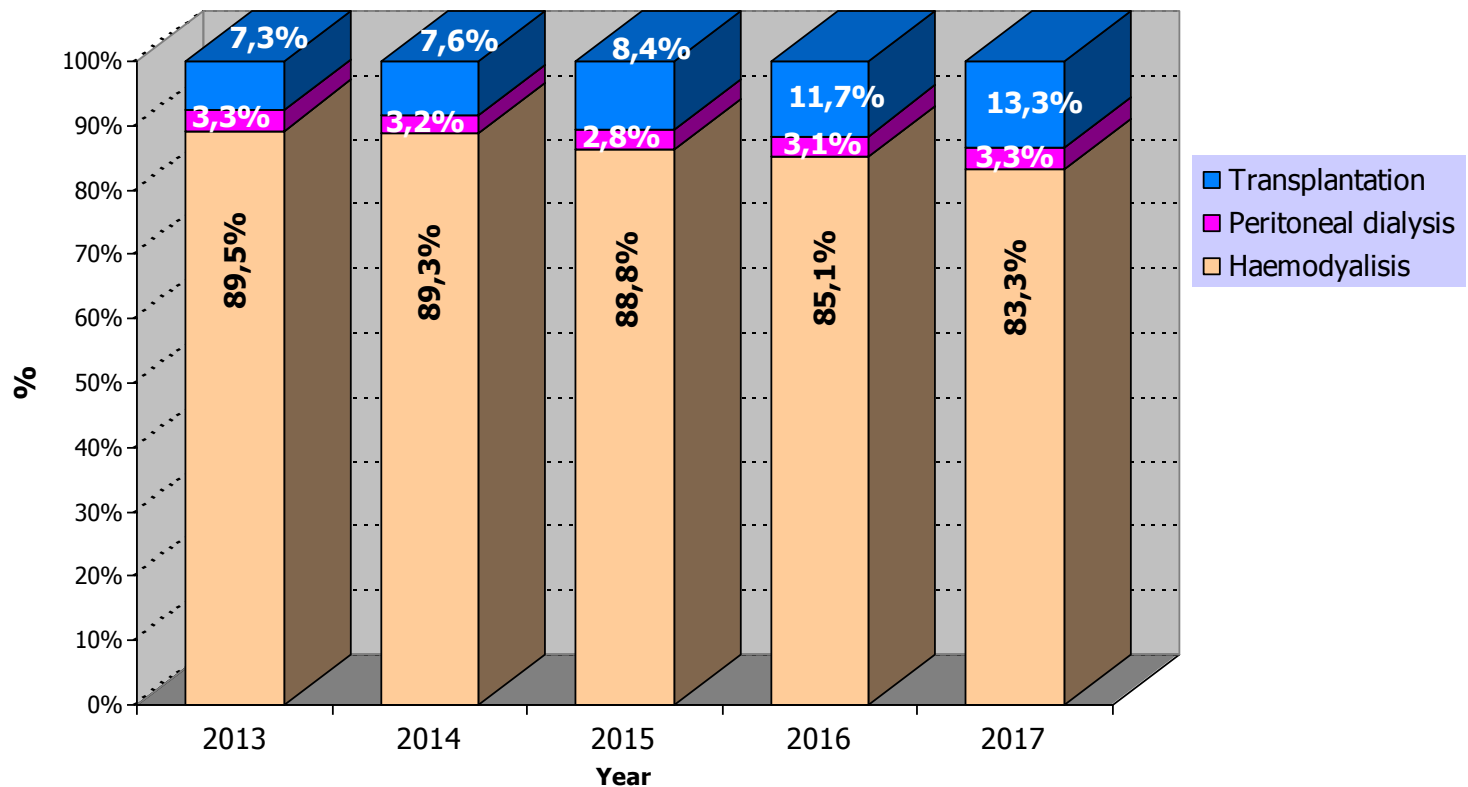
* In 2008, the number of patients had its maximum. Since then, that number has been falling steadily.



Epidemiology - Treatments modality

- * Incidence
- * Prevalence
- * Primary renal disease
- * **Treatments modality**
- * Blood transmitted diseases
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Treatments modality prevalent patients in last 5 years



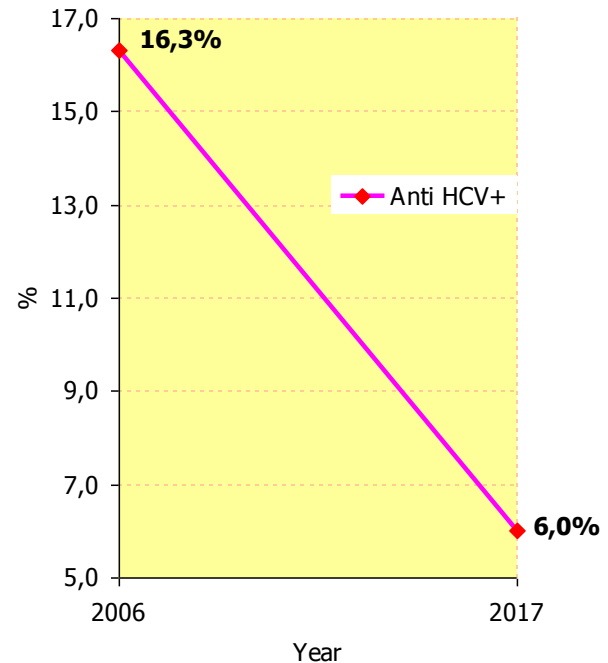


Blood transmitted diseases

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

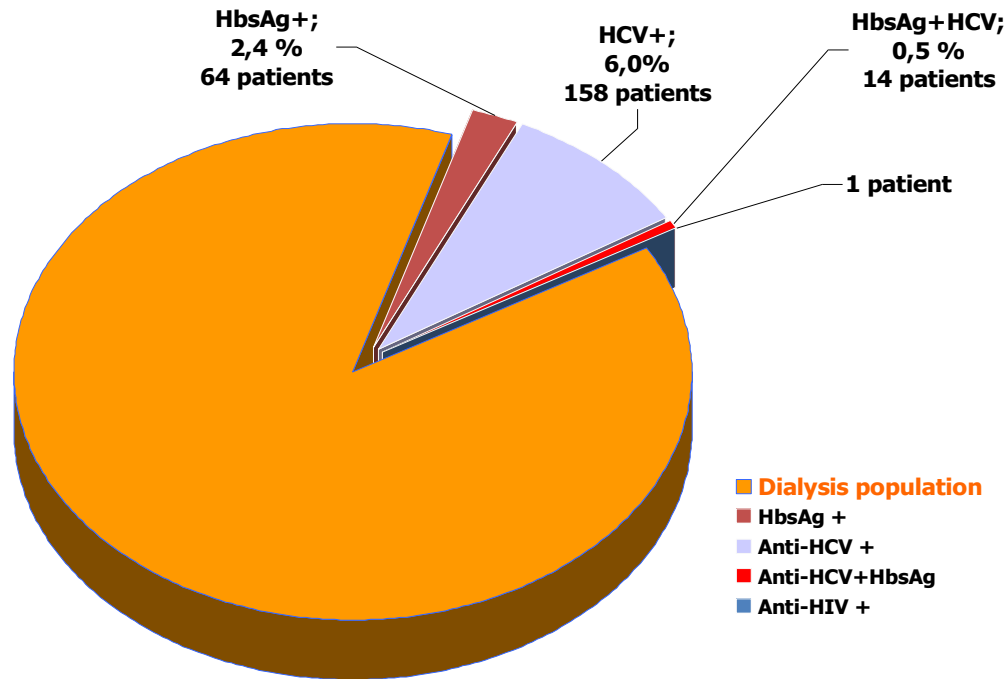
Blood transmitted diseases – prevalent patients - year 2006-2017

31.12.	HbsAg (N / %)	HCV (N / %)	HbsAg + HCV (N / %)	HIV (N)	MRSA+ (N)
2006	93 / 4,4%	342 / 16,3%	24 / 1,1%	1	1
2007	91 / 4,0%	352 / 15,5%	24 / 1,0%	1	0
2008	82 / 3,5%	309 / 13,2%	21 / 0,9%	1	5
2009	90 / 3,8%	308 / 12,9%	19 / 0,8%	1	5
2010	77 / 3,1%	336 / 13,5%	23 / 0,9%	1	8
2011	70 / 2,8%	296 / 11,9%	18 / 0,7%	1	9
2012	64 / 2,5%	273 / 10,8%	19 / 0,7%	1	6
2013	63 / 2,4%	246 / 9,3%	18 / 0,7%	1	9
2014	58 / 2,2%	228 / 8,5%	73 / 2,7%	1	6
2015	56 / 2,1%	242 / 9,1%	15 / 0,6%	1	4
2016	54 / 2,0%	173 / 6,5%	11 / 0,4%	1	3
2017	54 / 2,0%	158 / 6,0%	11 / 0,4%	1	3



* A significant reduction in % of the hepatitis "C"; From 16,3% in 2006 to 6,5% in 2017

Blood transmitted diseases - graphical (at day 31.12.2017)





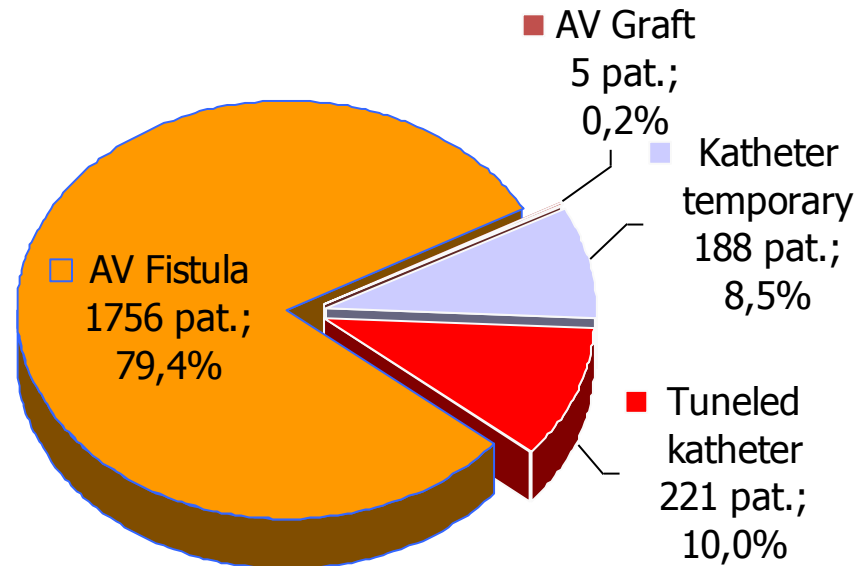
Vascular access

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

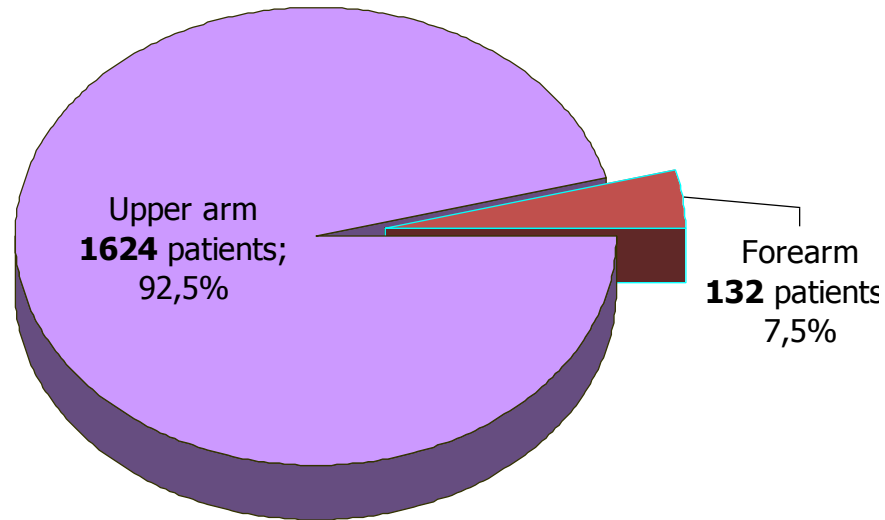
Vascular access for haemodialysis – comparasion 2006-2017

	Year	2006	2017
AV fistula (%)		81,7%	79,4%
• Forearm (%)		95,1%	92,5%
• Upper arm (%)		4,9%	7,5%
AV graft (%)		1,4%	0,2%
• Forearm (%)		42,3%	40,0%
• Upper arm (%)		11,5%	0,0%
• Thigh (%)		46,2%	60,0%
Catheter temporary (%)		2,9%	8,5%
• Subklavia vein (%)		50,0%	29,8%
• Jugular vein (%)		48,1%	64,9%
• Femoral vein (%)		1,9%	5,3%
Tunneled catheter (%)		3,6%	10,0%

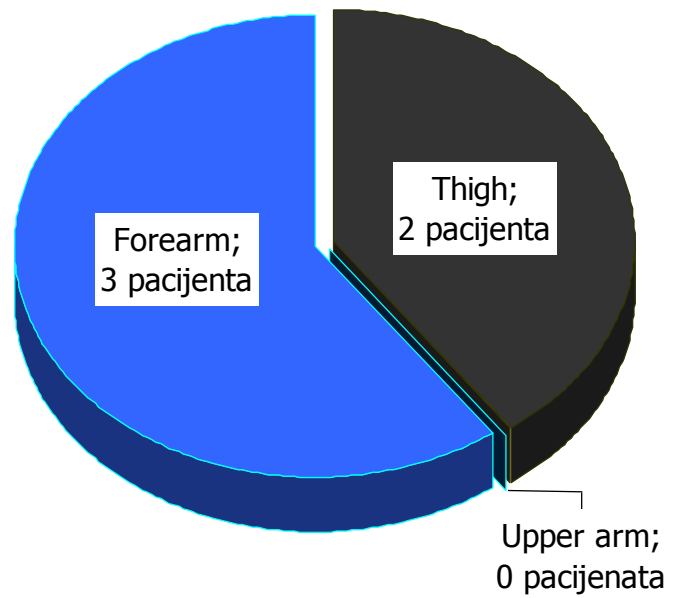
Vascular access for haemodialysis - grafical (at day 31.12.2017)



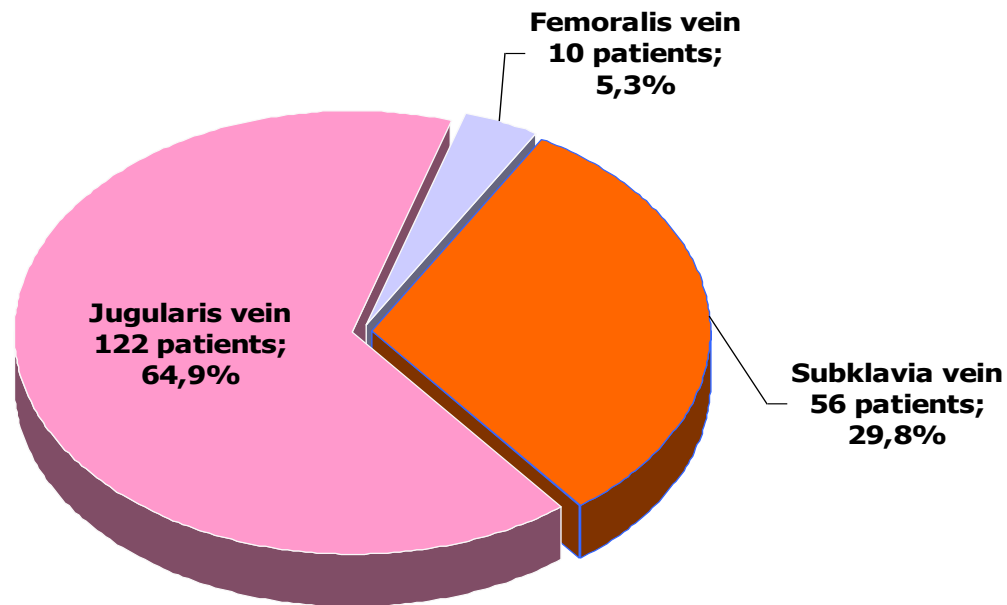
Vascular access for haemodialysis - AV fistula (at day 31.12.2017)



Vascular access for haemodialysis - AV graft (at day 31.12.2017)



Vascular access for haemodialysis - Catheter temporary; (at day 31.12.2017)

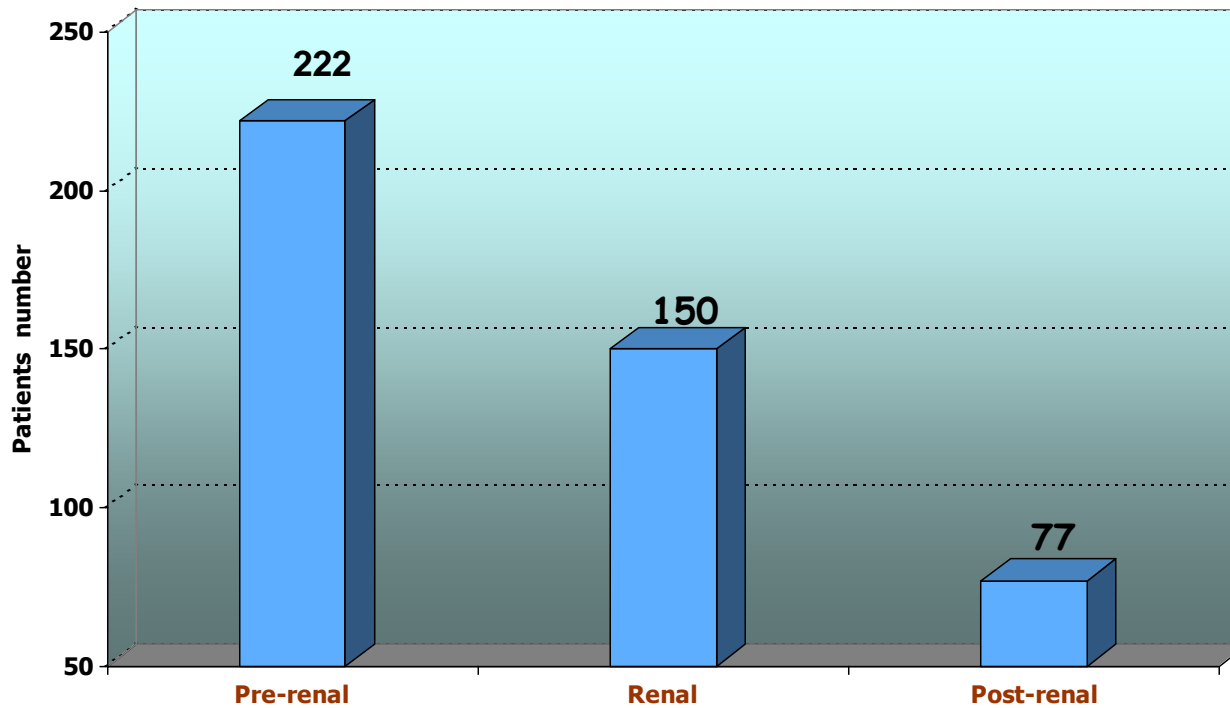




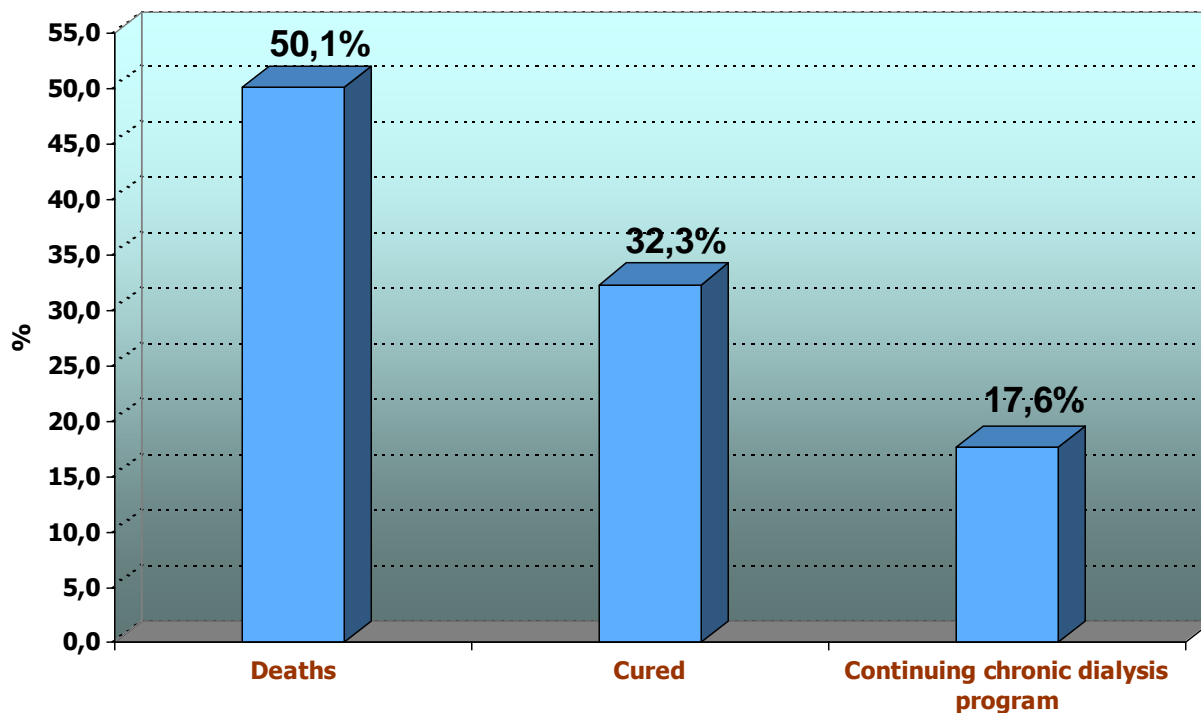
Acute renal failure in 2017

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

Causes of acute renal failure in year 2017



Outcome of acute renal failure in year 2017

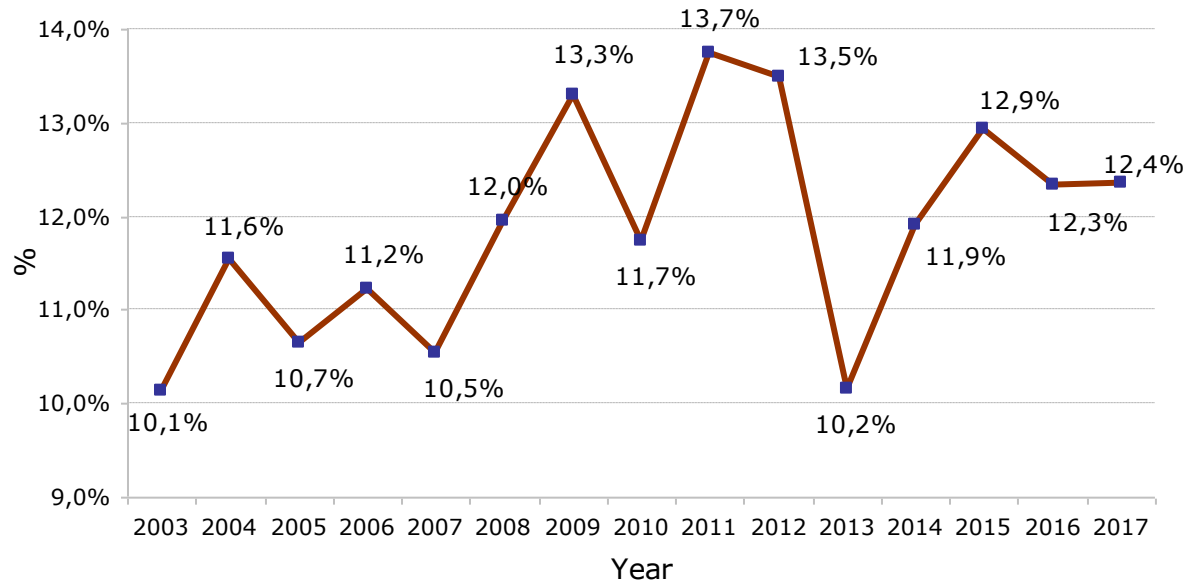




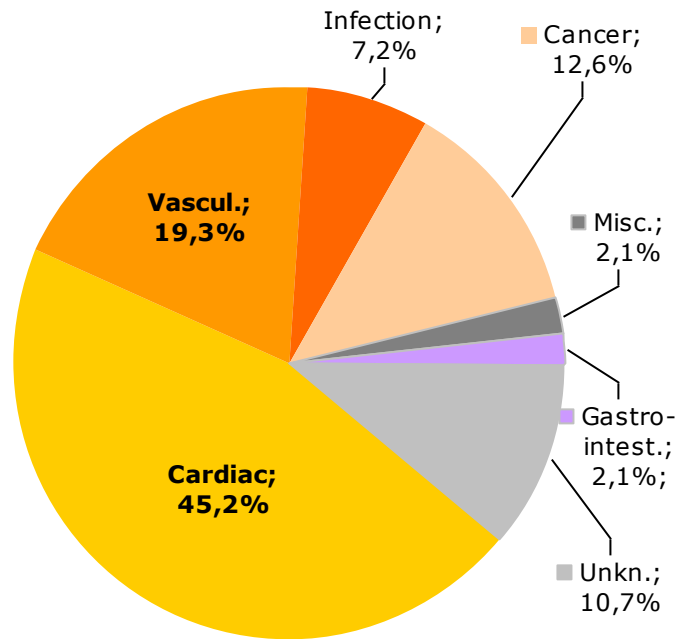
Outcome

- * Incidence
- * Prevalence
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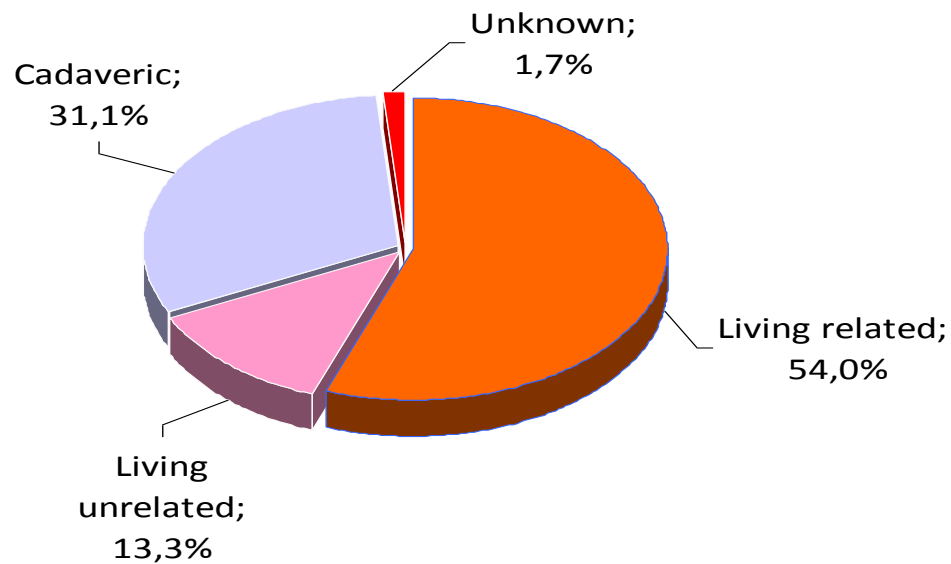
Mortality rate of patients on dialysis, (included patients at day 1), in period 2003-2017



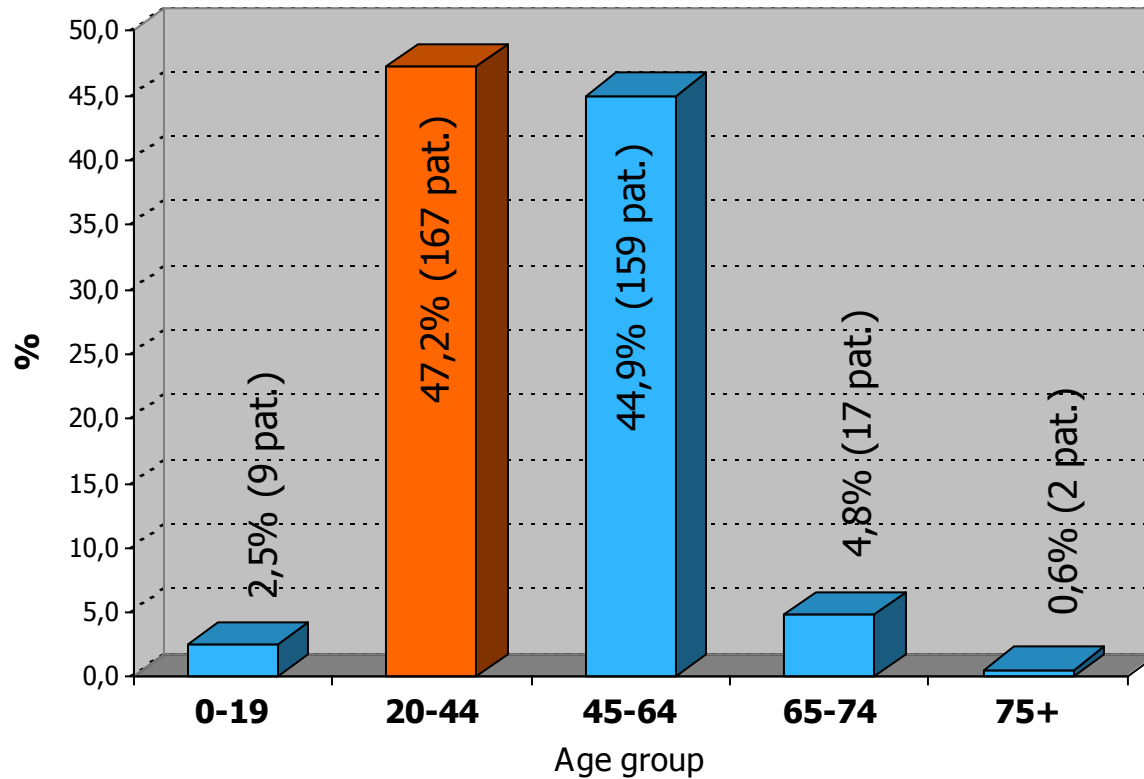
The most common causes of death patients in 2017



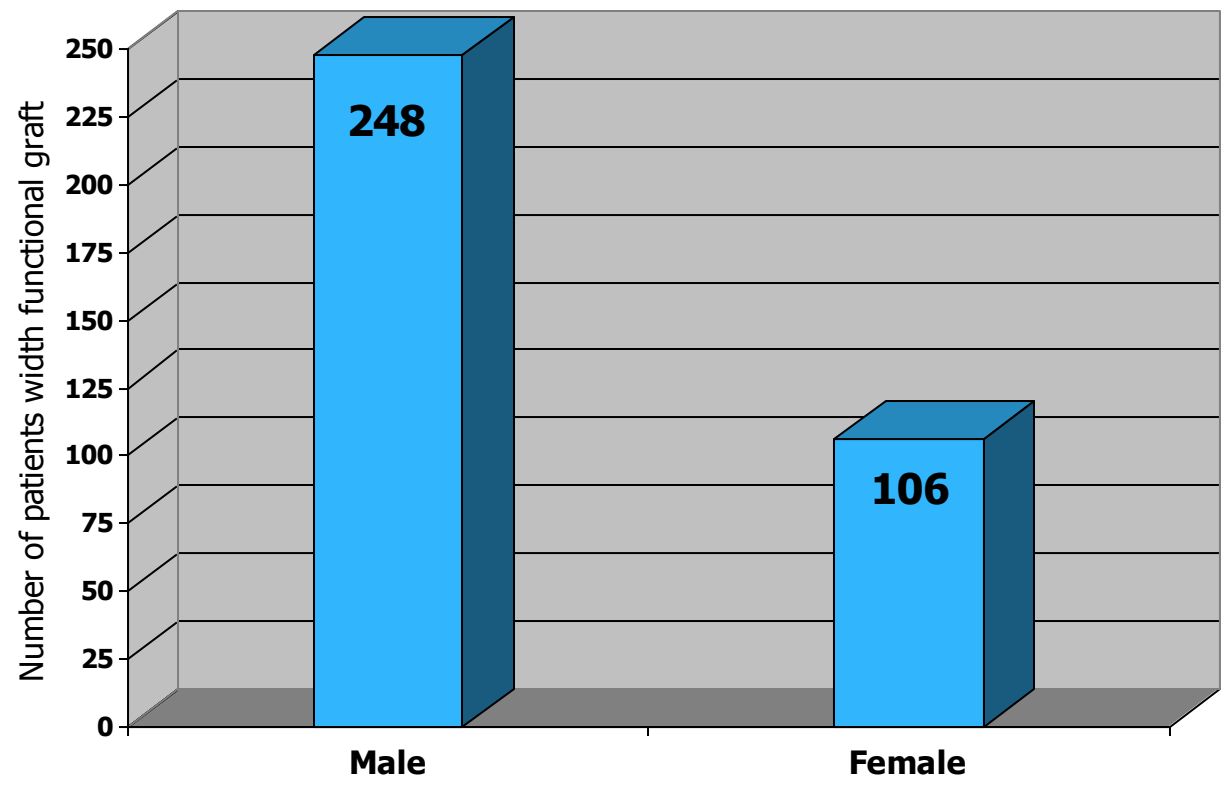
Patients with functional renal graft at day 31.12.2017 - graphical



Patients age group with functional renal graft at day 31.12.2017



Patients with functional renal graft at day 31.12.2017; By gender





Conclusions

- * Number of dialysis patients in Bosnia and Herzegovina continues to increase; **2002.**, when the Renal Registry was established, the number of patients was **1616** and **31.12.2017 2653** an increase of **64,2%**.
- * The incidence of dialysis patients (**at day 1**) was **108,2 pmp** in **2017.**
- * The most common causes of renal failure in Bosnia and Herzegovina are:
 - * **Glomerulonephritis**
 - * **Pyelonephritis**
 - * **Diabetes mellitus (types I and II)**
 - * **Balkan endemic nephropathy**
 - * **Hypertension**



Conclusions (continued)

- * **Diabetes mellitus type I and II** on 31.12.2017, is present in 522 patients, or 19,7% compared to the total number of prevalent patients.
- * **Balkan nephropathy** on 31. 12. 2017, present in 205 patients, or 7,7% relative to the total number of prevalent patients and has a decreasing trend.



Conclusions (continued)

- * In the last 5 years we can see a slight reduction or stagnation of Blood transmitted diseases in dialysis patients, especially when it comes to hepatitis.
- * Mortality of patients in 2017 was 12,4% of the total number of patients in 2017 (3027) and is correlated with the age of patients, because in 2017 there were a total of 46,7% of patients aged 65 and over year.