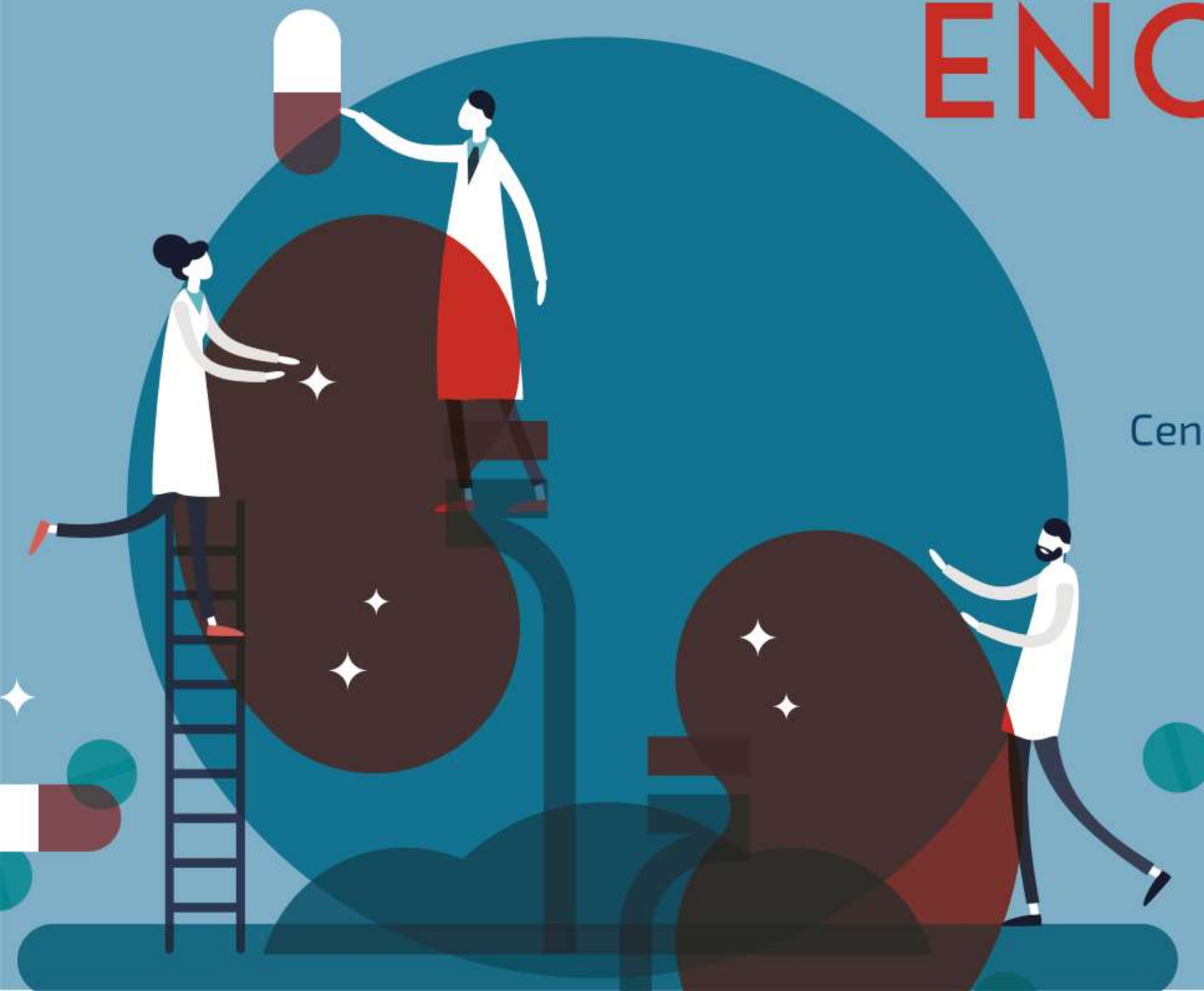


ENCONTRO RENAL

14 - 16 OUT^o 21

Centro de Congressos de Vilamoura



XXXV
CONGRESSO
PORTUGUÊS
DE NEFROLOGIA



XXXV
CONGRESSO
APEDT



XIII
CONGRESSO
LUSO BRASILEIRO
DE NEFROLOGIA



Portuguese Registry of Dialysis and Transplantation 2020

**Gabinete do Registo da Doença Renal Crónica
da
Sociedade Portuguesa de Nefrologia**



**Sociedade
Portuguesa
de Nefrologia**

XXXV
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DE NEFROLOGIA



XXXV
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LUSO-BRASILEIRO
DE NEFROLOGIA



GABINETE DE REGISTO DA SPN

- **Ana Galvão**
- **Rui Filipe**
- **Maria João Carvalho**
- **Rita Leal**
- **José António Lopes**
- **Manuel Amoedo**
- **Gil Silva**

1984: national registry for Chronic Renal Insufficiency was created by Prof. Dr. Jacinto Simões, President of the Portuguese Society of Nephrology

From 1984 till end of eighties the registry follows casuistic EDTA model

From the end of eighties till 1996 permanent registry with data on incidence, prevalence, mortality and other clinical data

1997 to 2007, aggregated data on incidences, prevalence and mortality with 100% of clinics and hospitals reporting

Since 2007, analysis of new clinical data on several aspects of CKD 5 treatment: incidence, prevalence, analysis by sexes and country regions, median age and age groups, etiology of CKD, gross mortality rates, vascular access, virology status, etc. Hundred percent response rate

2010, online registry

1984 – 1990: Dr. João Ribeiro Santos

1991 – 1992: Dr. Pedro Ponce

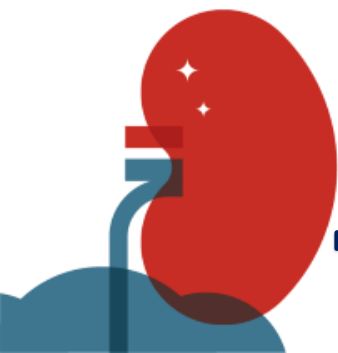
1993: Dr. João Ribeiro Santos

1994 – 1996: Dr. Francisco Remédio

1997 – 2007: Dr. João Pinto dos Santos

2007 – 2018: Dr. Fernando Macário

2019 - ...: Ana Galvão

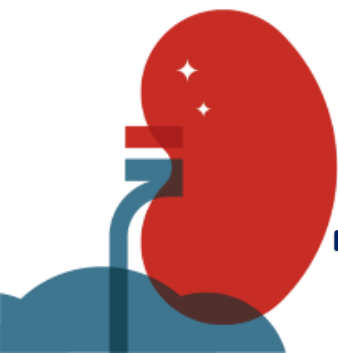


GABINETE DE REGISTO DA SPN

Abbreviators

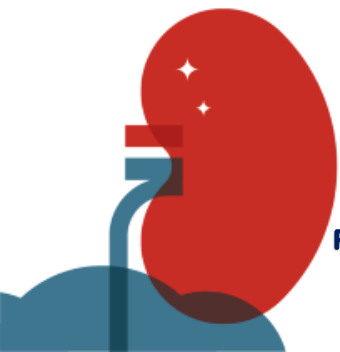
CKD – Chronic Kidney Disease
HD - Haemodialysis
PD - Peritoneal Dialysis
KTr - Kidney Transplant
PMP - Per Million Population
RRT - Renal Replacement Therapy
Pts – patients
Nº - number

- VA – Vascular Access
- AVFistula – Arteriovenous fistula
- Cat. – Catheter
- CVC – Central Vein Catheter
- EDTA – European Dialysis and Transplantation Association



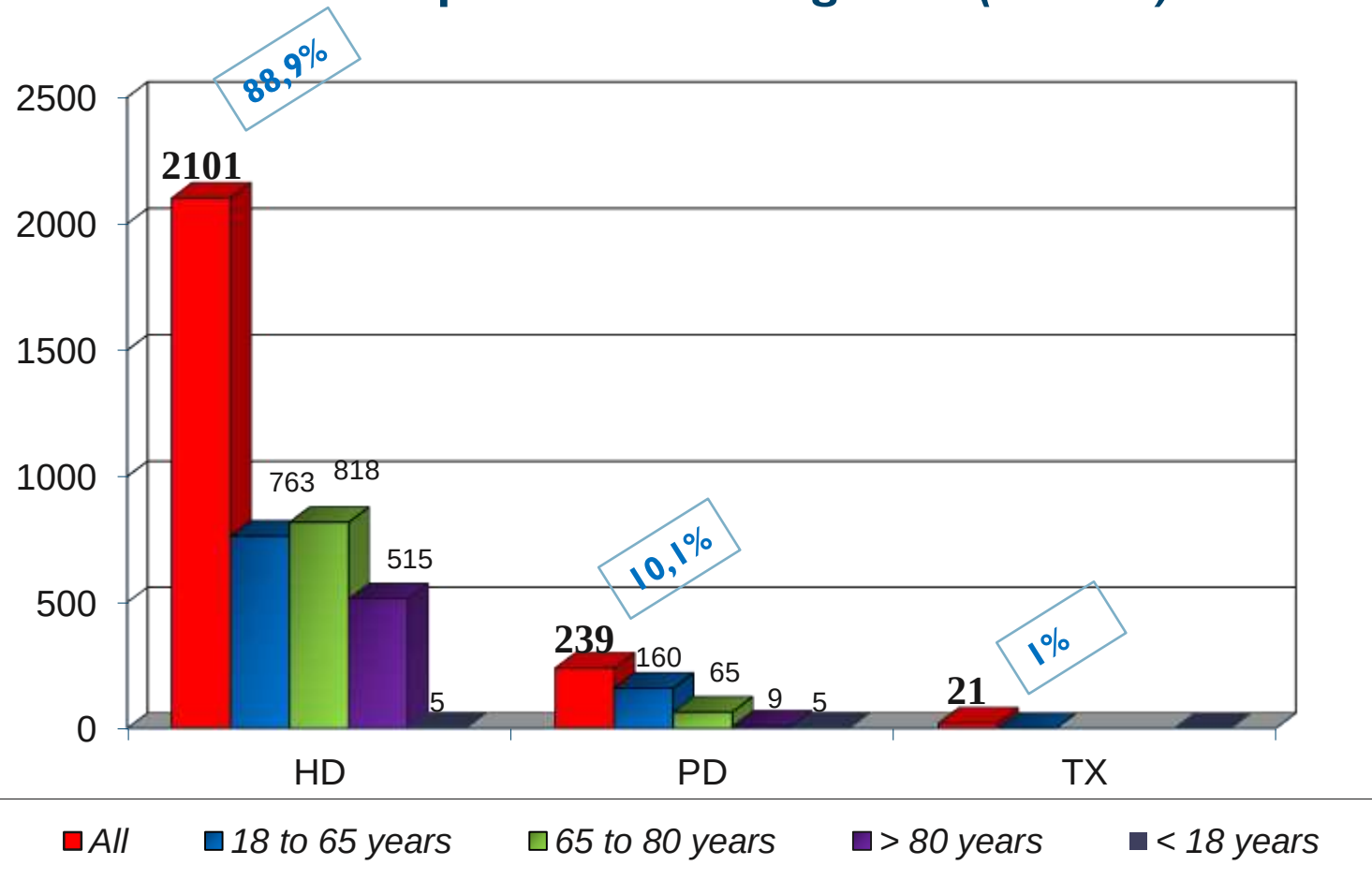
Portuguese Registry of Dialysis and Transplantation 2020

- Questionnaires for Hemodialysis (HD), Peritoneal Dialysis (PD) and Kidney Transplantation
- 132 Hemodialysis Centers
- 27 Peritoneal Dialysis Units
- 8 adult and 1 pediatric kidney transplantation centers
- 100% response rate

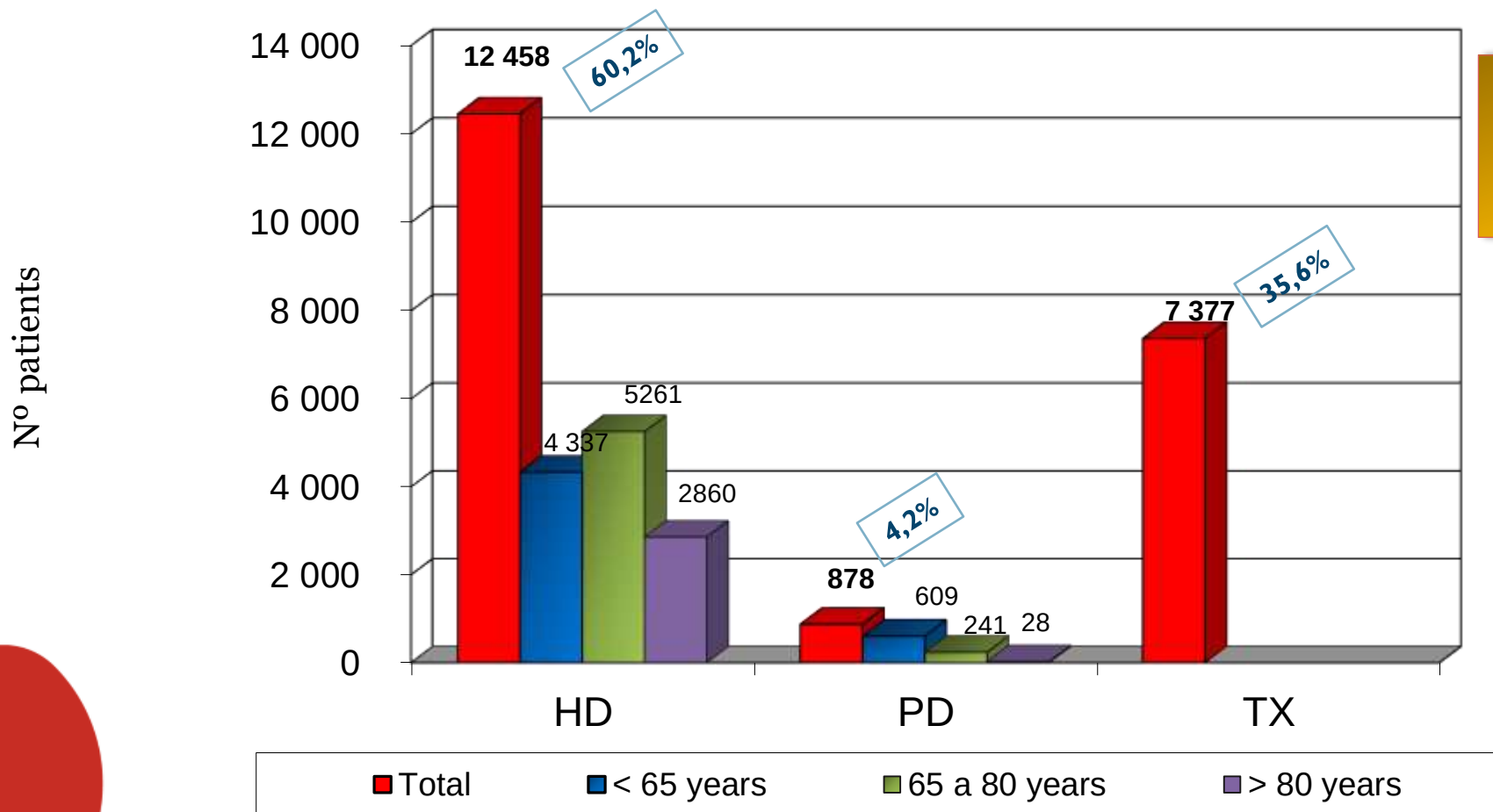


New patients starting dialysis or submitted to renal transplantation during 2020 (n=2361)

Nº of patients

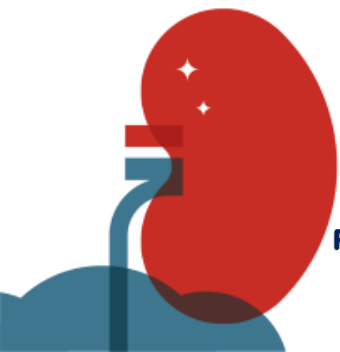
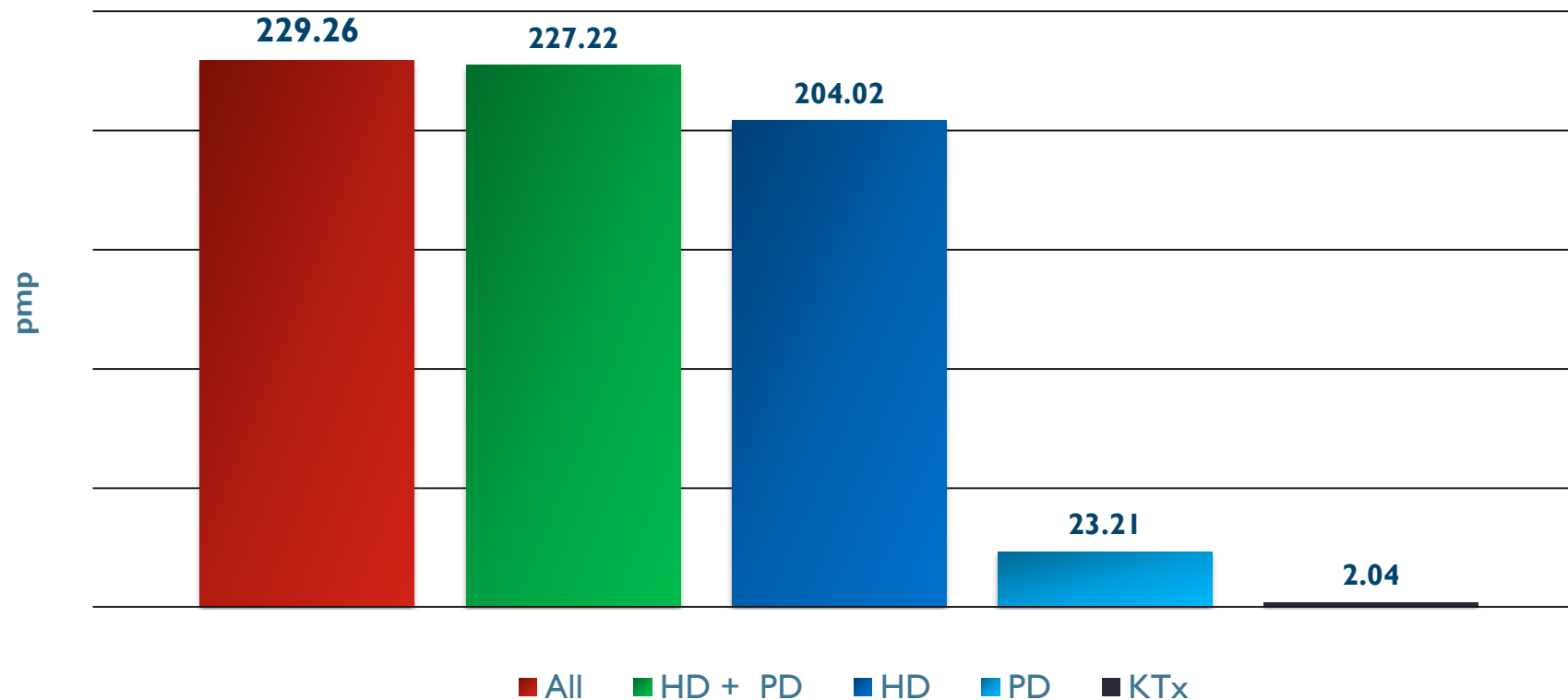


Patients treated by dialysis or with functioning kidney transplant 31st December 2020

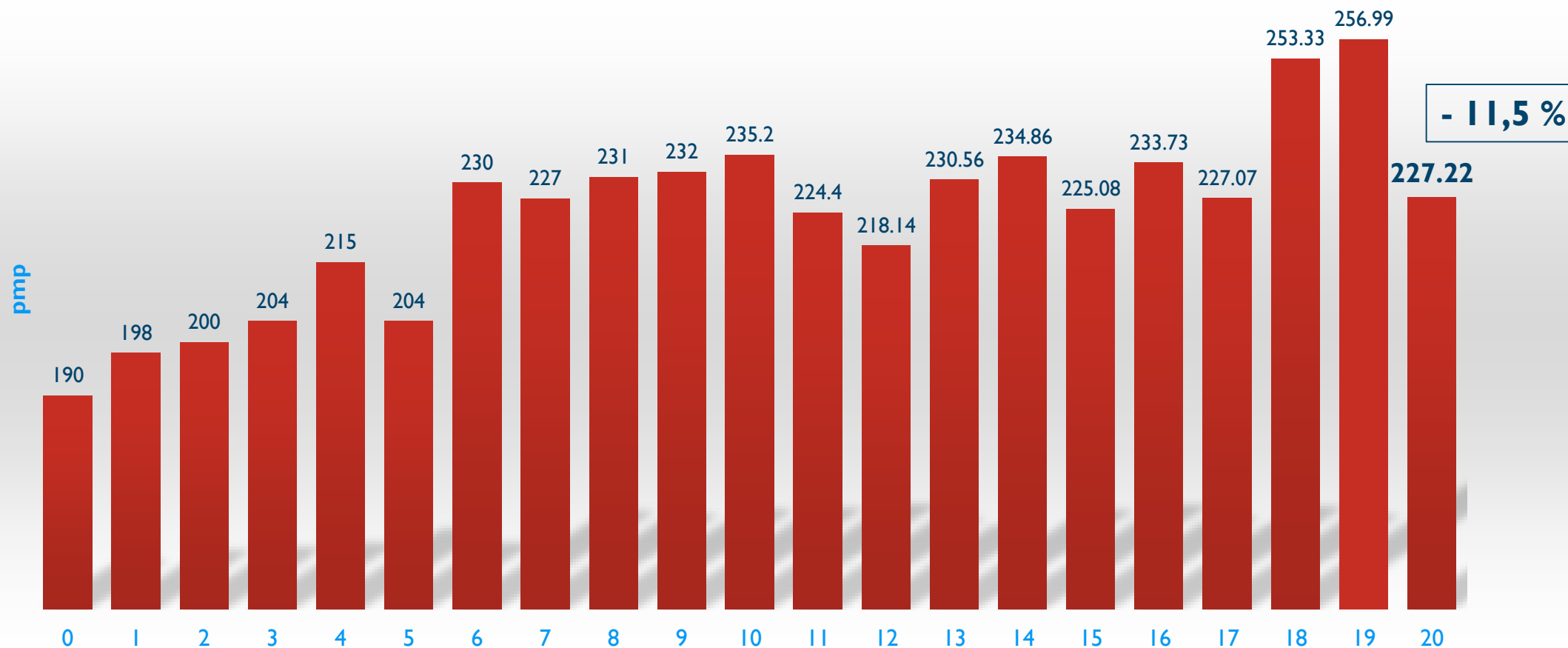


Total number of pts – 20 713
Prevalence – 2011,31 pmp
Nº of KTx pt / NºD pt = 0,55

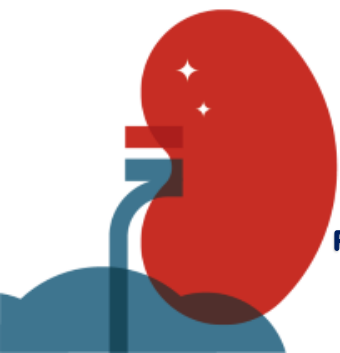
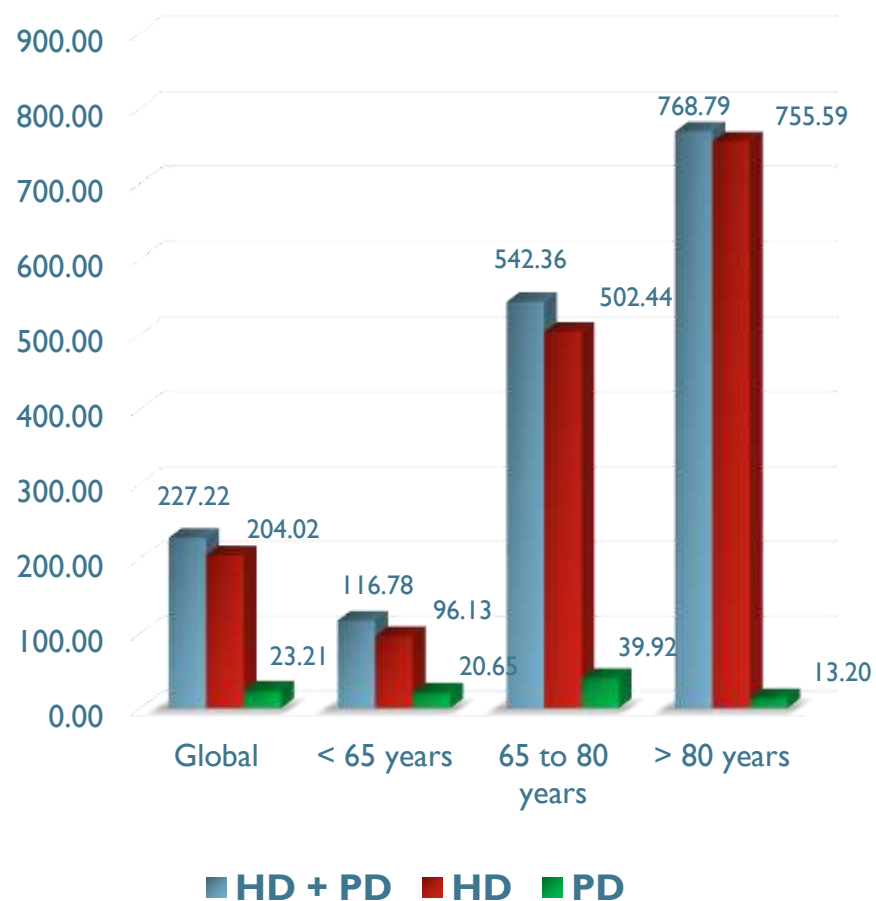
Incident patients accepted for RRT during 2020



Incident patients accepted for dialysis *HD and PD per million population 2000 - 2020*

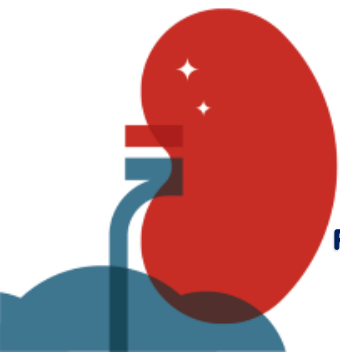


Incident patients accepted for dialysis *HD and PD per million population by age group during 2020*



Incidence

How do we compare?





Annual
Report
2018

The ERA-EDTA Registry Annual Report 2018: a summary

Anneke Kramer, Rianne Boenink, Vianda S Stel, Carmen Santiuste de Pablos, Filip Tomović, Eliezer Golan, Julia Kerschbaum, Nurhan Seyahi, Kyriakos Ioanou, Palma Beltrán, Oscar Zurriaga, Ángela Magaz, María F Slon Roblero, Nikola Gjorgjevski, Liliana Garneata, Federico Arribas, Ana A Galvão, Samira Bell, Mai Ots-Rosenberg, José M Muñoz-Terol, Rebecca Winzeler, Kristine Hommel, Anders Åsberg, Viera Spustova, María Ángeles Palencia García, Evgueniy Vazellov, Patrik Finne, Marc A G J ten Dam, František Lopot, Sara Trujillo-Alemán, Mathilde Lassalle, Mykola O Kolesnyk, Shalini Santhakumaran, Alma Idrizi, Anton Andrushev, Jordi Comas Farnés, Kirill Komissarov, Halima Resić, Runolfur Palsson, Viktorija Kuzema, Maria Angeles Garcia Bazaga, Edita Ziginiskiene, Maria Stendahl, Marjolein Bonthuis, Ziad A Massy, Kitty J Jager

Clinical Kidney Journal, Volume 14, Issue 1, January 2021, Pages 107–123, <https://doi.org/10.1093/ckj/sfaa271>

Published:

24 December 2020

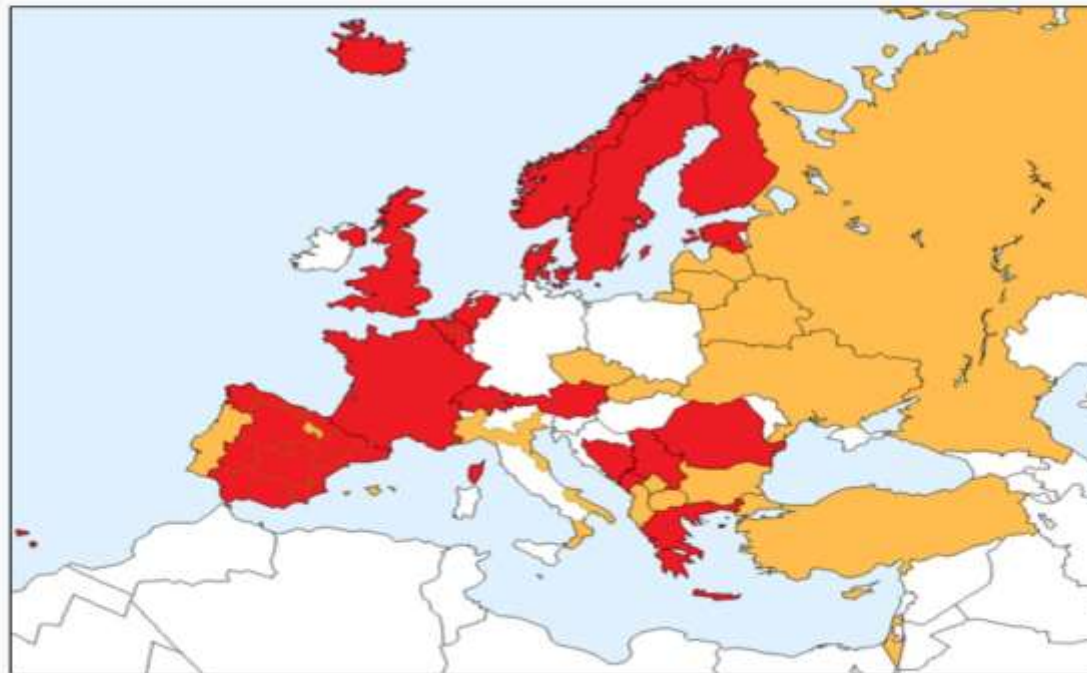


Incident patients accepted for RRT in 2018, at day 1 *by country*





National and regional renal registries that contributed data to the 2018 ERA-EDTA Registry Annual Report



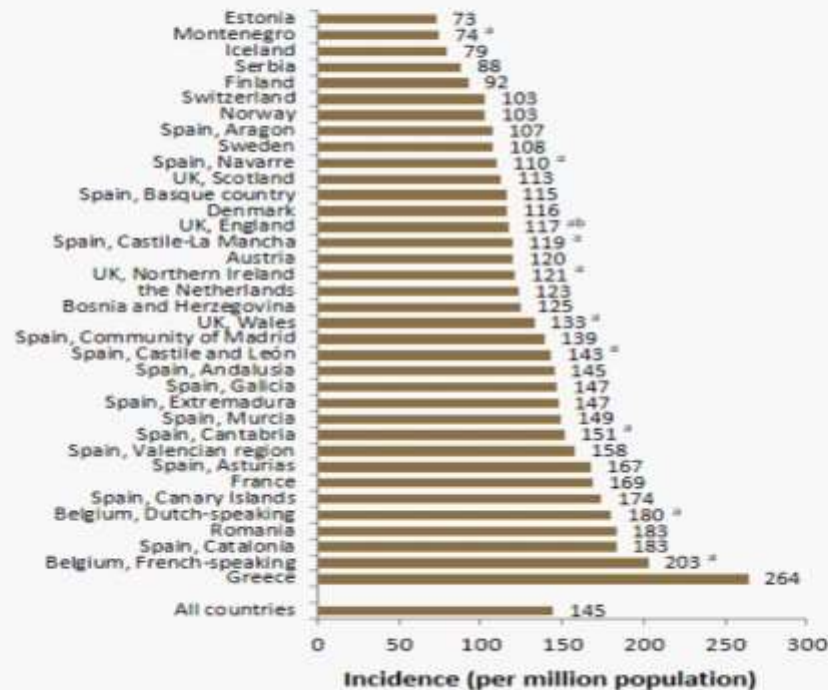
-  Renal registries contributing with individual patient data
-  Renal registries contributing with aggregated data



Incident patients accepted for RRT in 2018 at day 1 by country

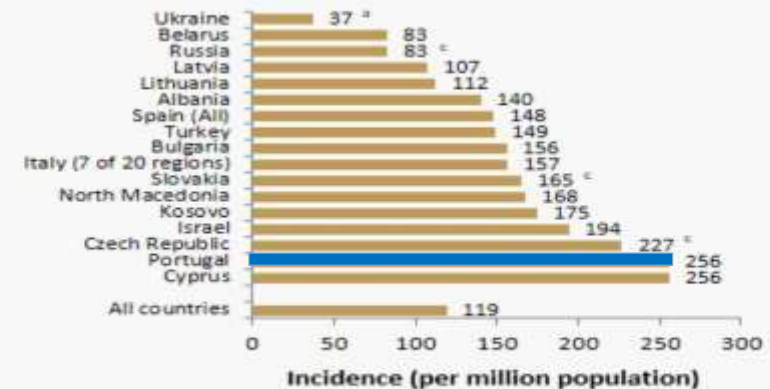
Unadjusted incidence

renal registries providing individual patient data



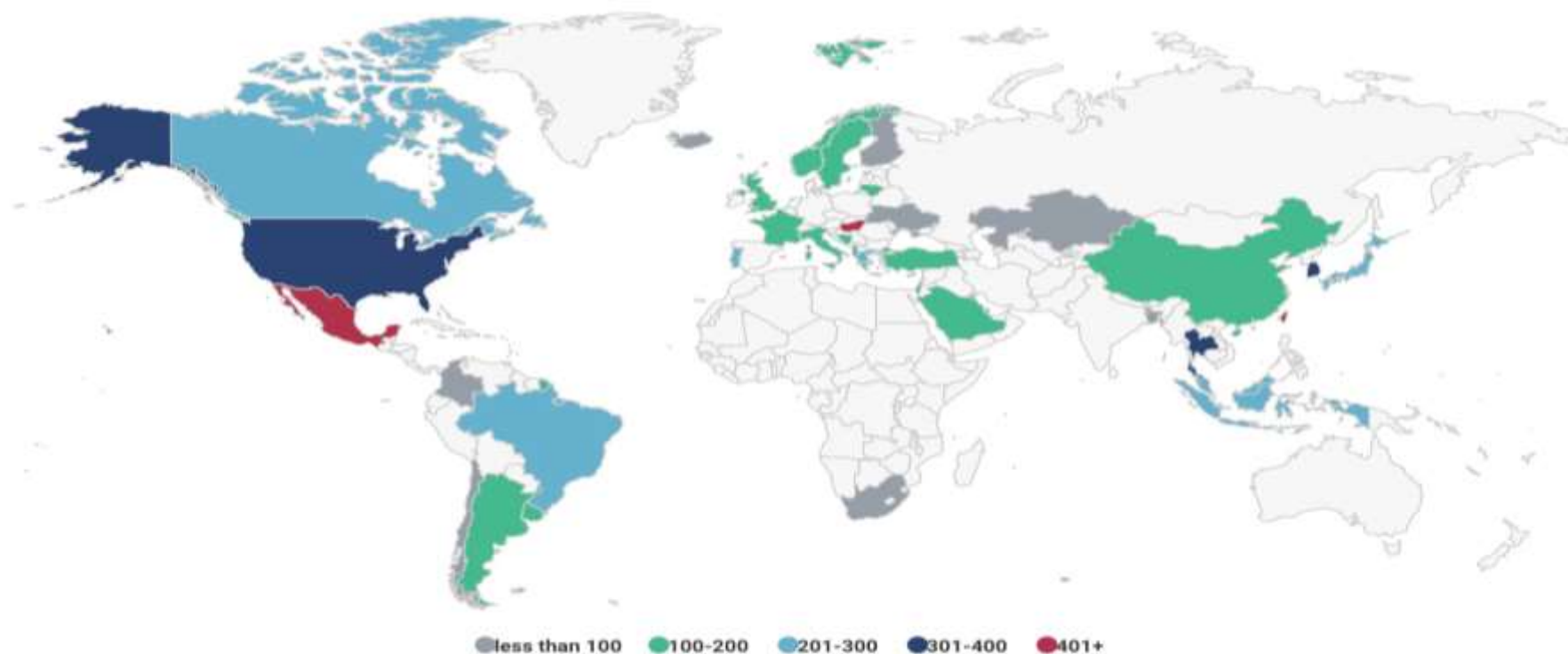
Unadjusted incidence

renal registries providing aggregated data



^a patients younger than 20 years of age are not included; ^b the incidence is underestimated by 2%; ^c data includes patients receiving dialysis only

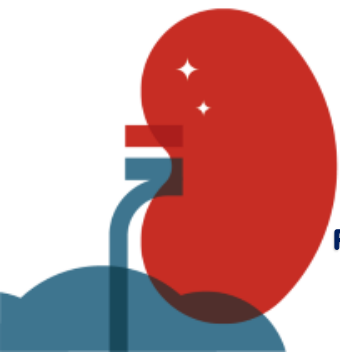
vol 2 Figure 11.1 Geographic variation in the incidence rate of treated ESRD (per million population), by country, 2018



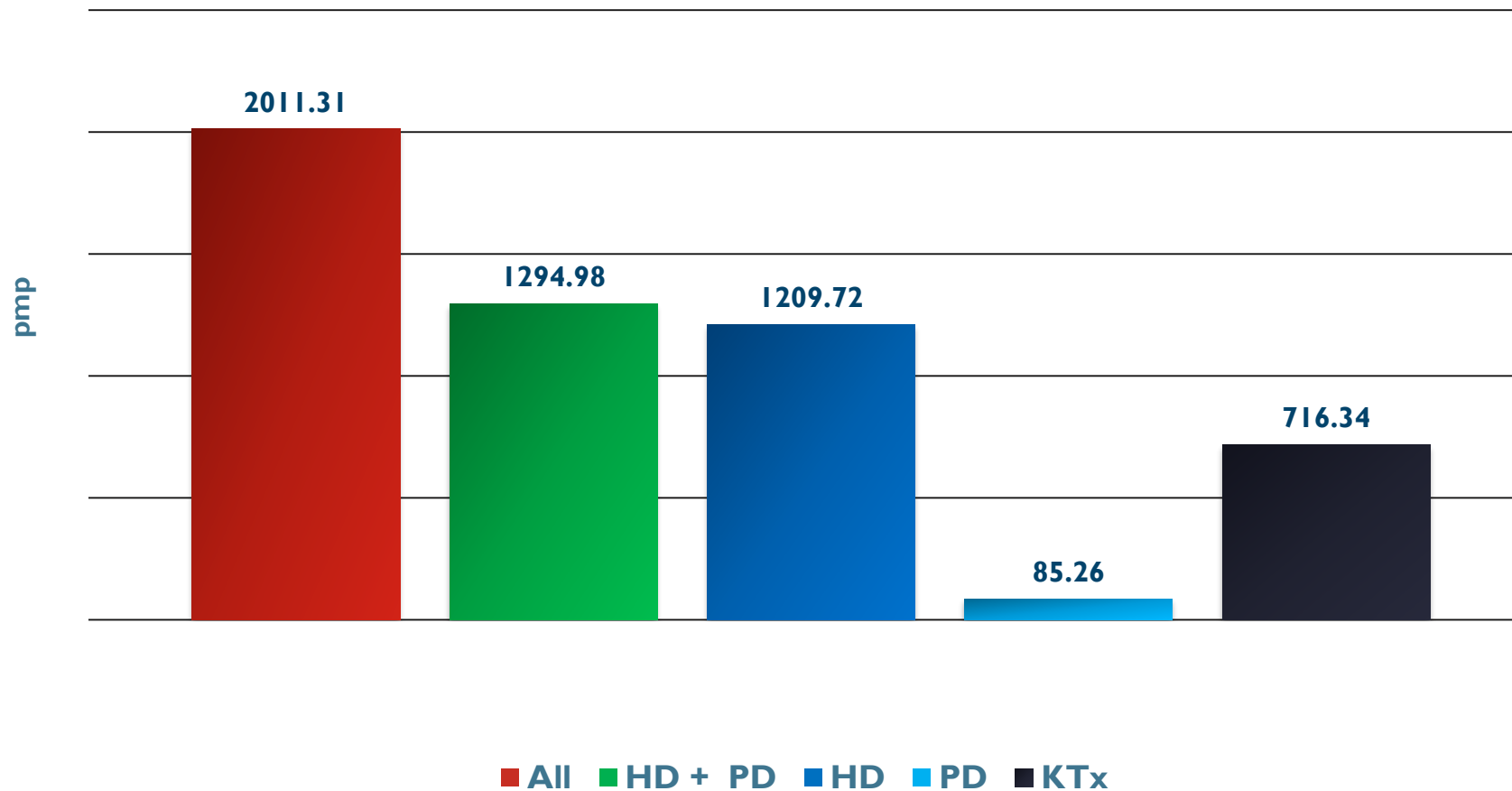
Data Source: 2020 United States Renal Data System Annual Data Report



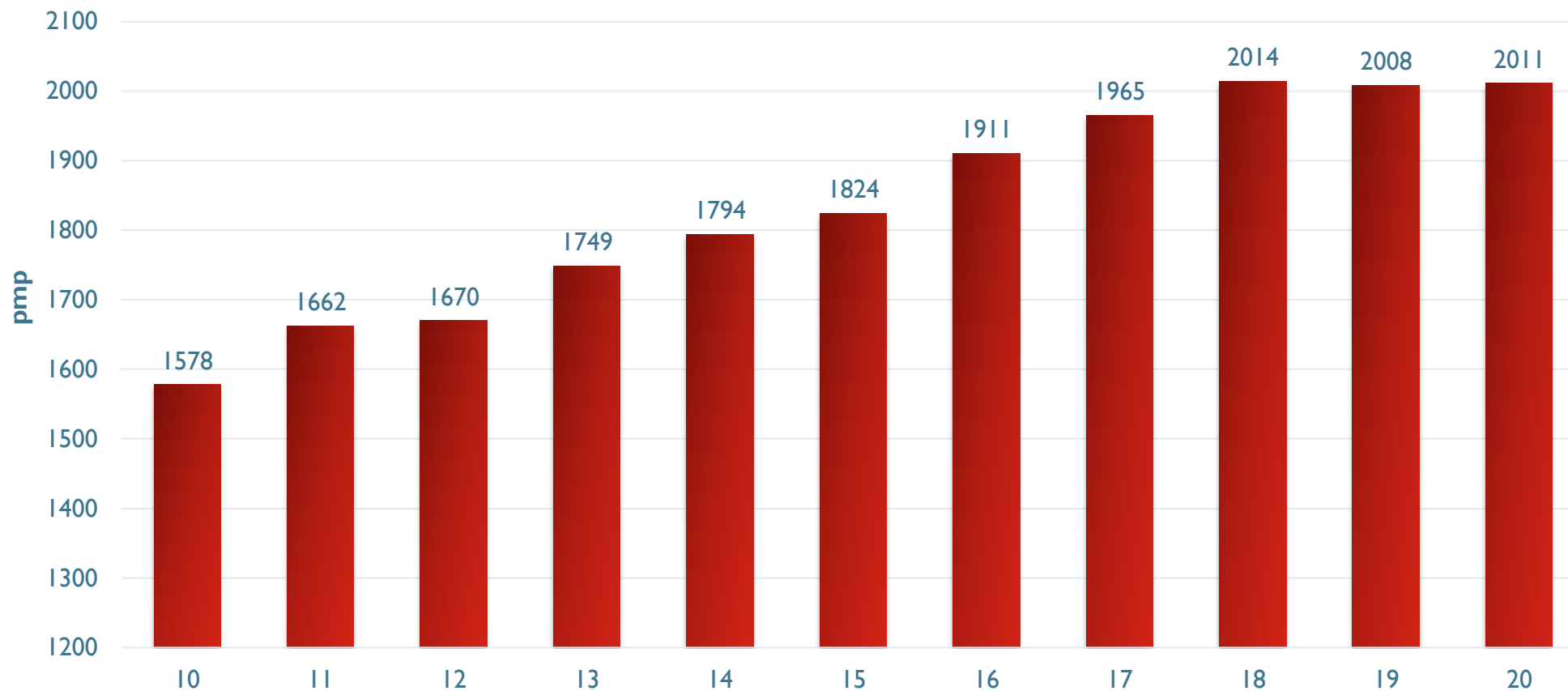
2020 Annual Data Report
Volume 2 ESRD, Chapter 11



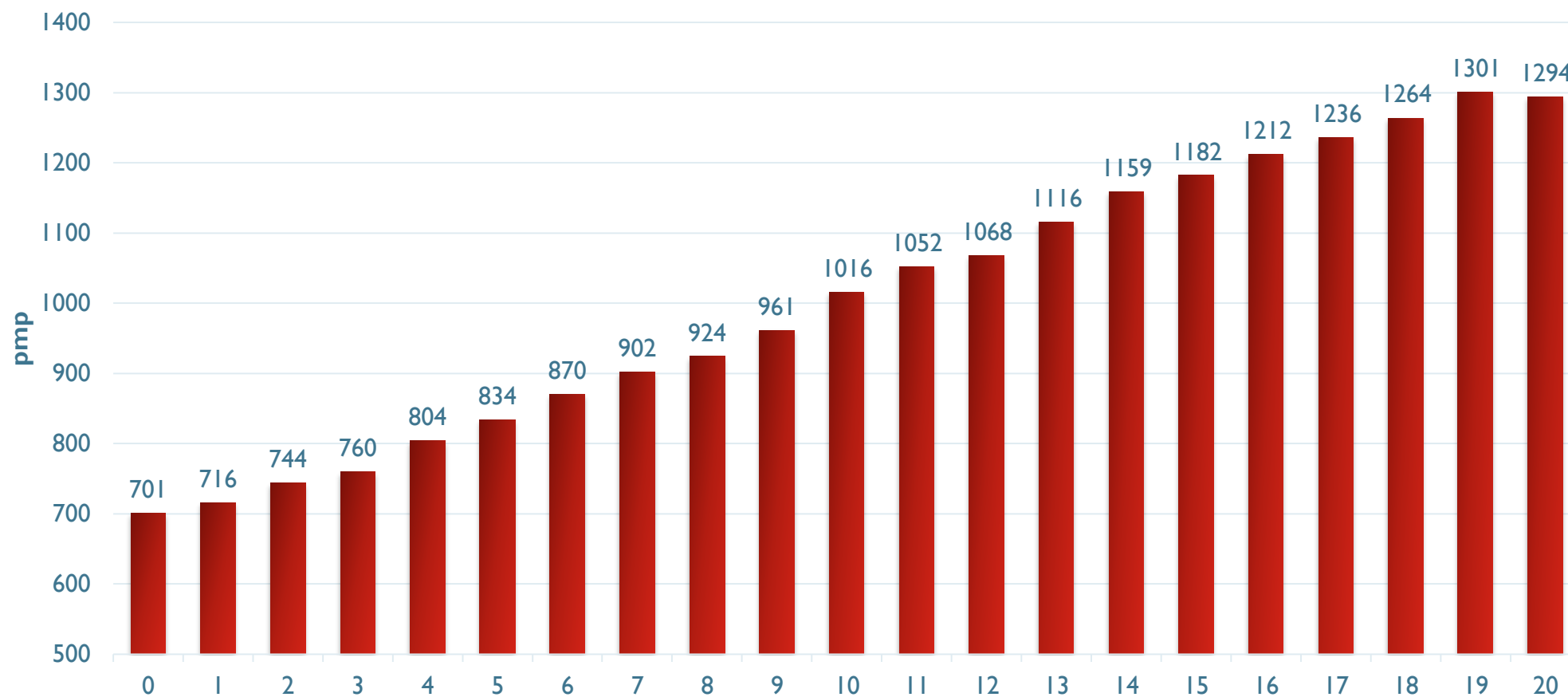
Prevalent patients on RRT by modality 31st December 2020



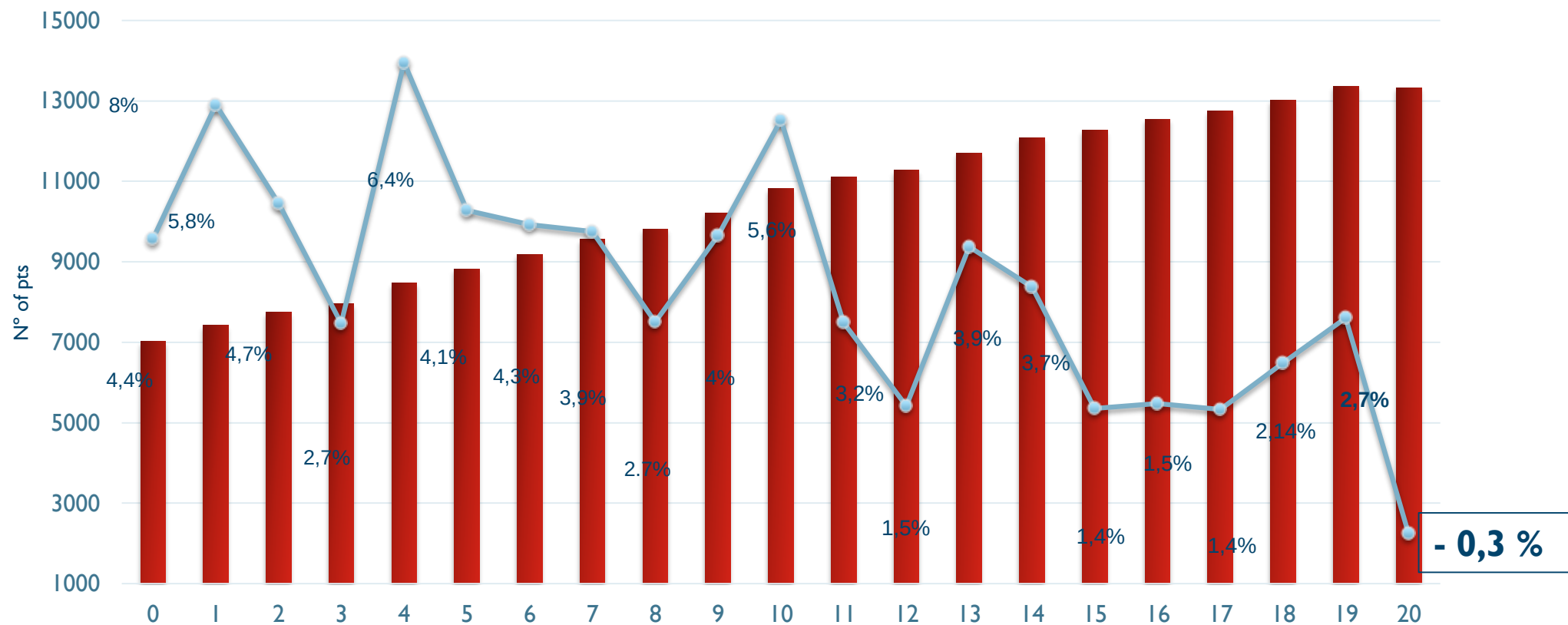
Prevalent patients on RRT *per million population end of each year 2010 - 2020*



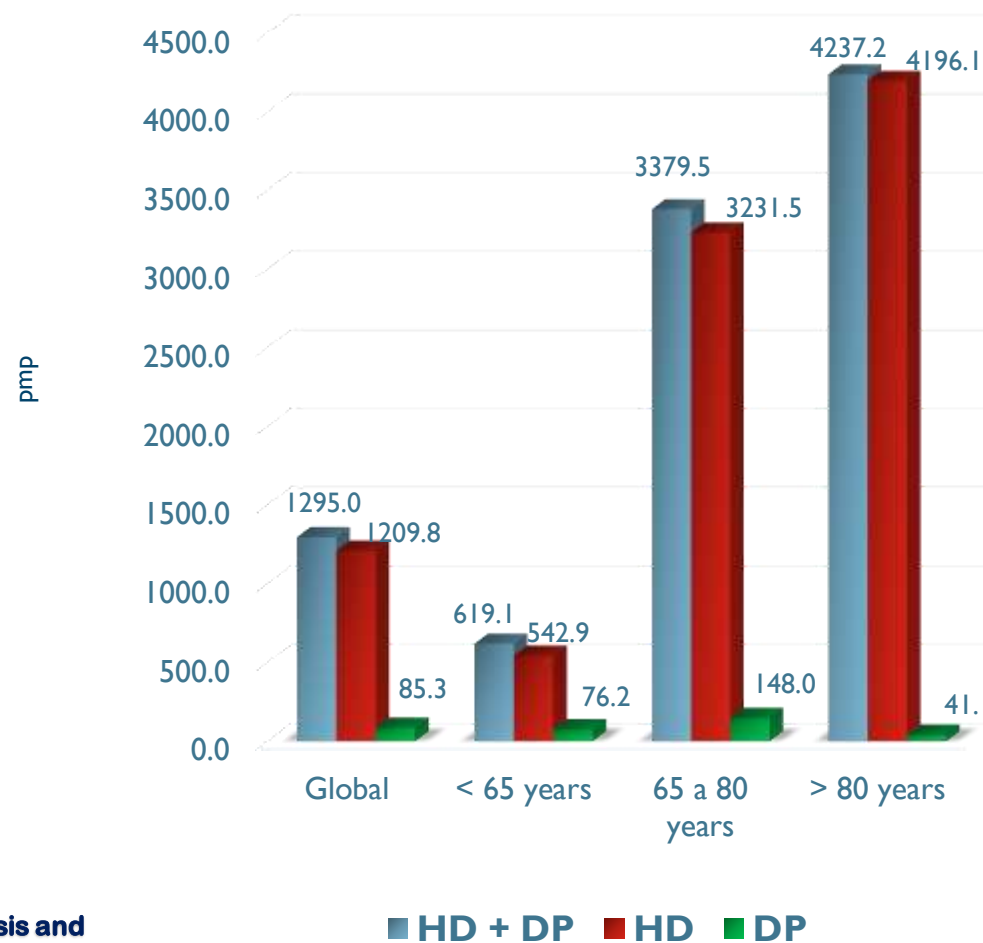
Prevalent patients on dialysis *per million population end of each year 2000 - 2020*



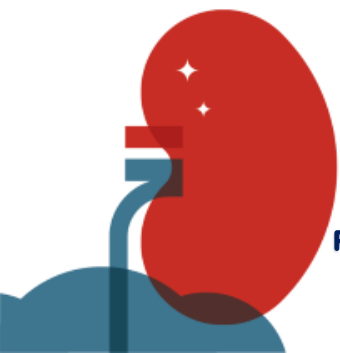
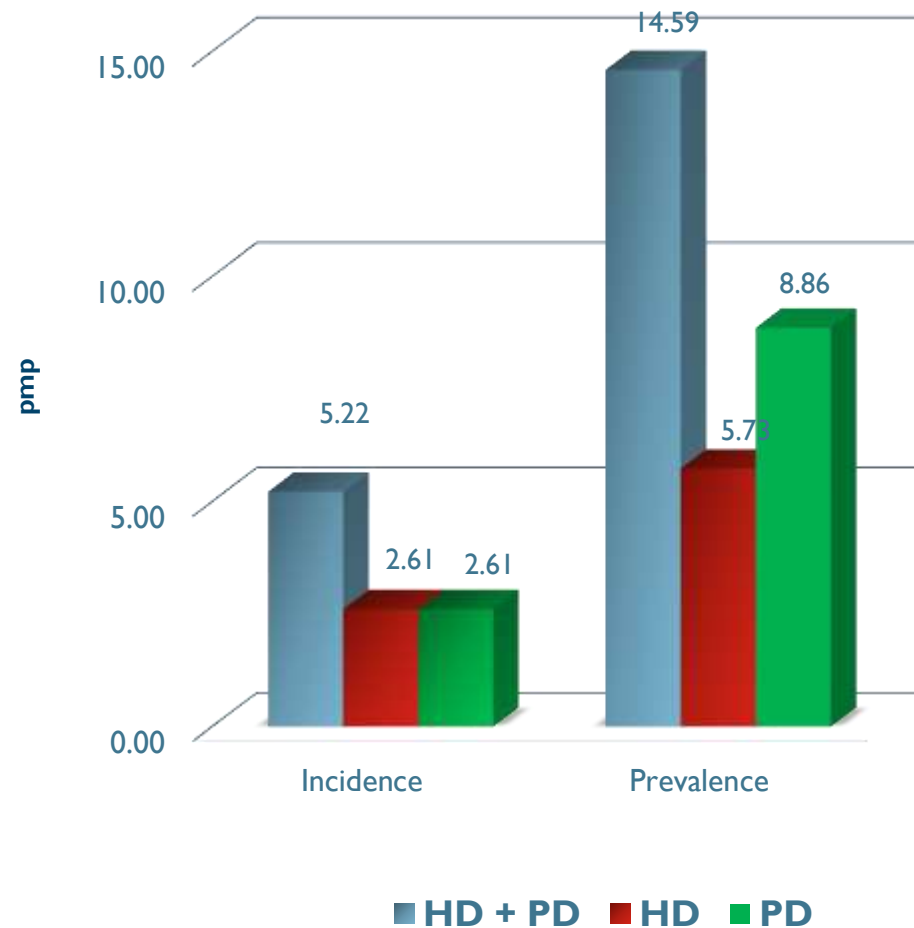
Patients on dialysis and annual growth *end of each year 2000 - 2020*



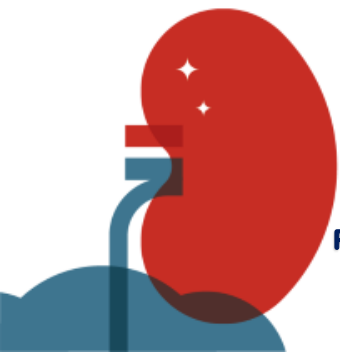
Prevalence of CKD patients treated by dialysis *per million population by age group in 2020*



Incident and prevalent pediatric patients on dialysis *HD and PD per million population 2020*



Prevalence How do we compare?





Prevalent patients on RRT in 2018 *by country*

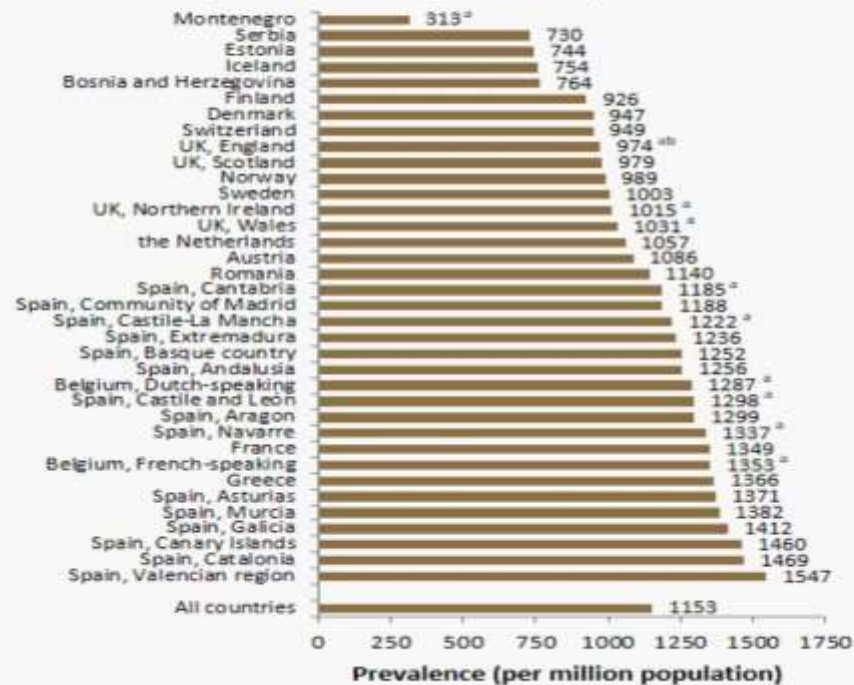




Prevalent patients on RRT in 2018 by country

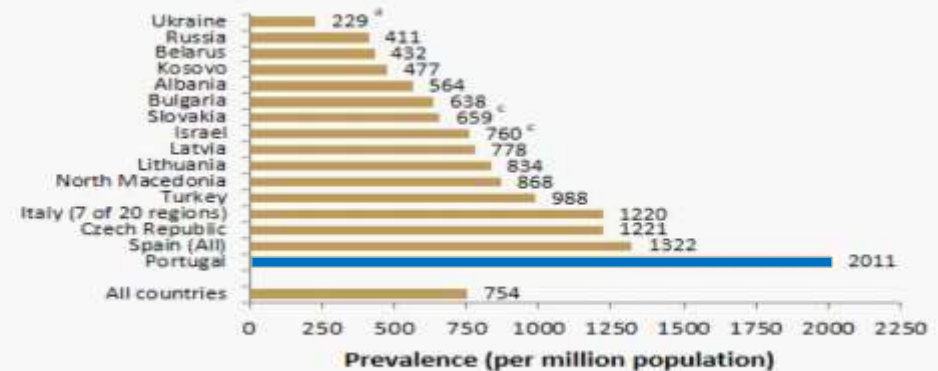
Unadjusted prevalence

renal registries providing individual patient data



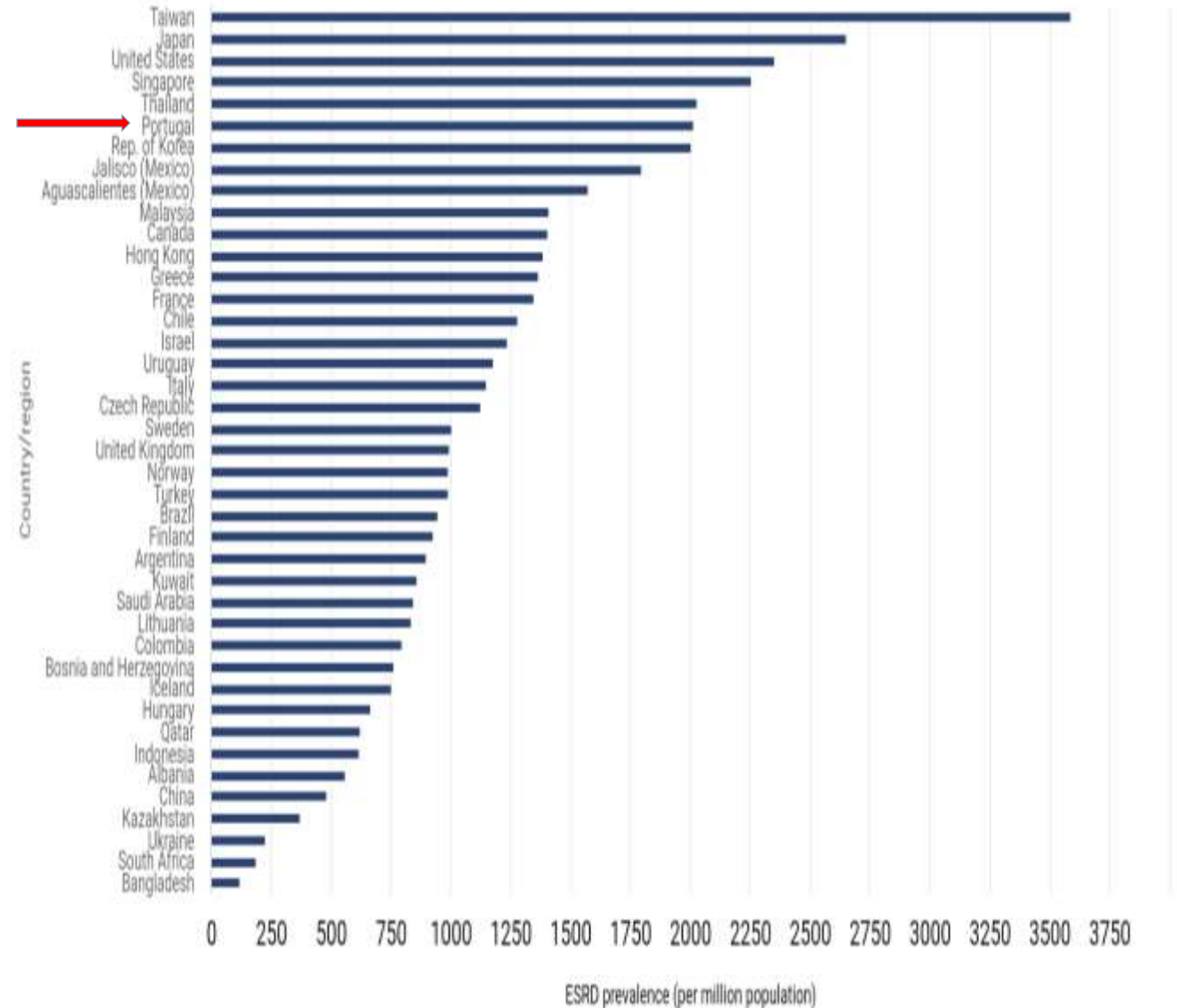
Unadjusted prevalence

renal registries providing aggregated data



^a patients younger than 20 years of age are not included; ^b the prevalence is underestimated by 1%; ^c data includes patients receiving dialysis only

vol 2 Figure 11.9 Prevalence of treated ESRD (per million population), by country, 2018



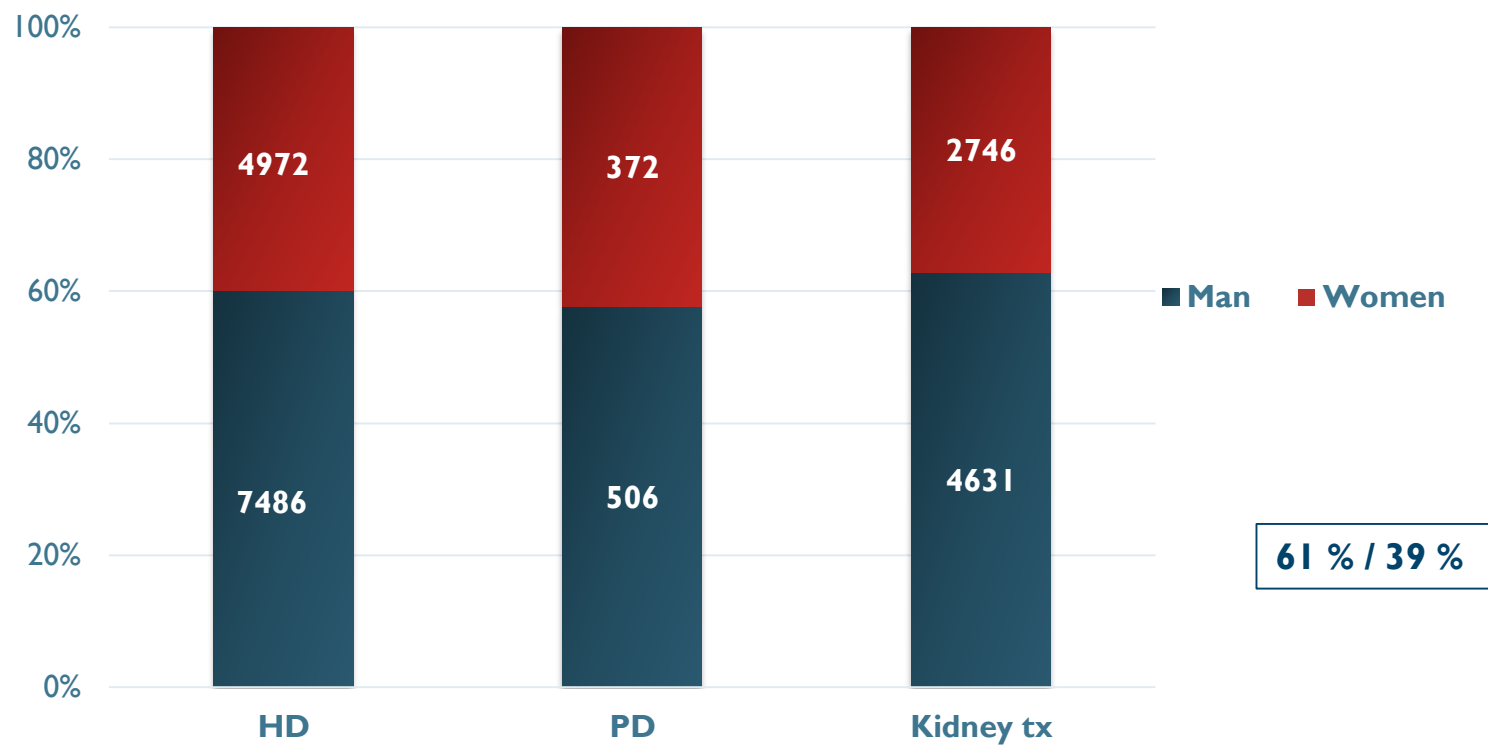
USRDS
UNITED STATES RENAL DATA SYSTEM

**2020 Annual Data Report
Volume 2 ESRD, Chapter 11**

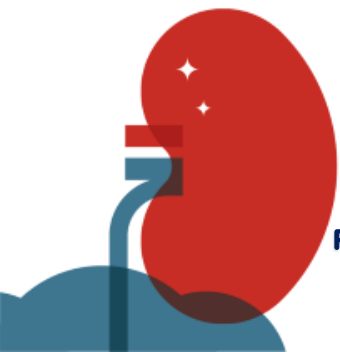
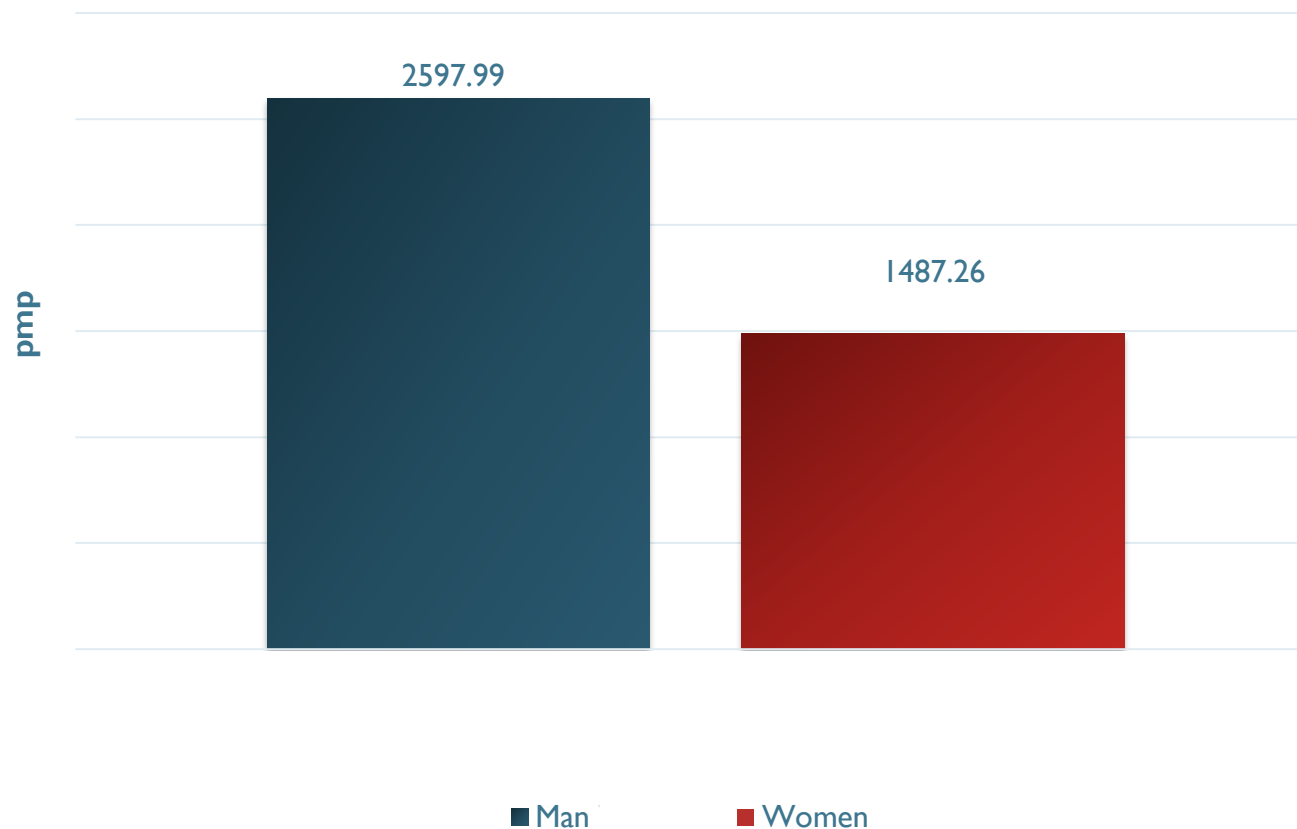
**Portuguese Registry of Dialysis and
Transplantation 2020
Ana Galvão**

Data Source: 2020 United States Renal Data System Annual Data Report

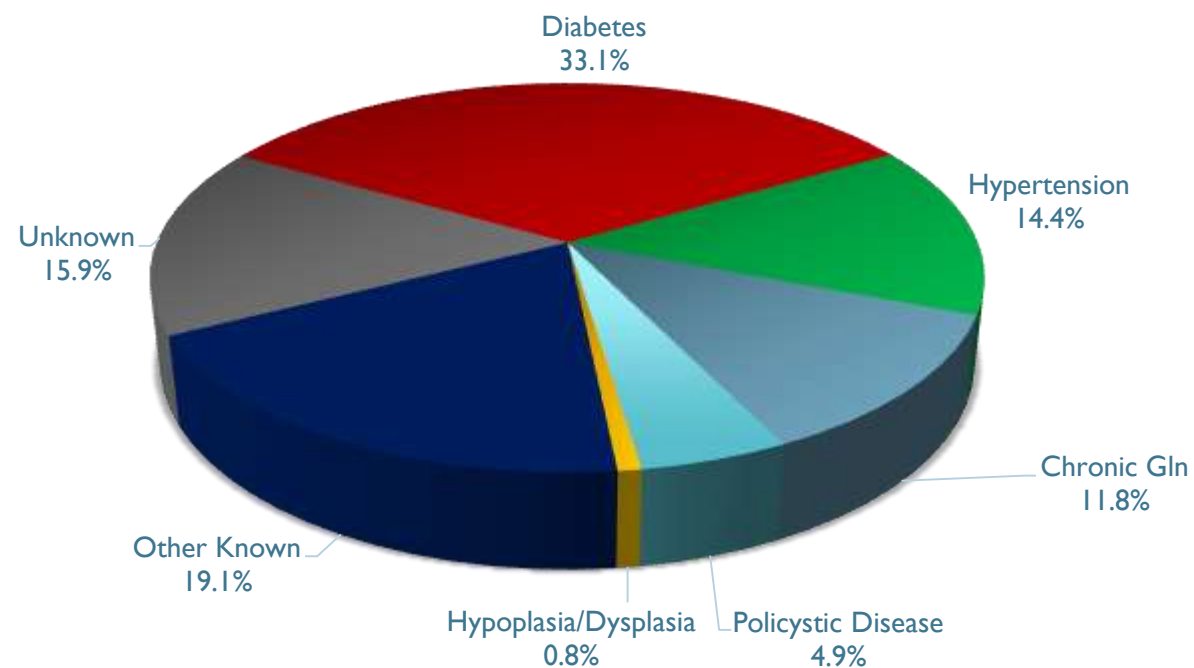
Gender distribution in each modality 31st December 2020



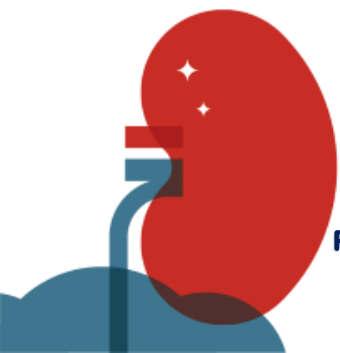
Prevalence by gender, all RRT *per million population 31st December 2020*



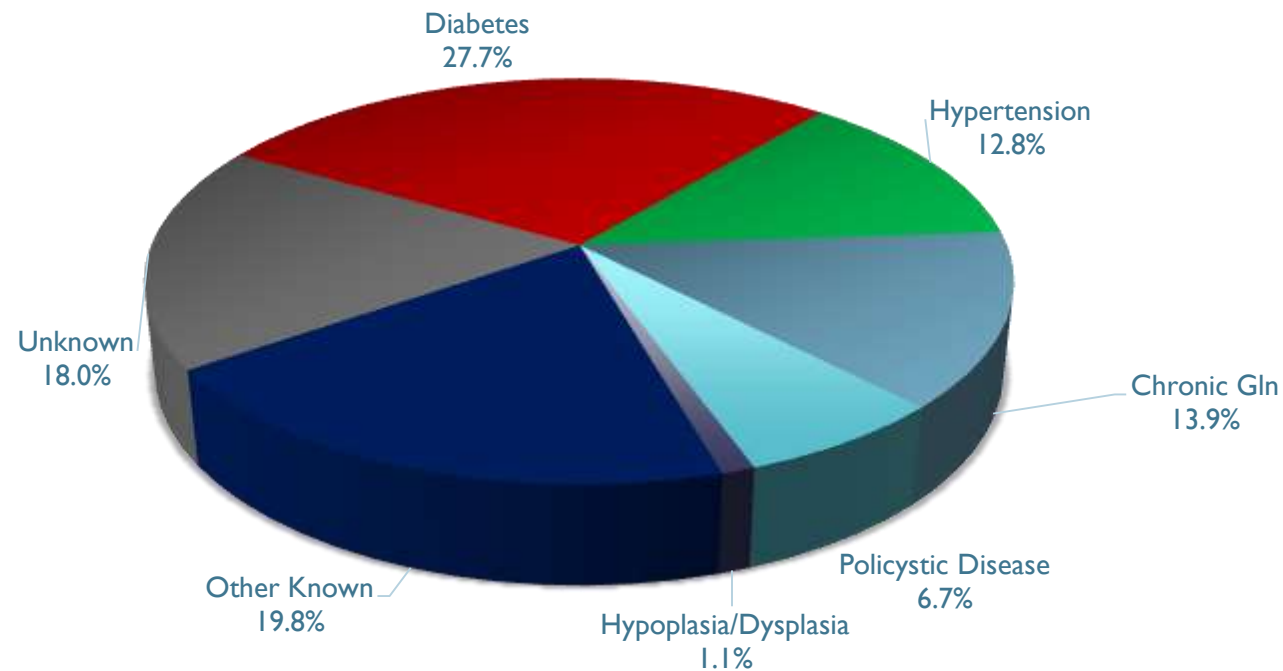
Primary renal disease of patients accepted for dialysis *HD and PD during 2020*



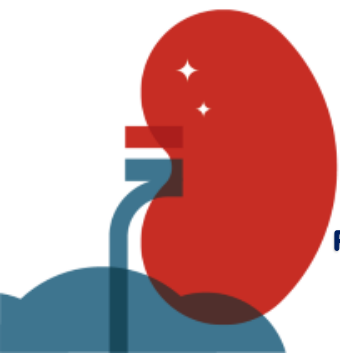
Not available = 7



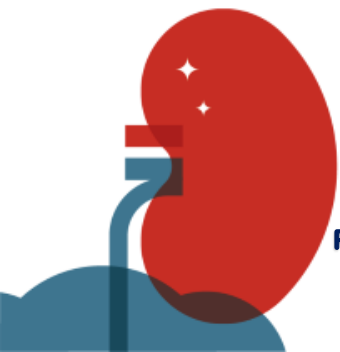
Primary renal disease of prevalent patients *HD and PD, 31st December 2020*



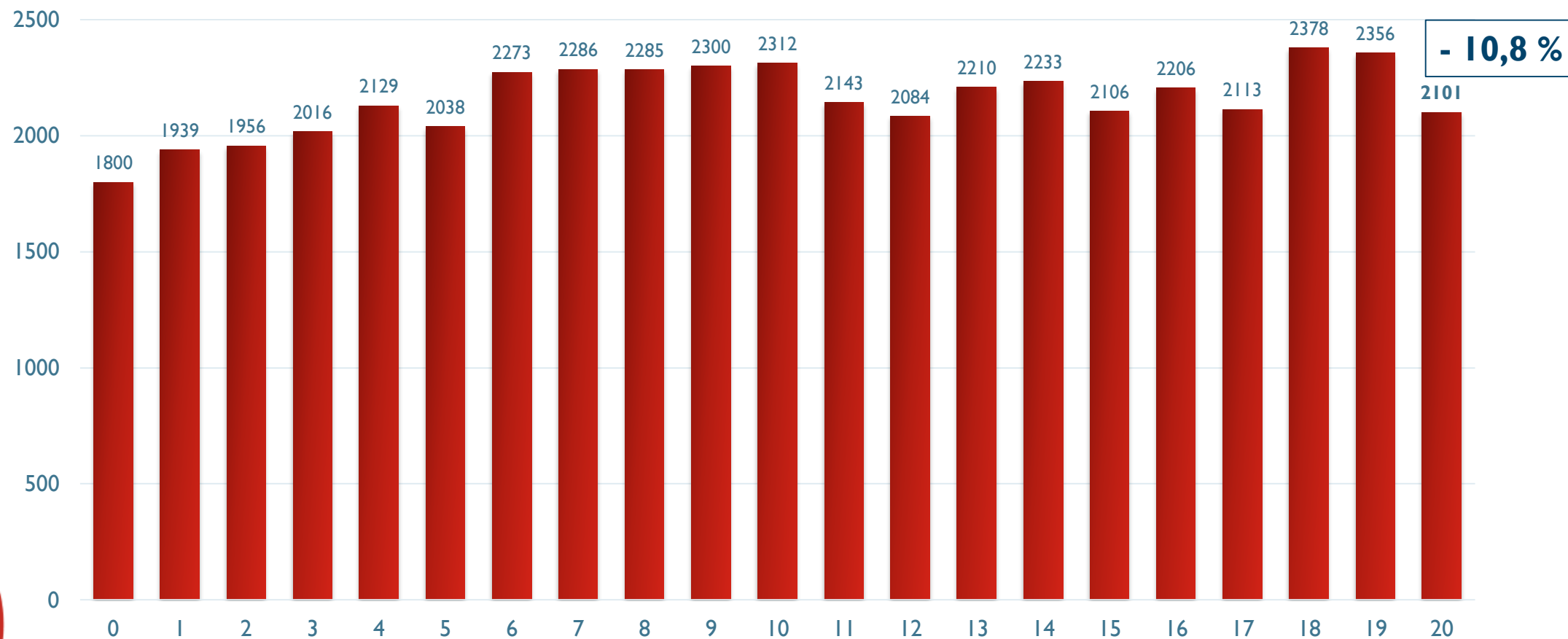
N = 13279
Not available = 57



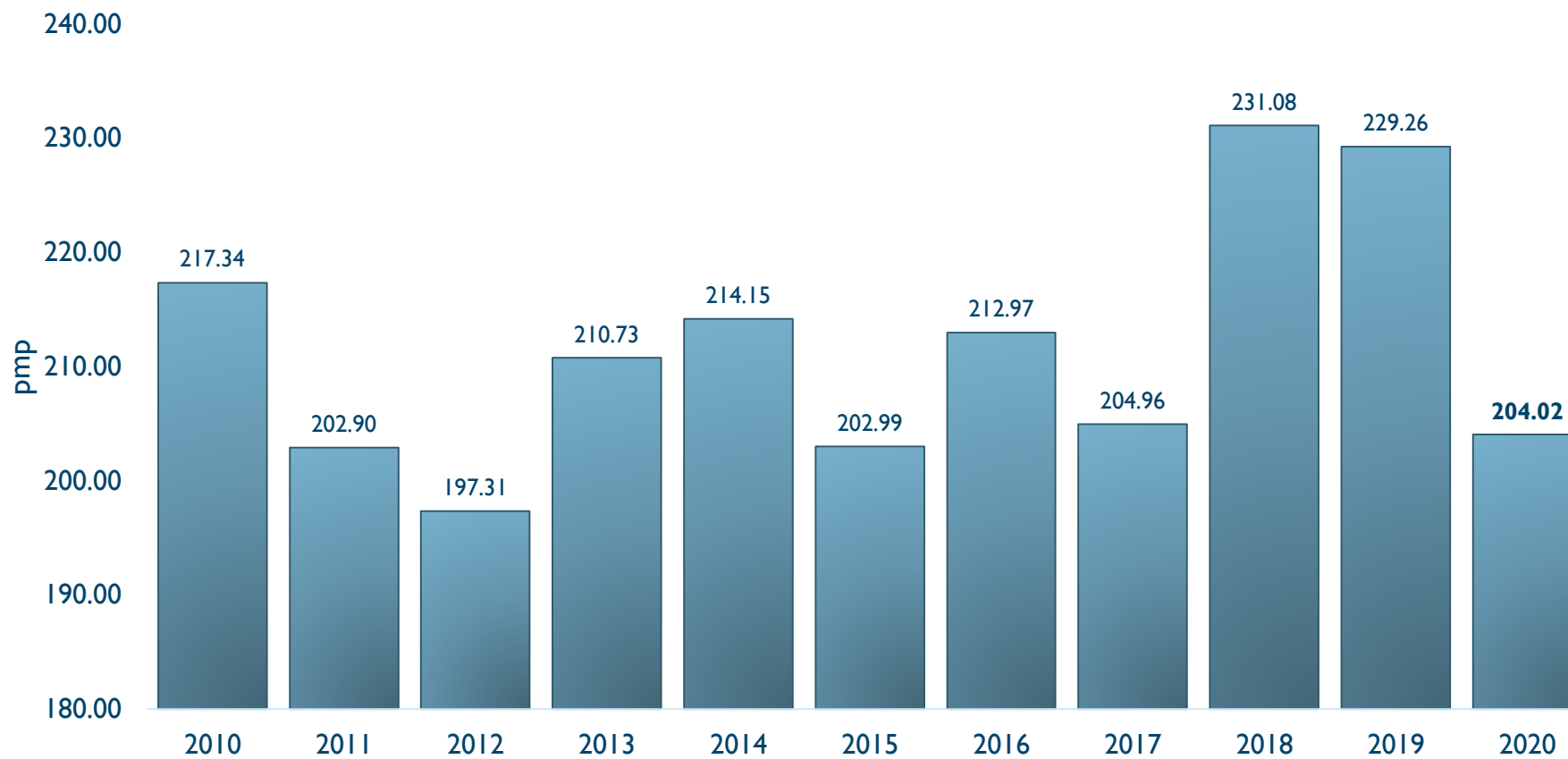
HEMODIALYSIS



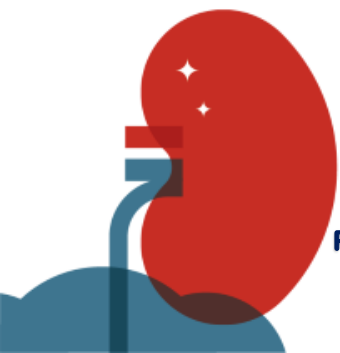
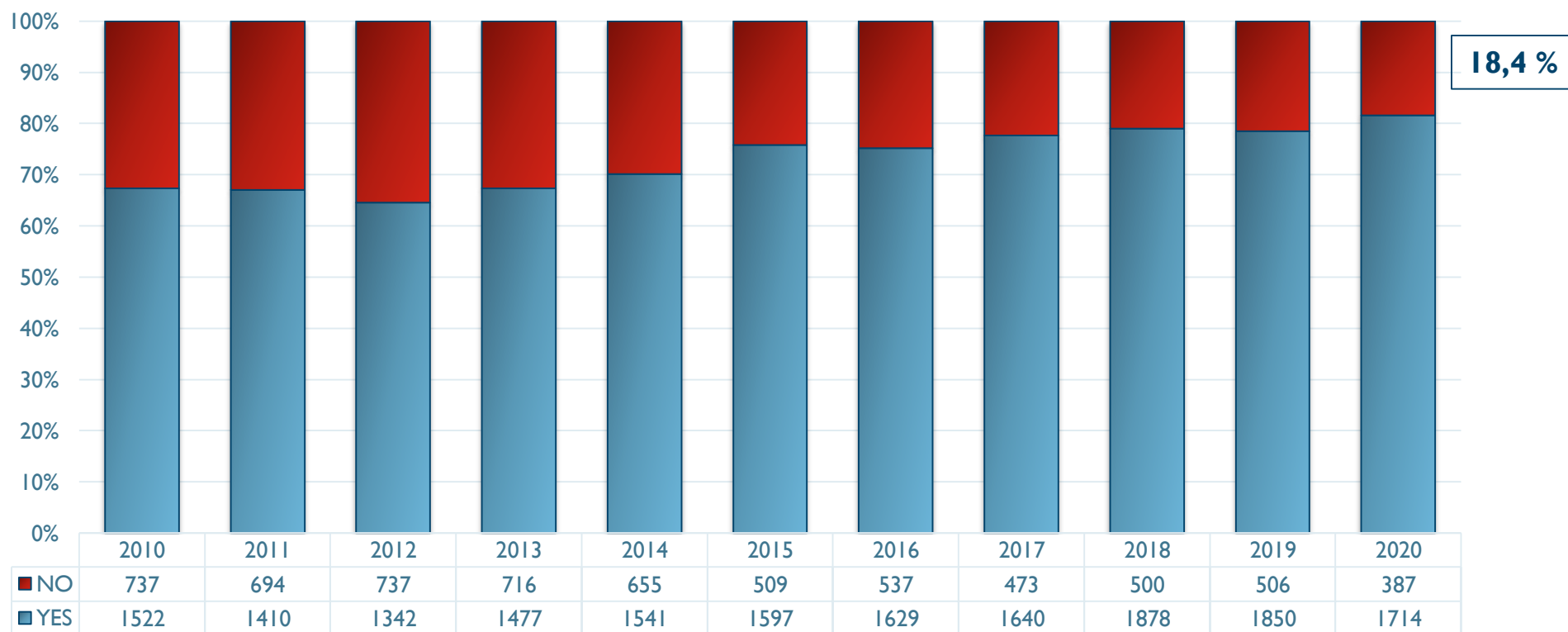
New patients accepted for hemodialysis 2000 - 2020



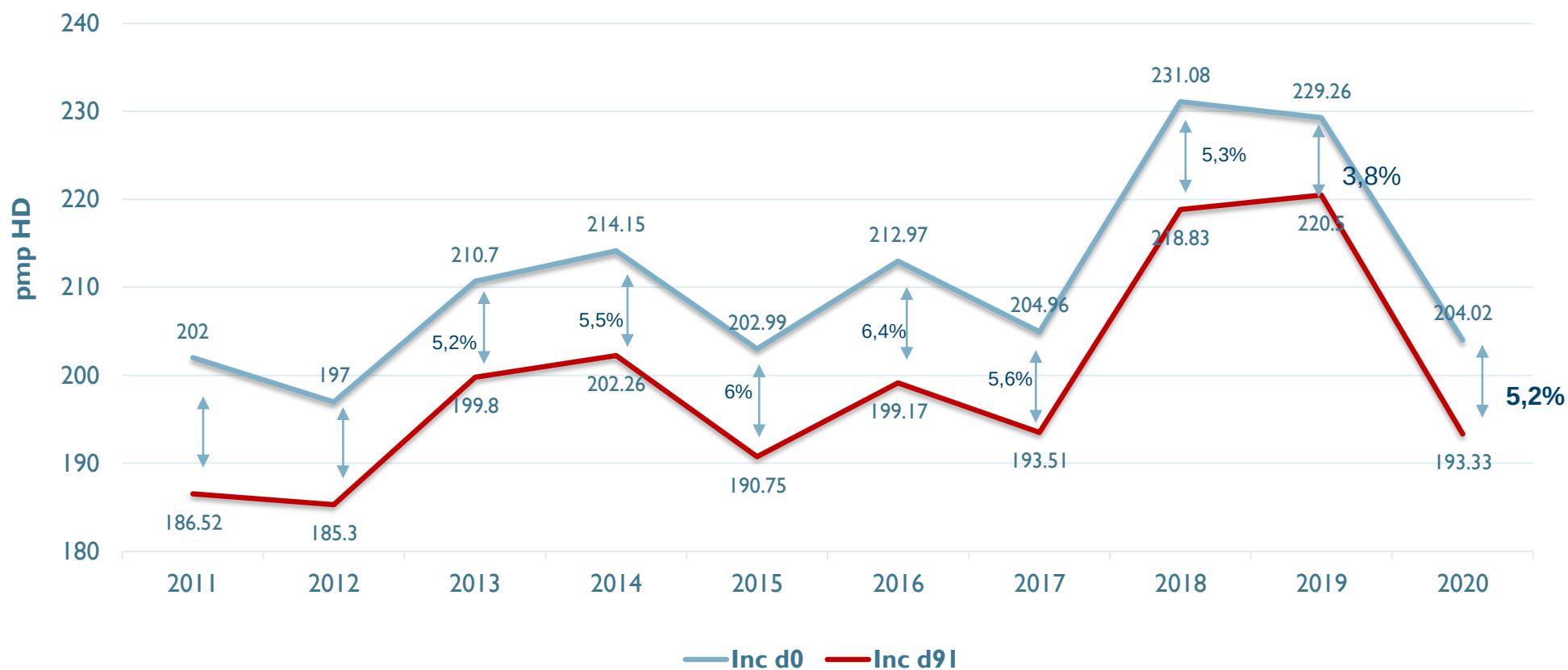
Incident patients accepted for hemodialysis *per million population 2010 - 2020*



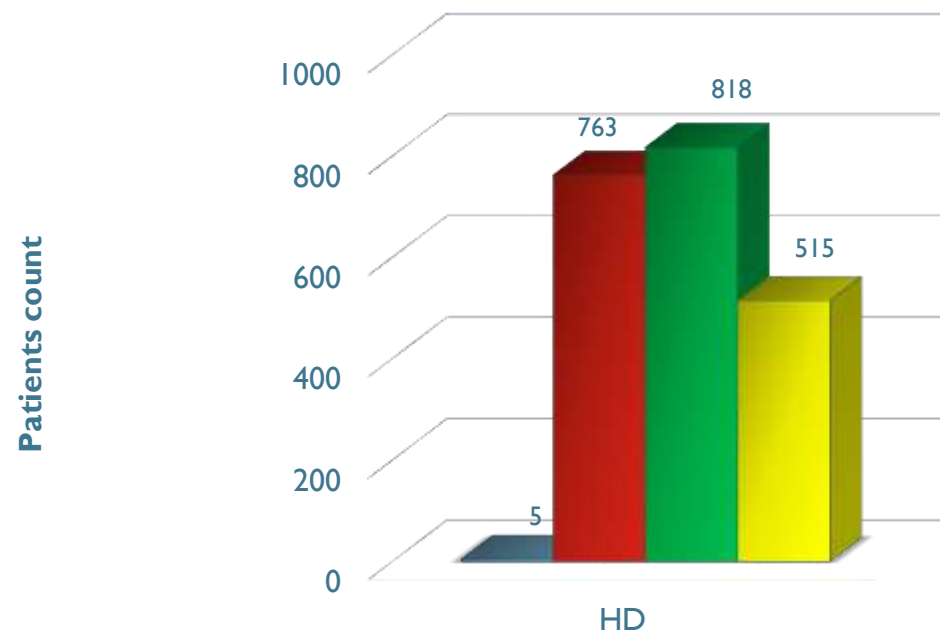
Previous follow-up by nephrology (> 3 months) HD patients 2010 – 2020



Incident patients accepted for hemodialysis Day 0 and day 91, 2011-2020



Patients accepted for hemodialysis by age group, during 2020



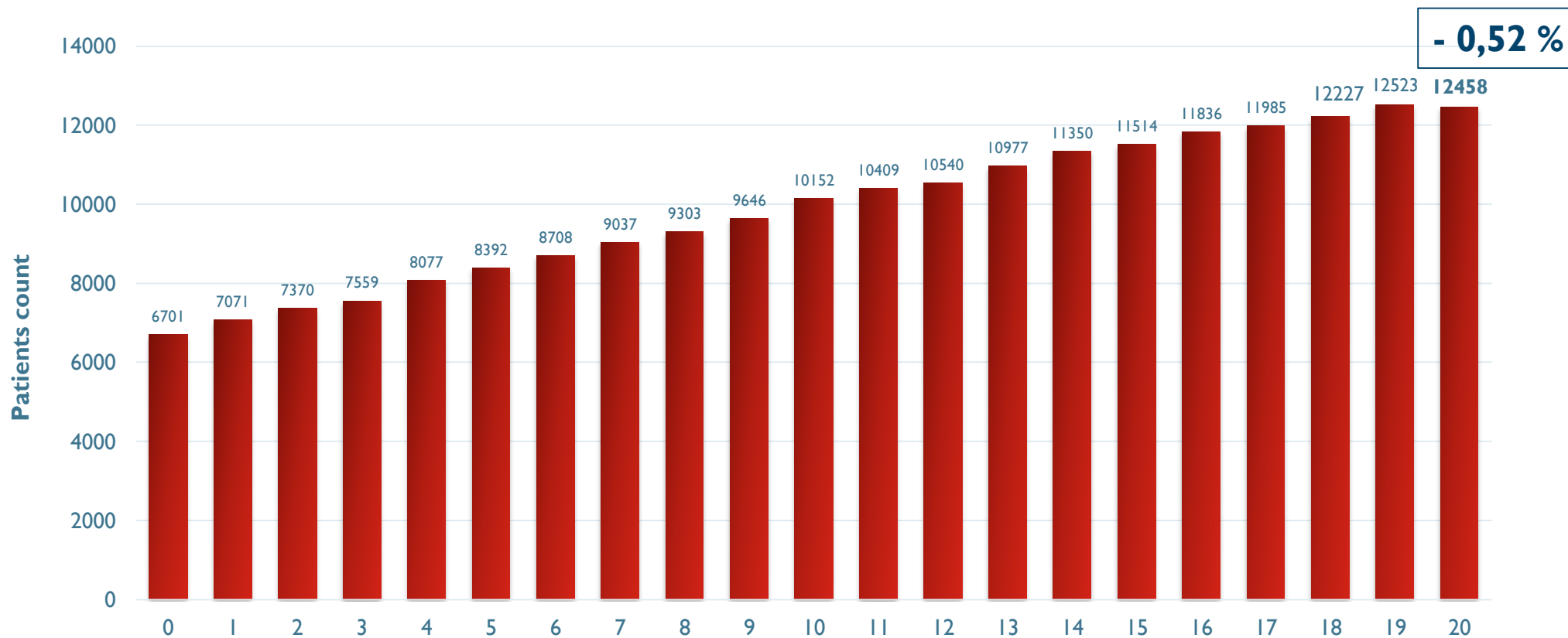
■ < 18 years old (0,2%)

■ 18 a 65 years old (36,3%)

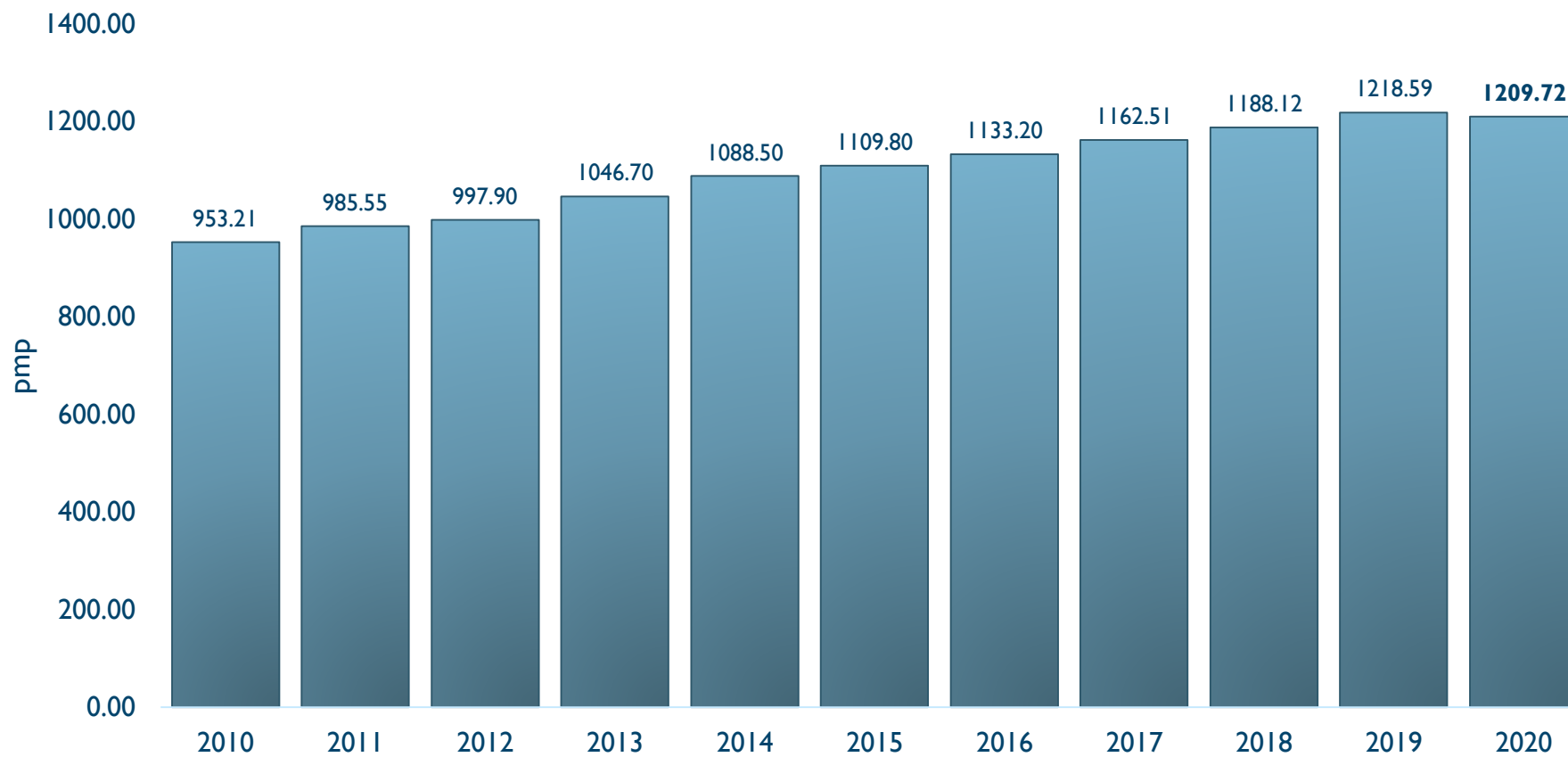
■ 65 a 80 years old (39%)

■ >80 years old (24,5%)

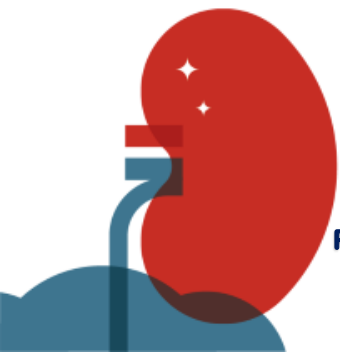
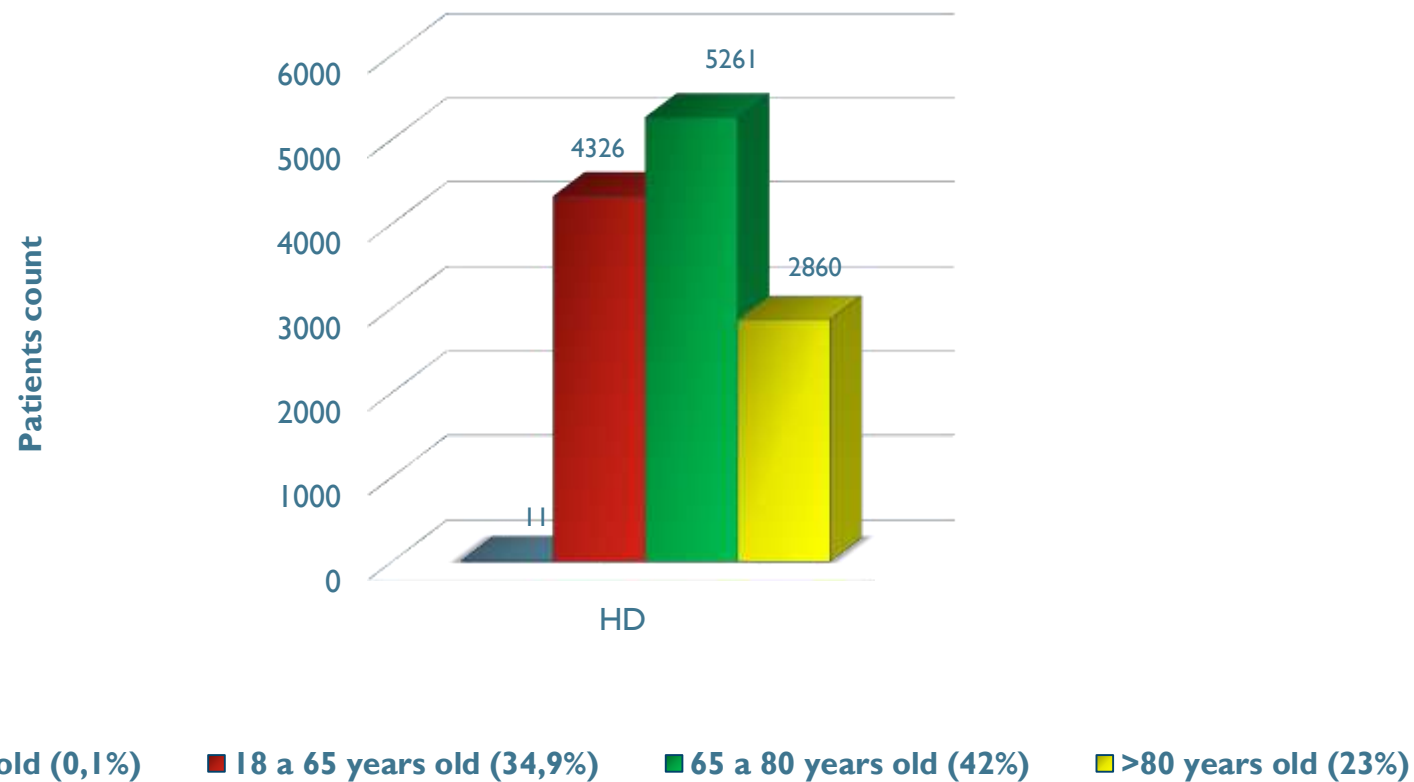
Patients treated by hemodialysis 31st of December each year, 2000 – 2020



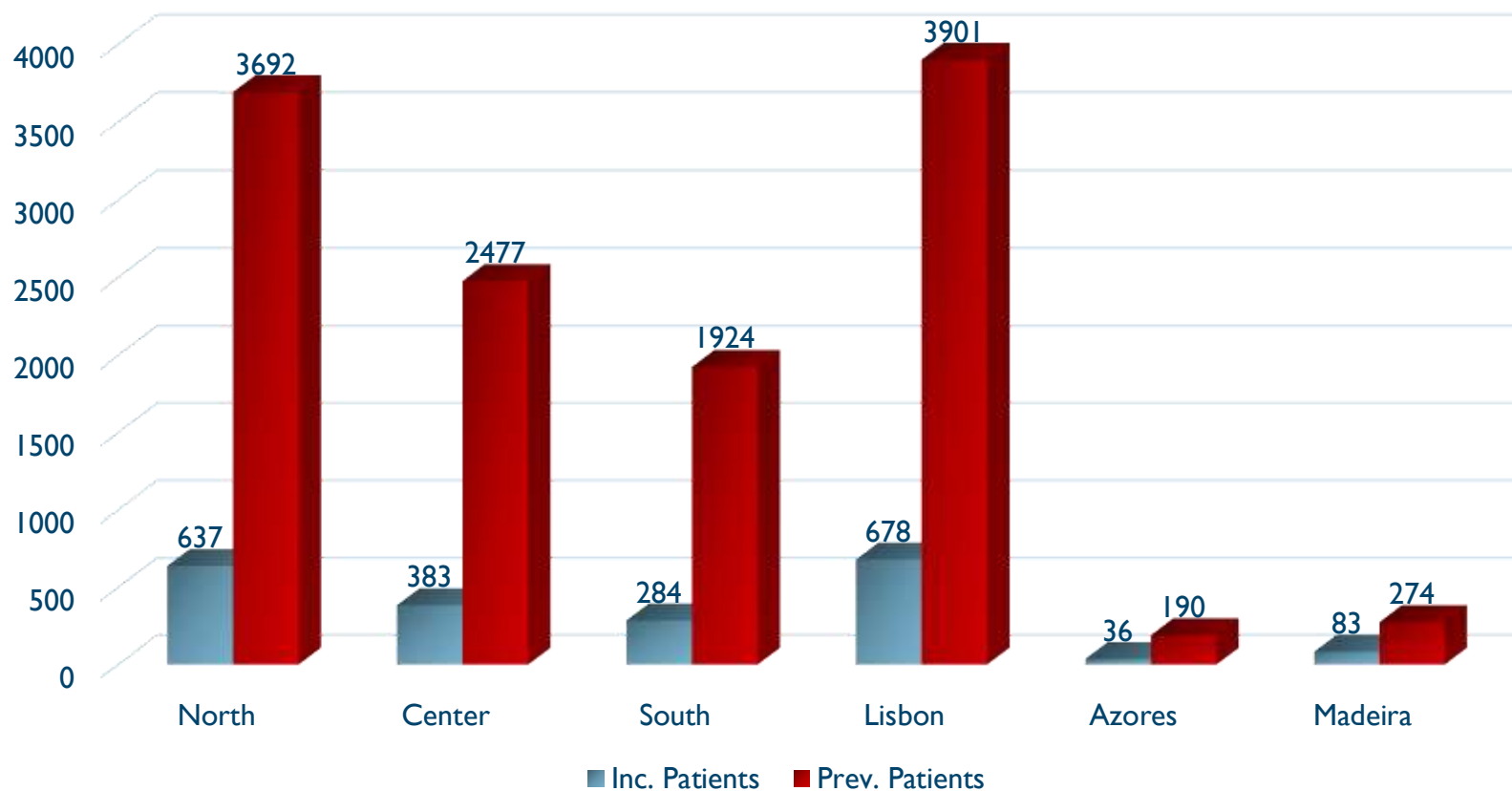
Prevalent patients treated by hemodialysis *per million population 2010 - 2020*



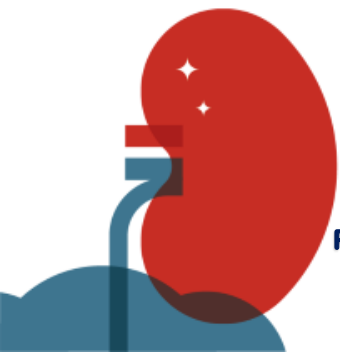
Patients treated by hemodialysis by age group, 31st December 2020



Incident and prevalent patients treated by hemodialysis *by country region, 2020*

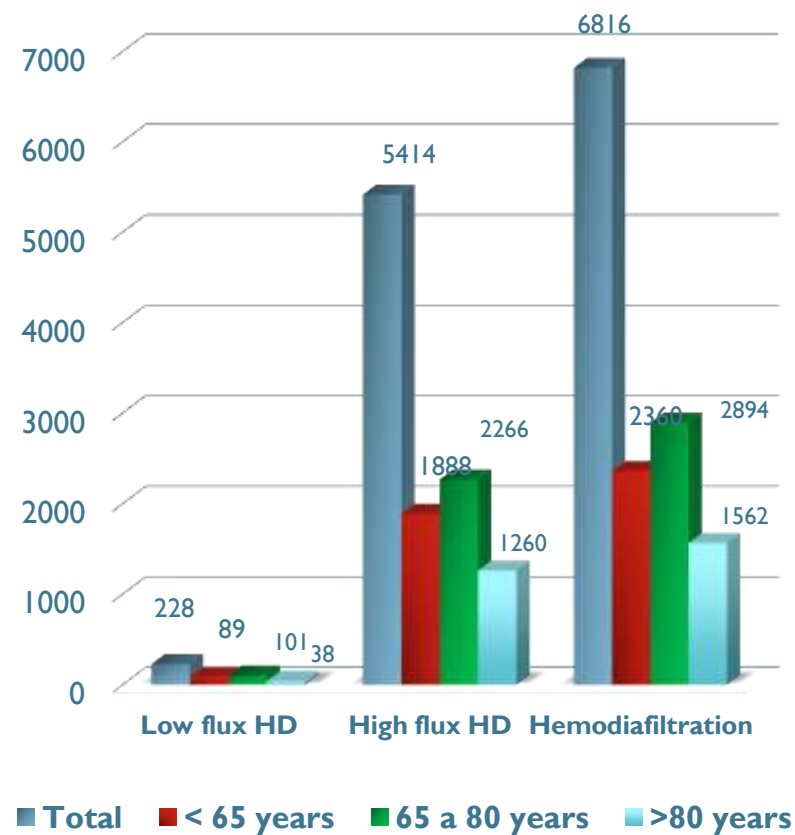


Incident and prevalent patients treated by hemodialysis *per million population by age group, 2020*

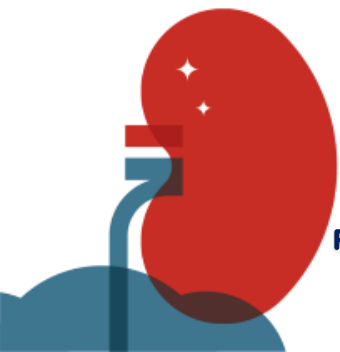


Patients treated by hemodialysis *distribution by techniques in each age group, 31st of December 2020*

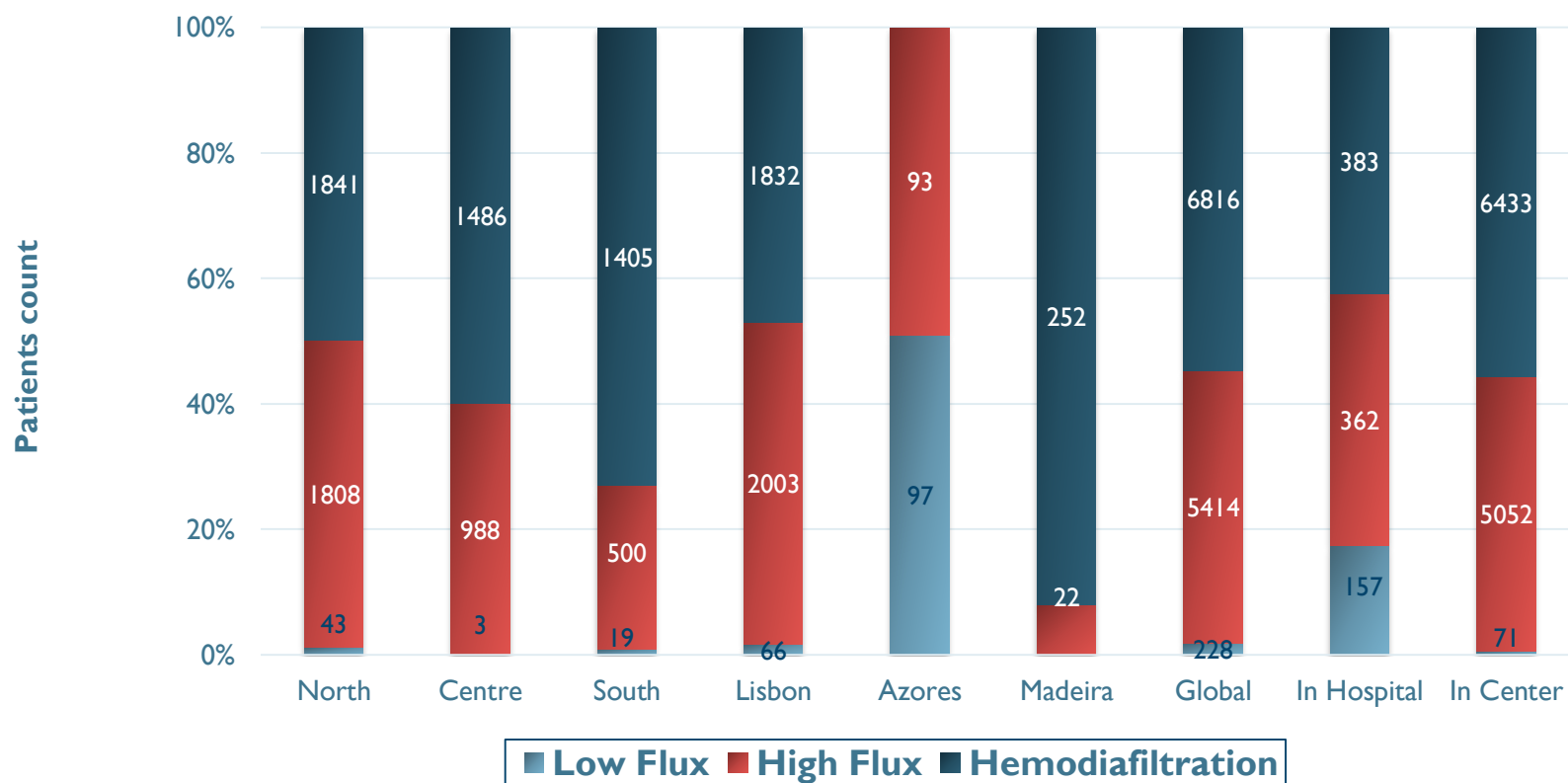
Nº patients



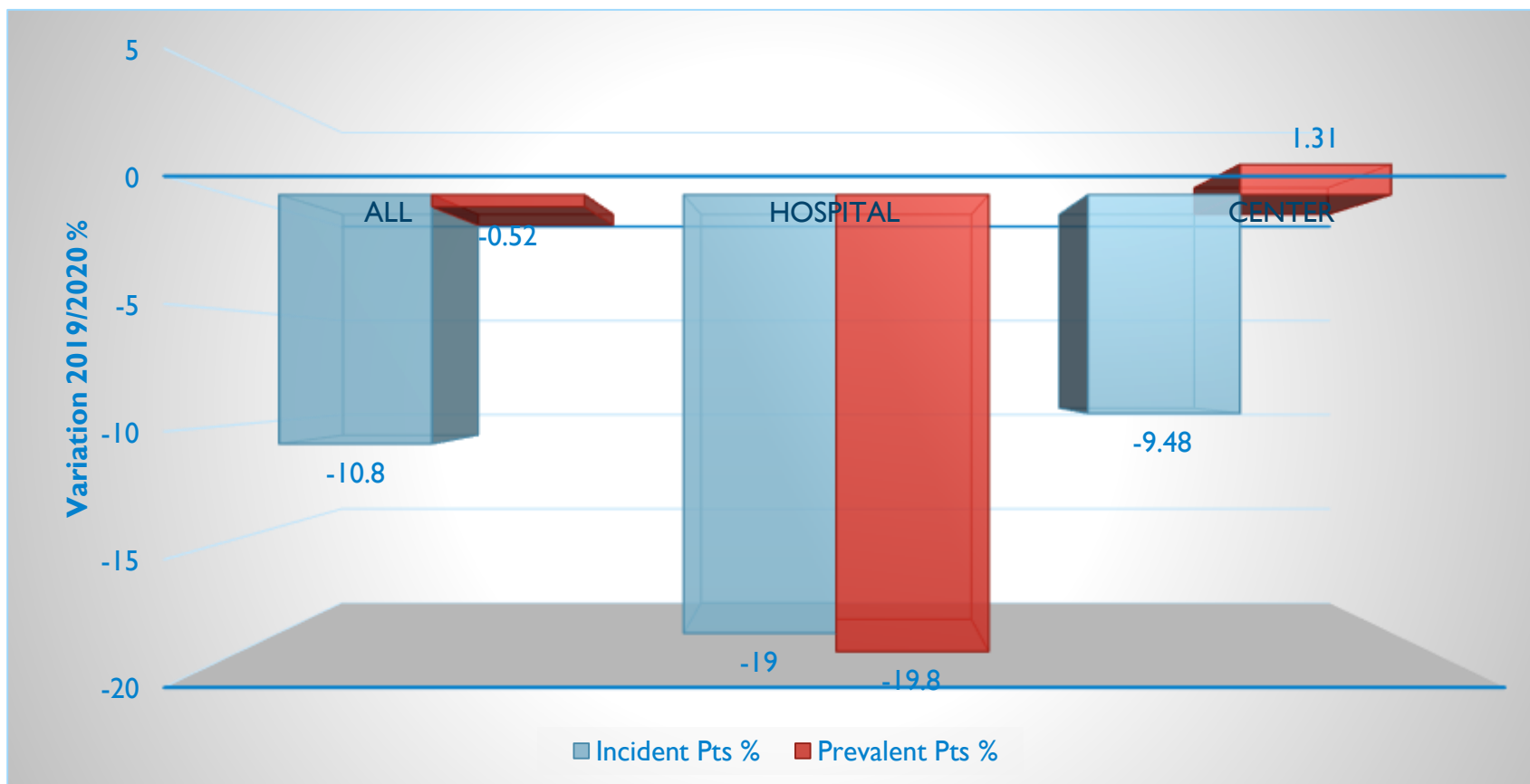
N = 12458
low flux 1,8 % (2,1 % in 2019)



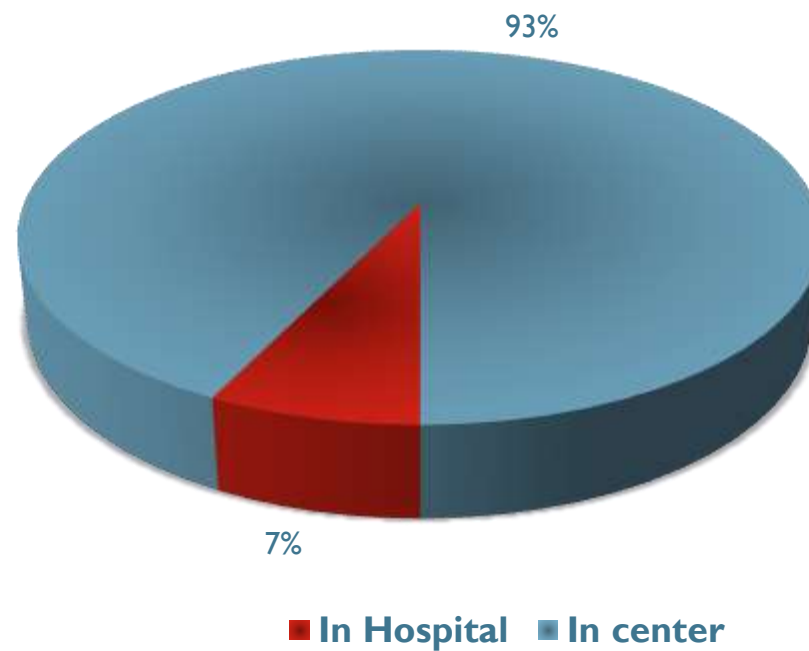
Patients treated by hemodialysis *distribution by techniques by region and facility type, 31st Dec. 2020*



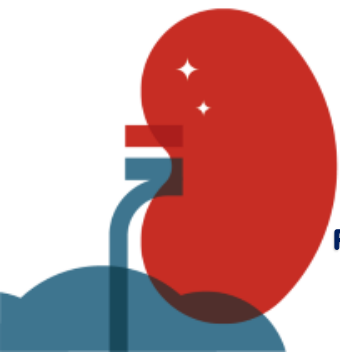
Hemodialysis growth 2020 vs 2019 (%) *31st of December each year*



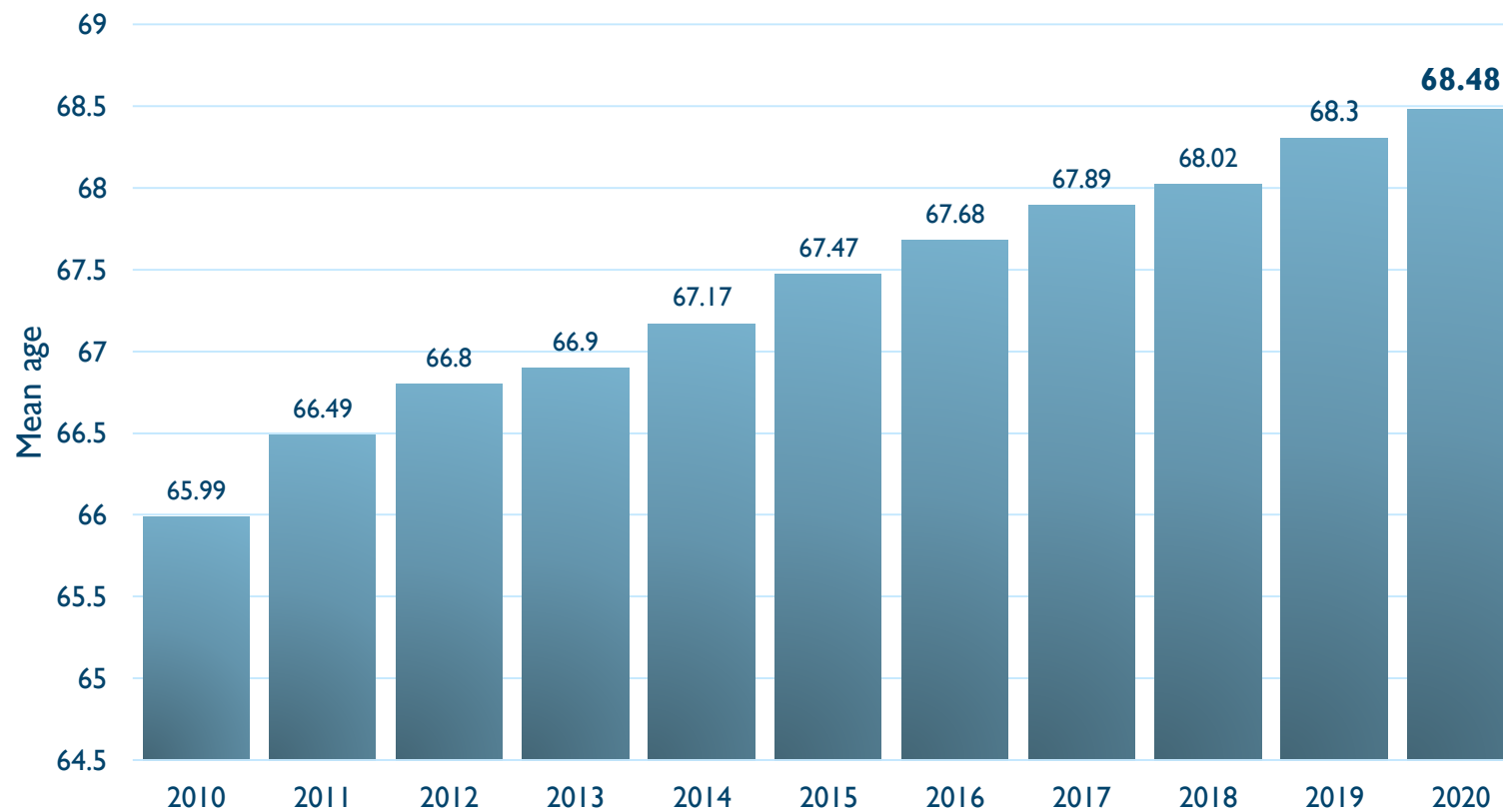
Distribution of hemodialysis patients by type of dialysis facility 31st of December 2020



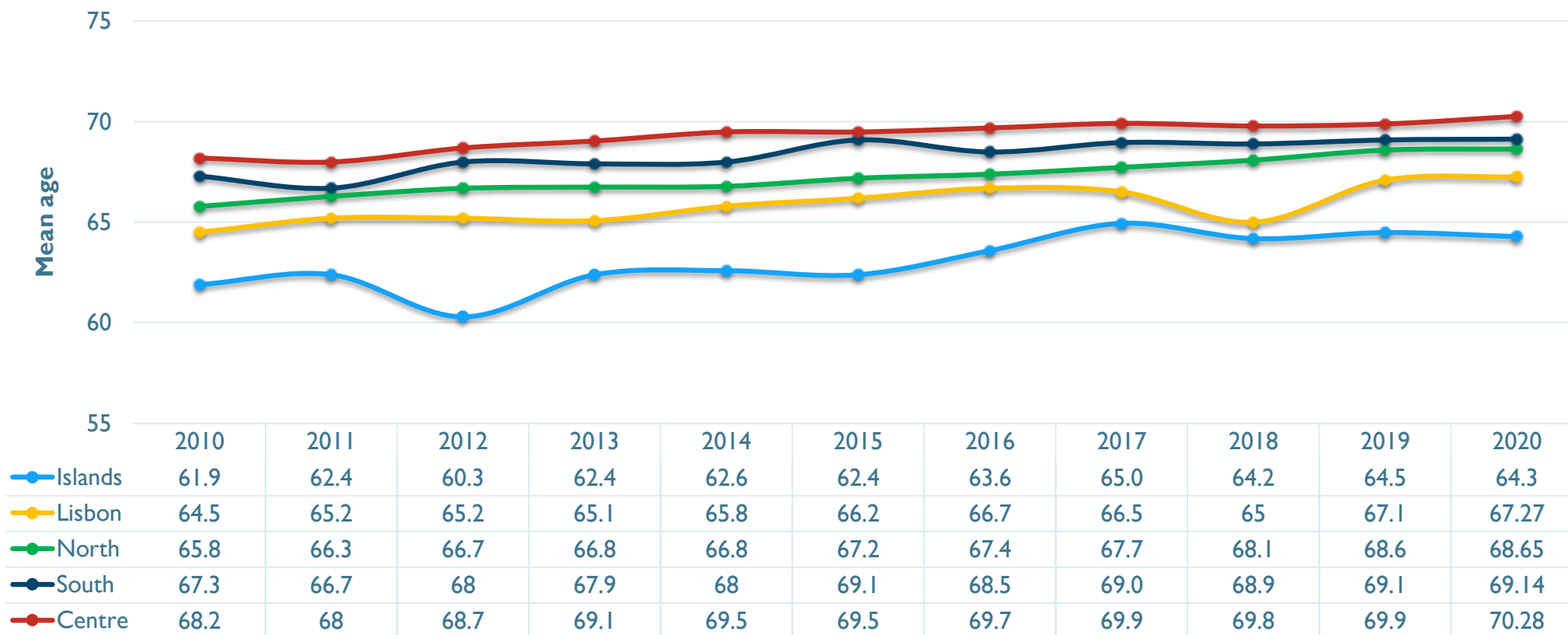
N = 12458
In Hospital: 902
In Center: 11556



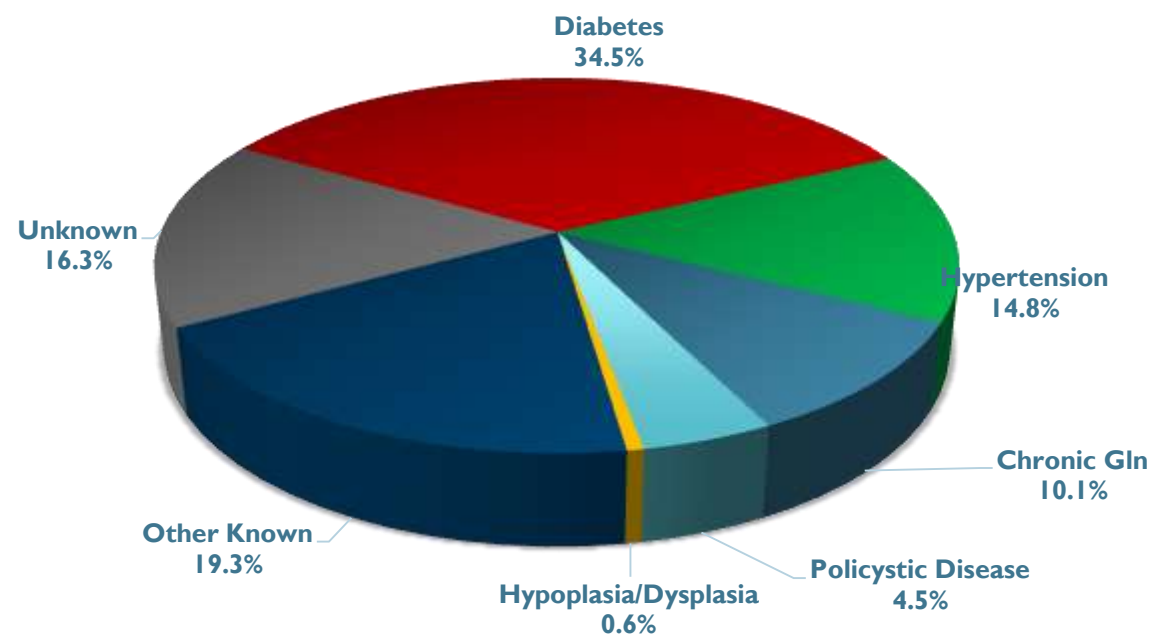
Mean Age of patients treated by hemodialysis 31st of December 2010 – 2020



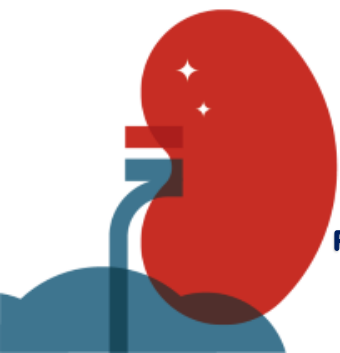
Mean Age of patients treated by hemodialysis by country region, 31st of December 2010 – 2020



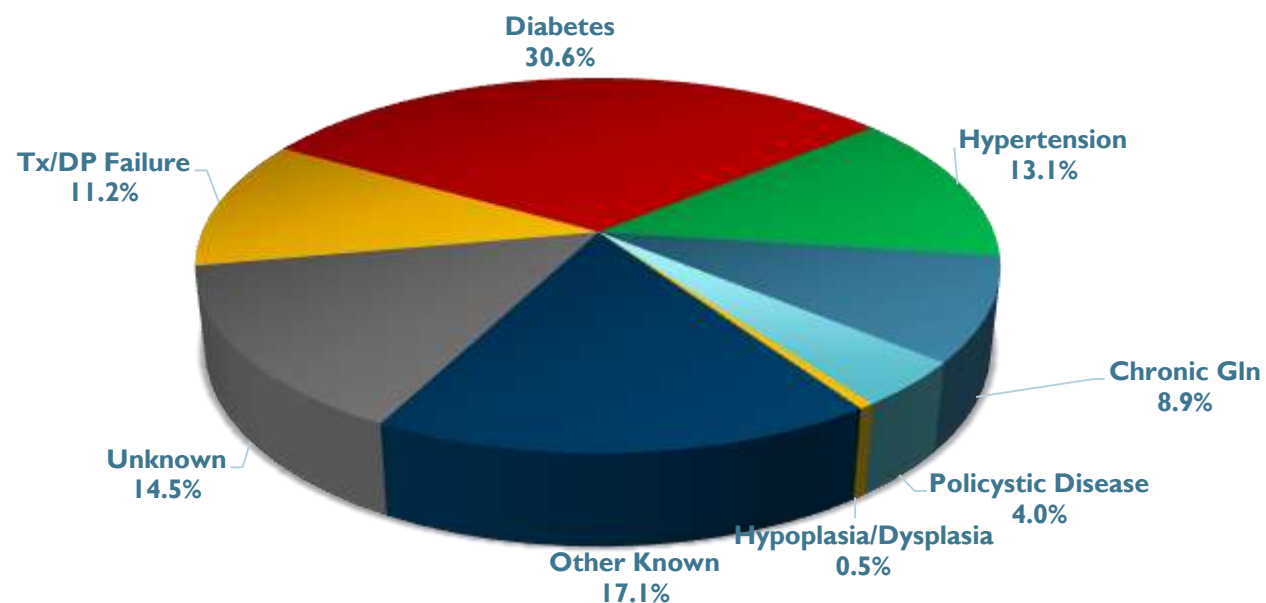
Primary renal disease of patients accepted for hemodialysis during 2020



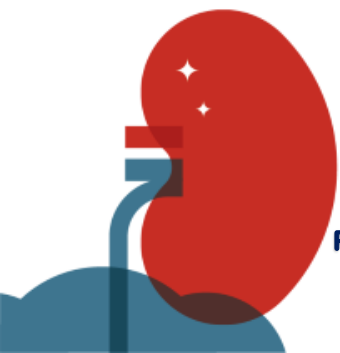
N = 2094
7 not available



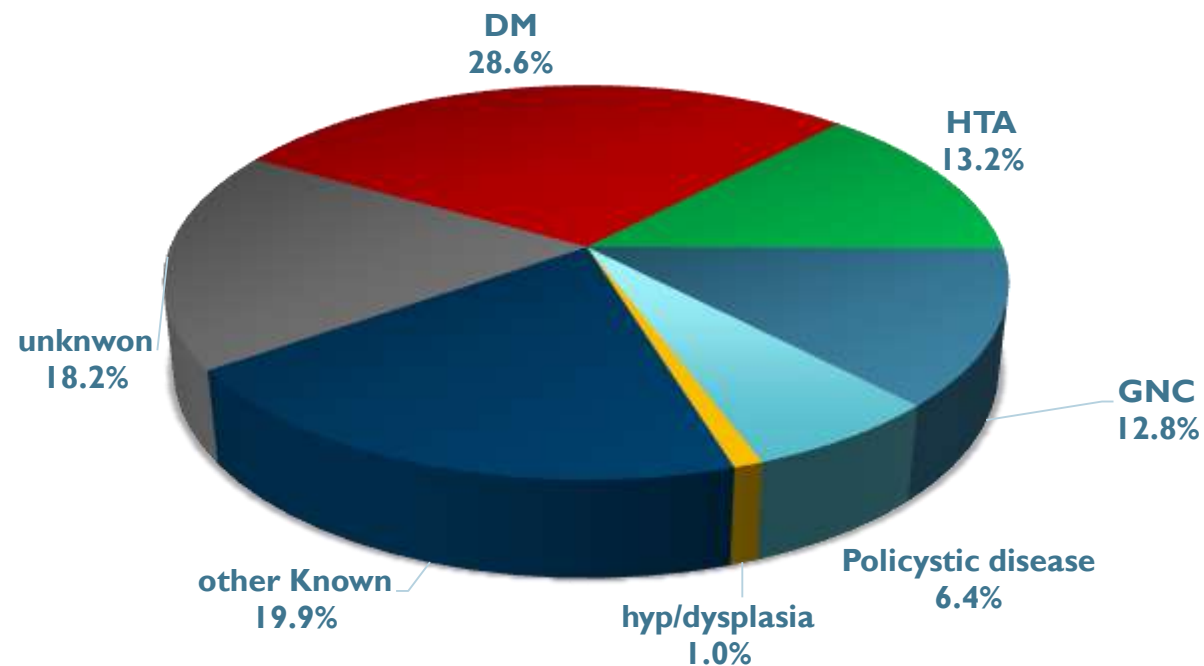
Etiology of All patients accepted for hemodialysis during 2020



N = 2358
7 not available

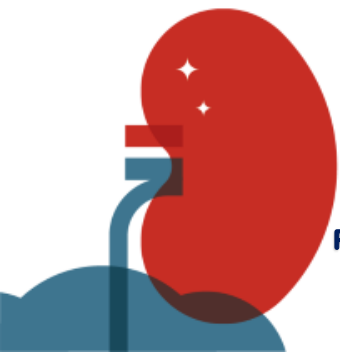
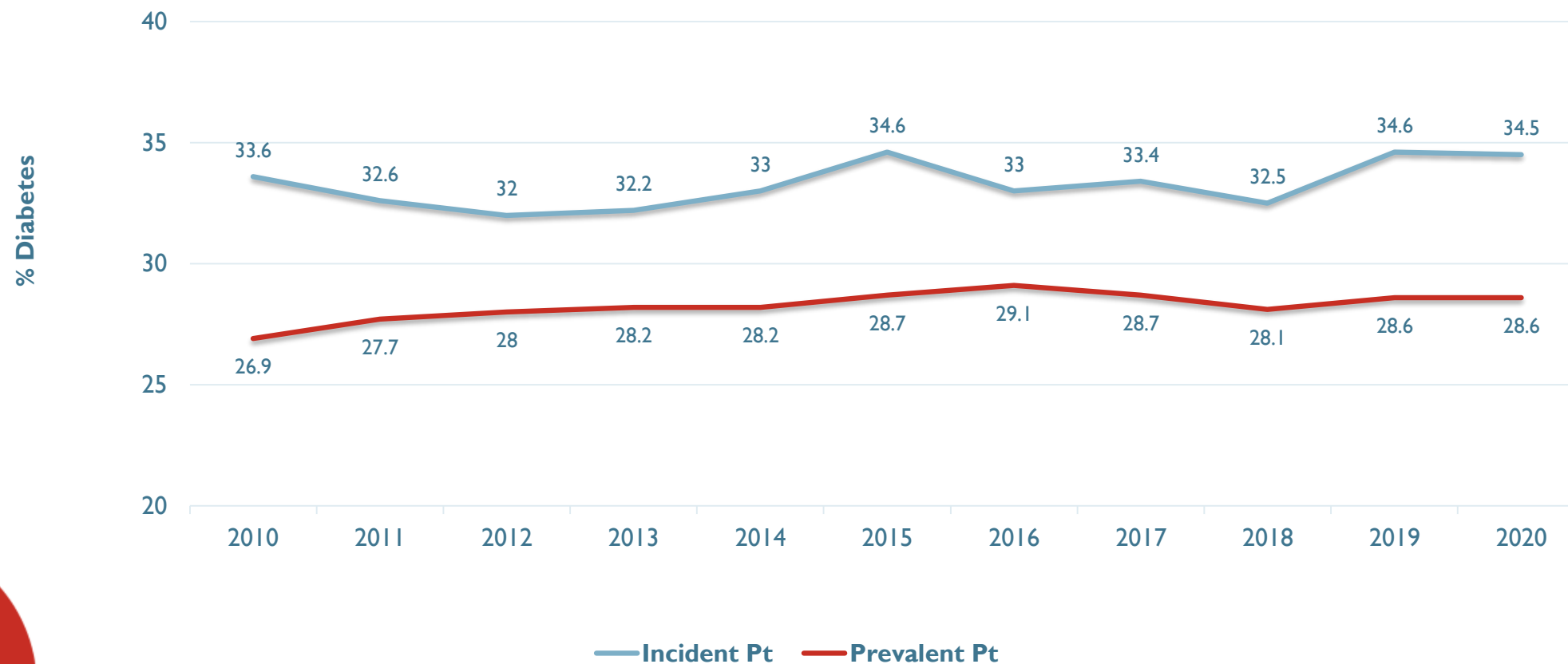


Primary renal disease of prevalent hemodialysis patients 31st December 2020

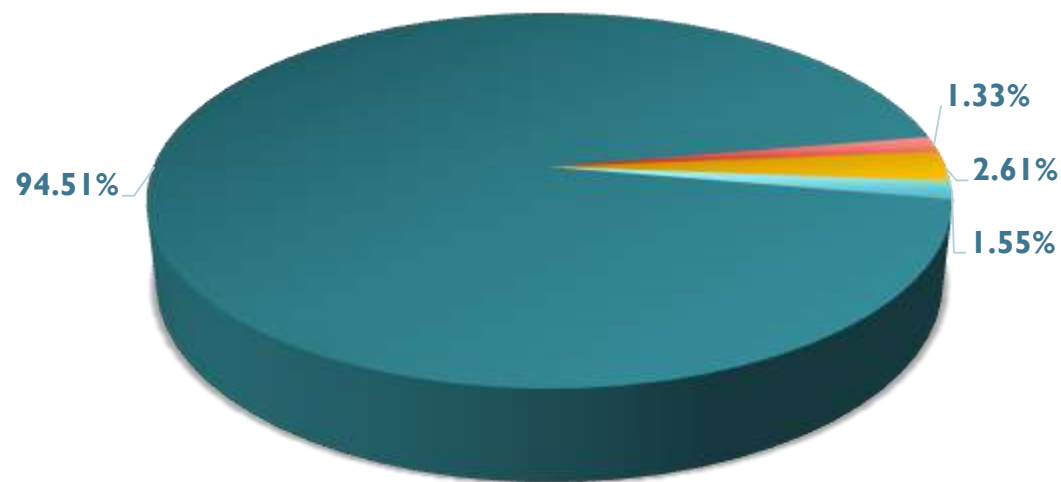


N = 12410
19 not available

Diabetes as primary renal disease in HD patients Incident and prevalent (%) 2010 - 2020

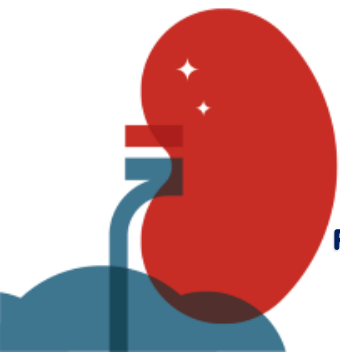


Viral status in HD prevalent patients 31st December 2020

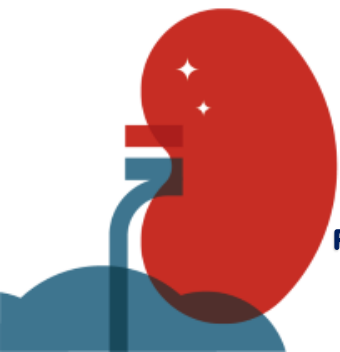
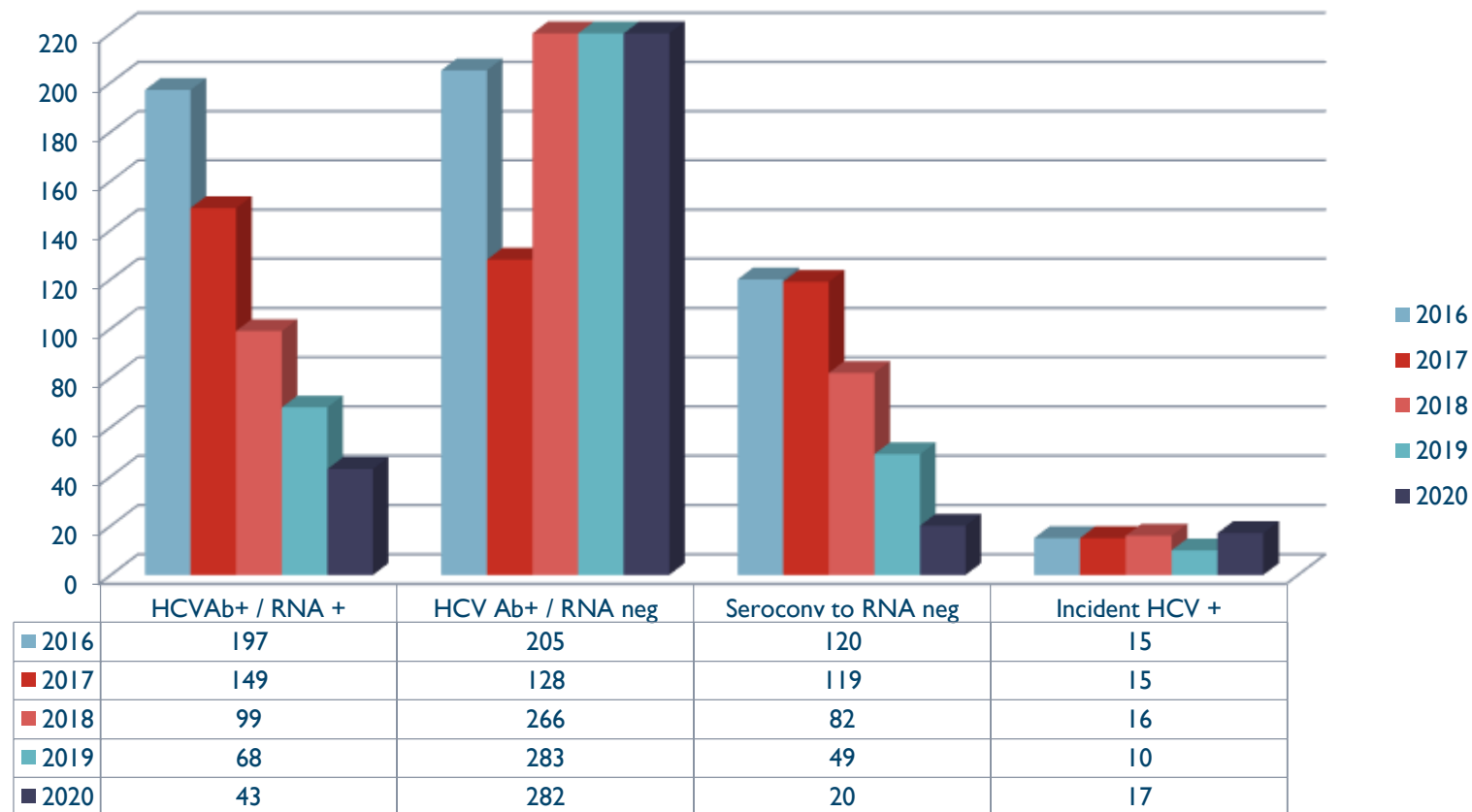


■ Neg ■ Hbs Ag + ■ HCV Ab + ■ HIV Ab +

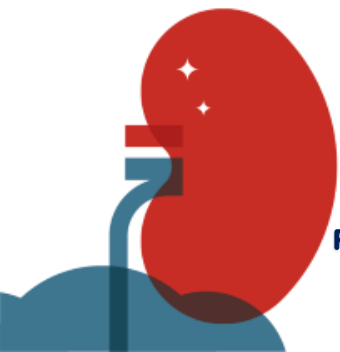
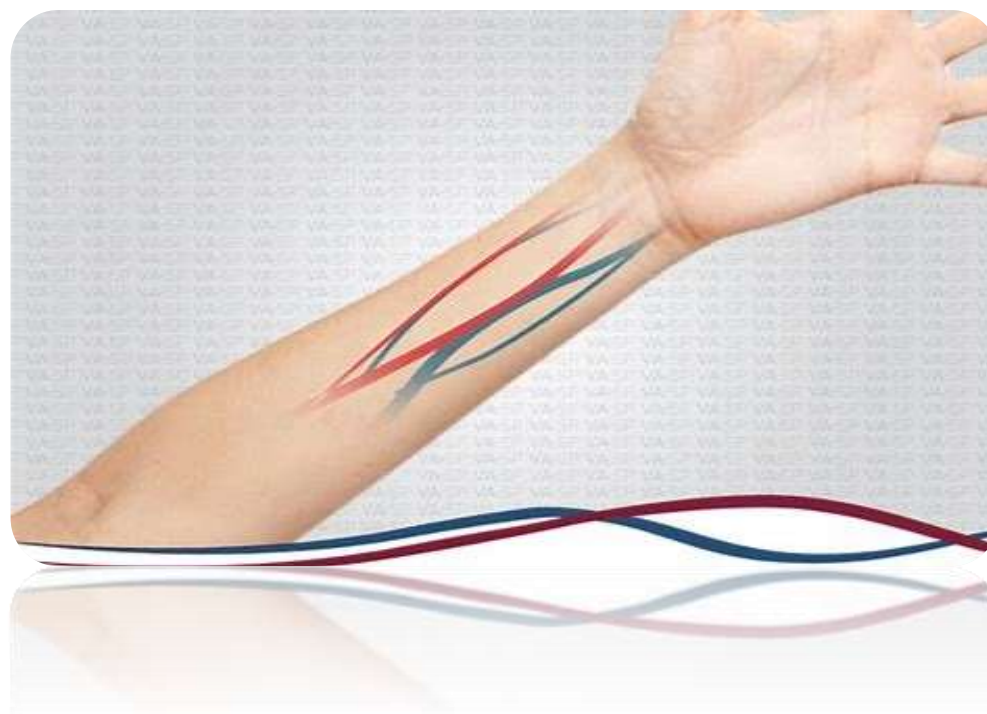
N = 12458



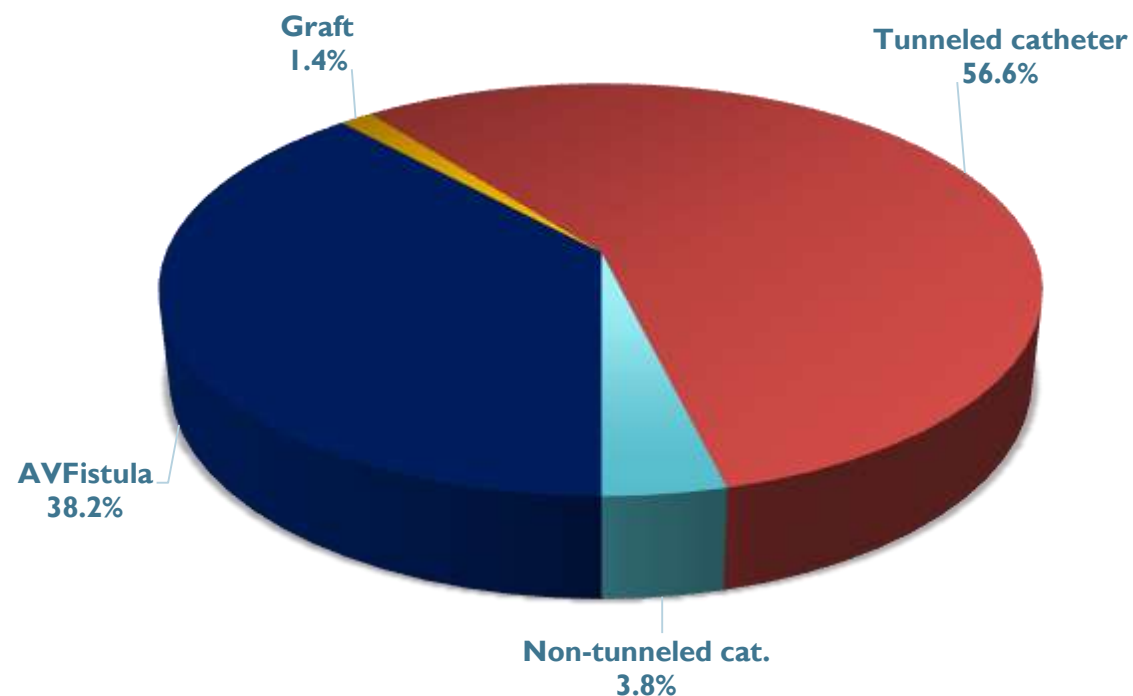
Hepatitis C viral status in HD prevalent pts 31st December 2016 – 2017 – 2018 – 2019 - 2020



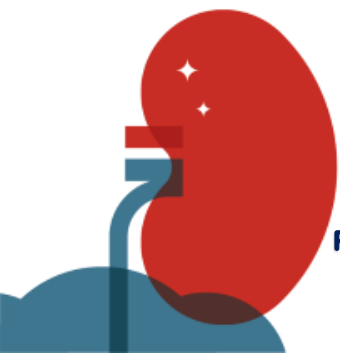
Vascular access



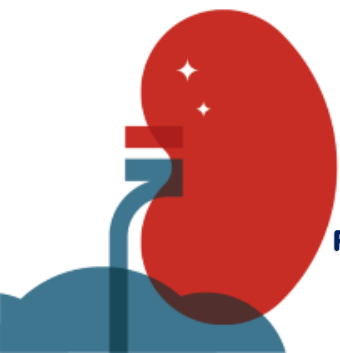
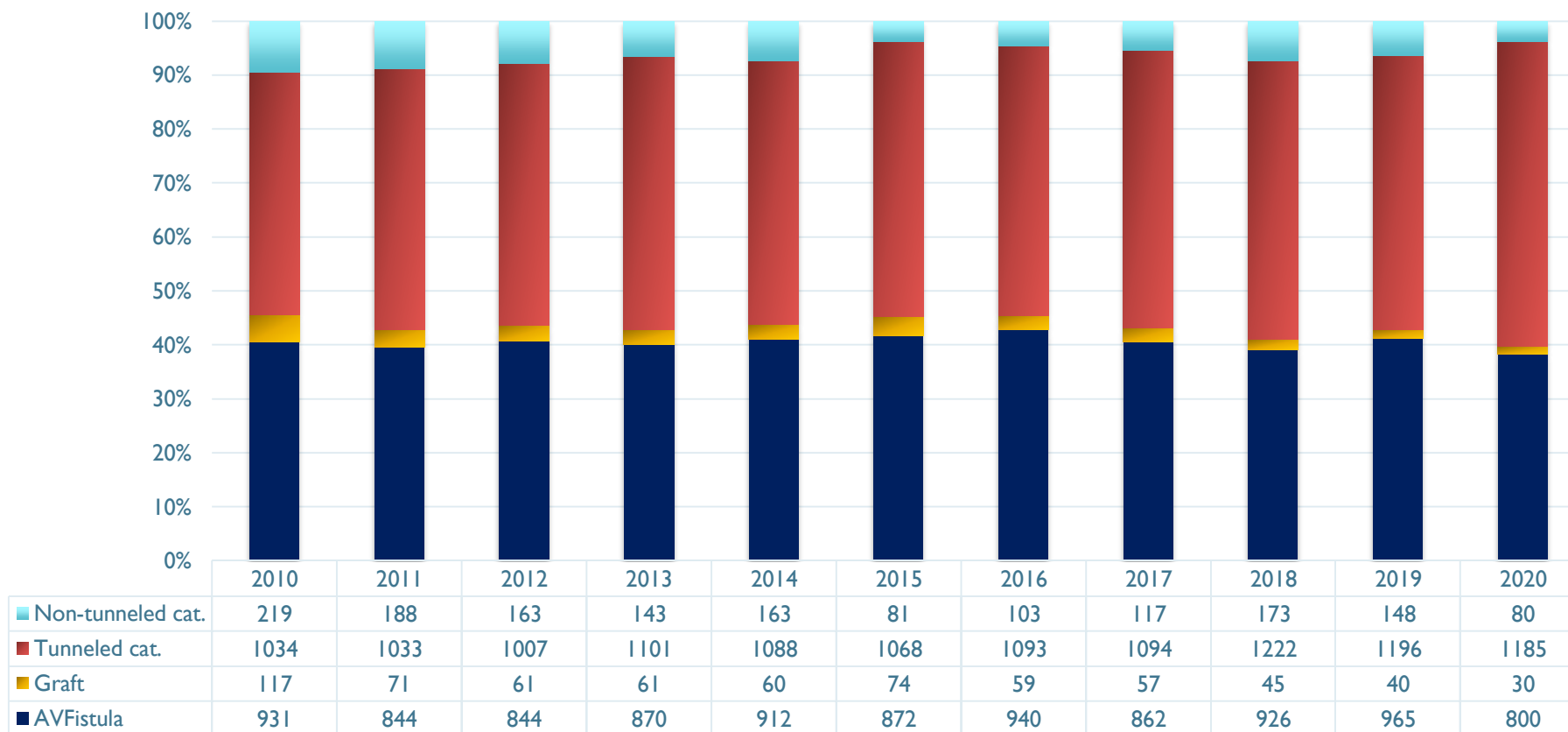
Vascular access of HD incident patients during 2020



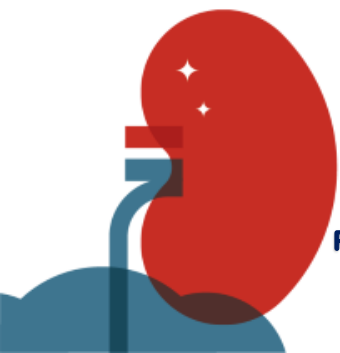
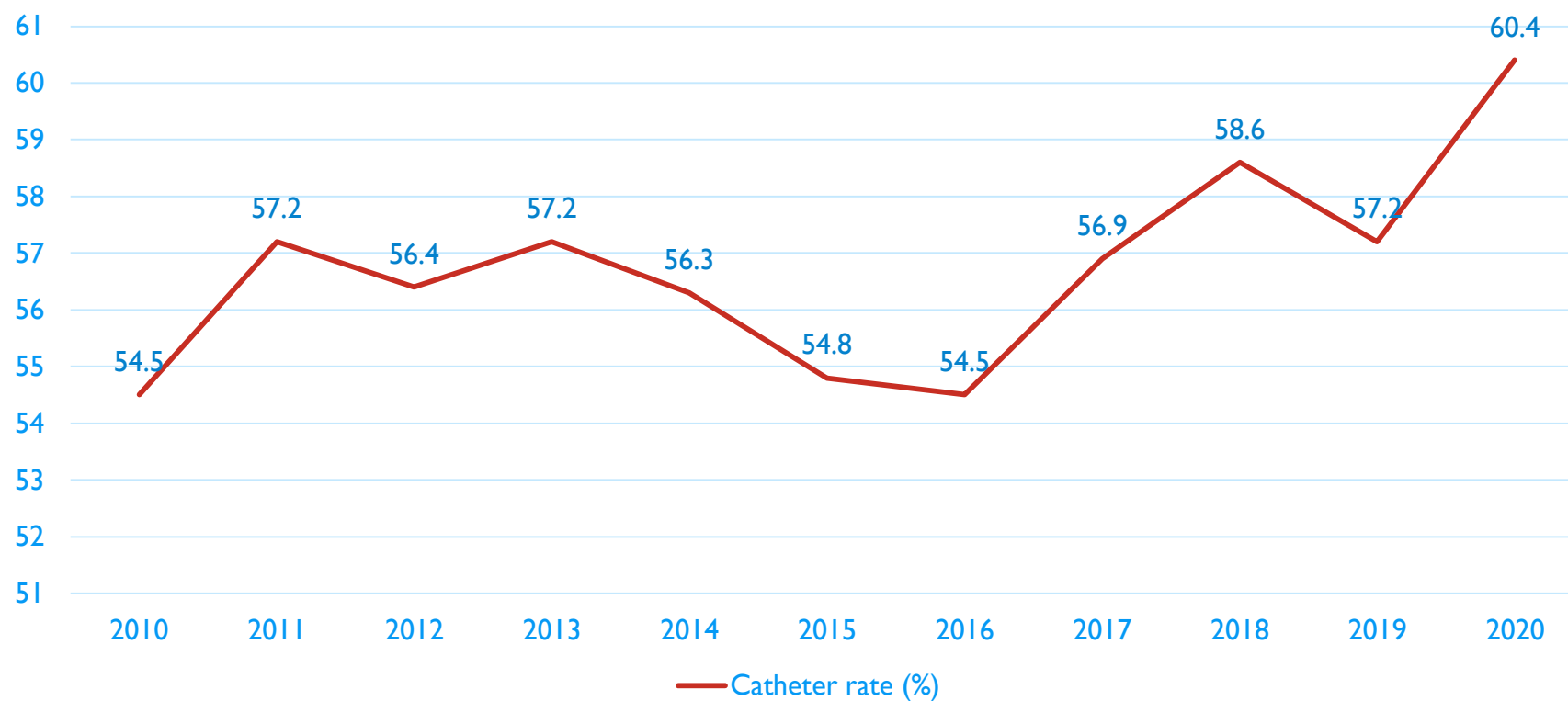
N = 2095
6 unavailable



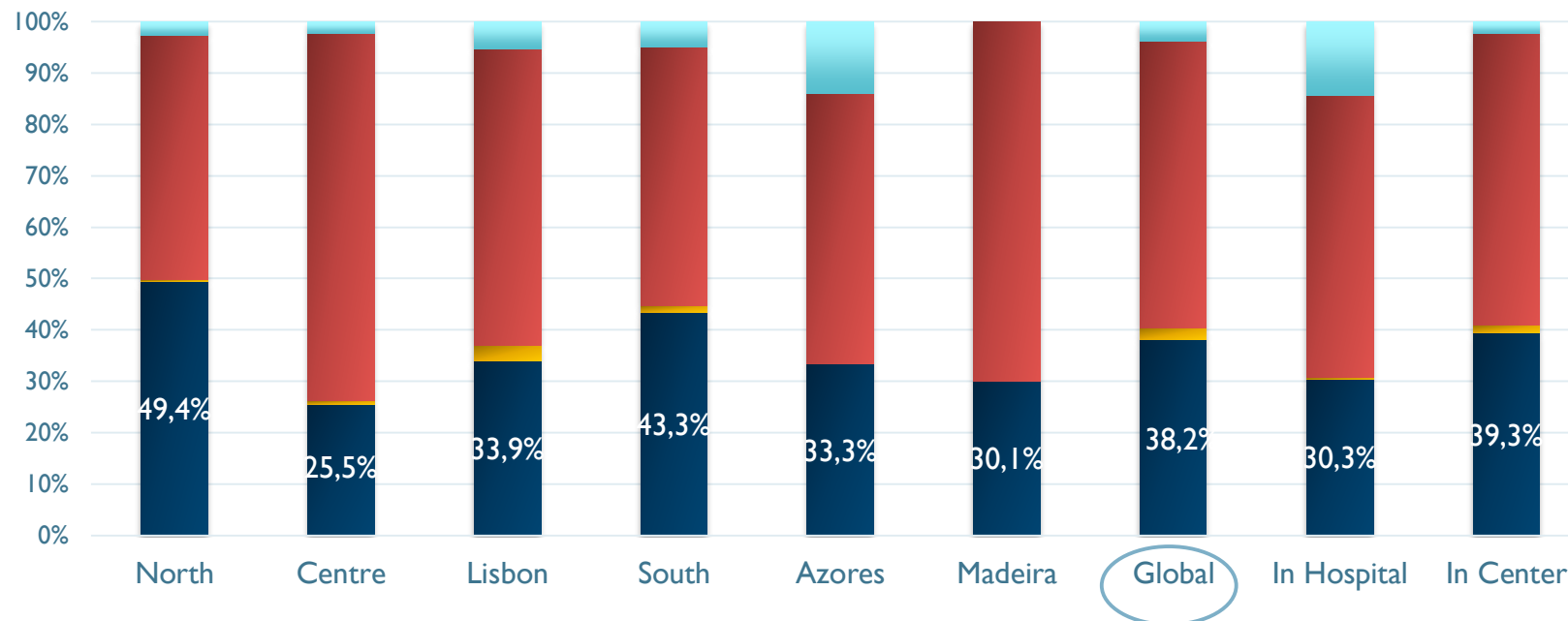
Vascular access of HD incident patients 2010 – 2020



Catheter rate (%) in the first HD session of incident patients 2010 – 2020



Vascular access of HD incident patients by country region and facility type



N = 2095
6 not available

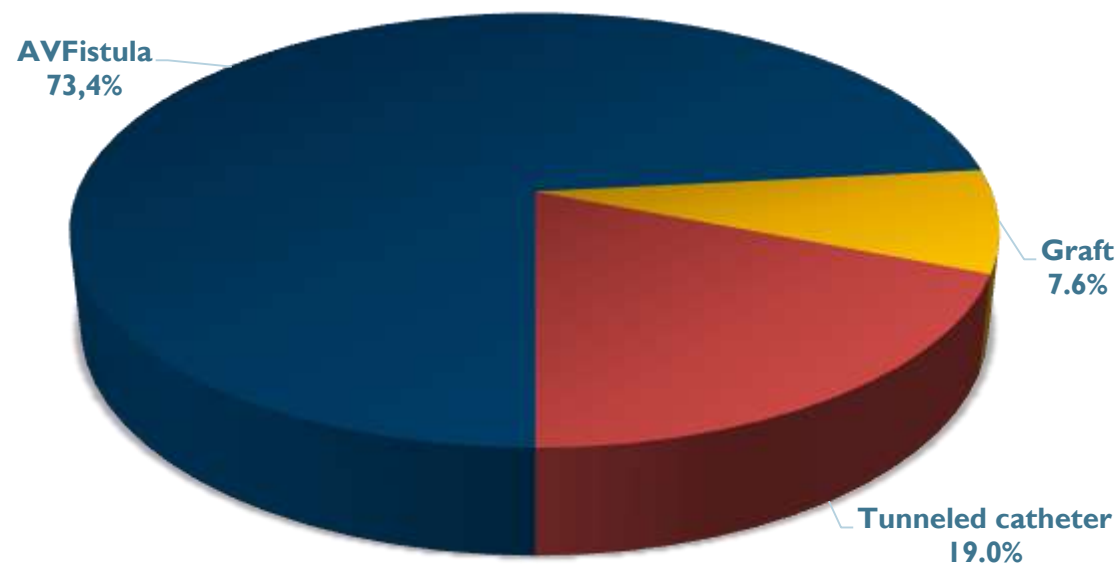
■ AVFistula

■ Graft

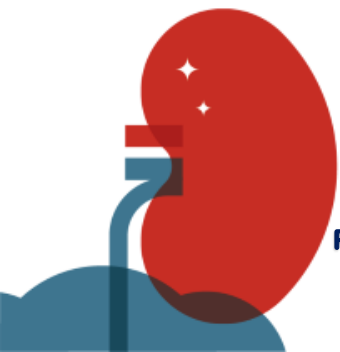
■ Tunneled Catheter

■ Non-tunneled Cat.

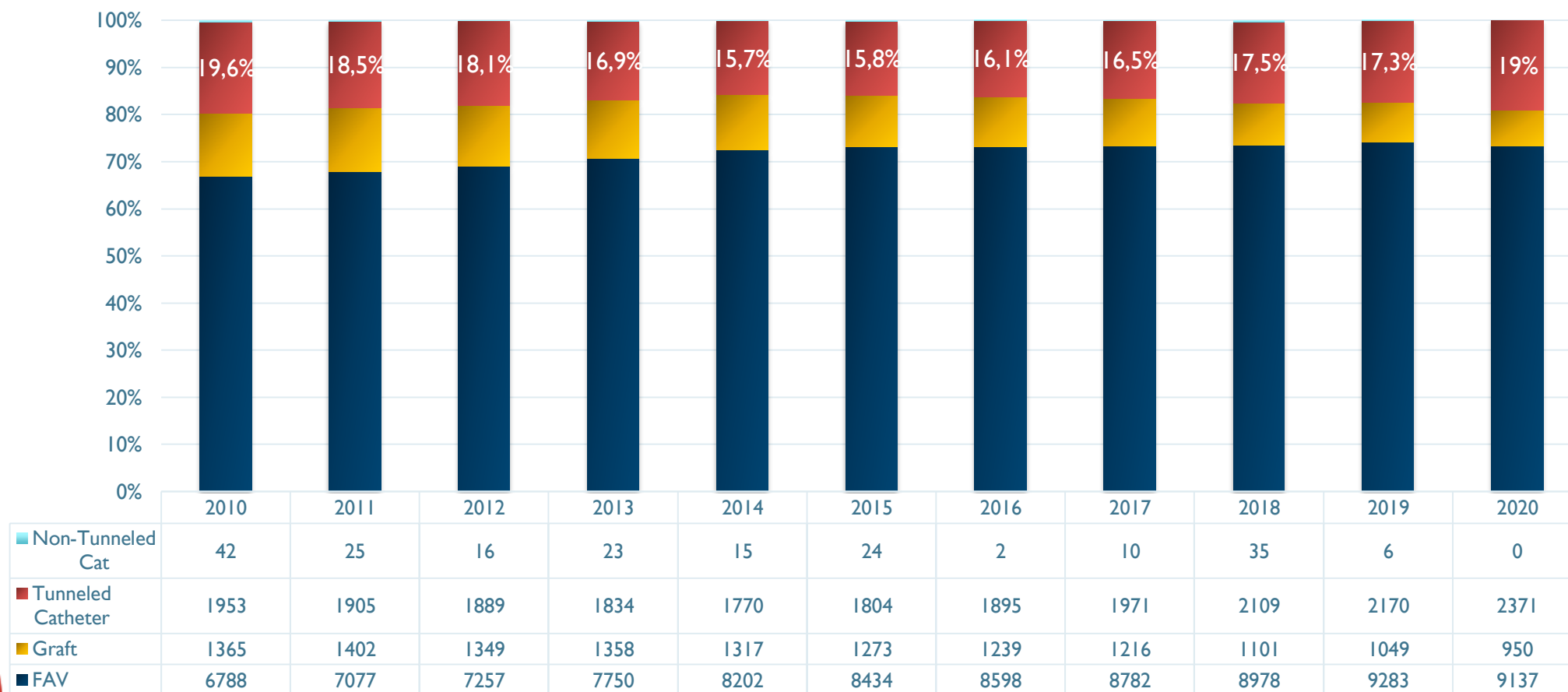
Vascular access of HD prevalent patients 31st December 2020



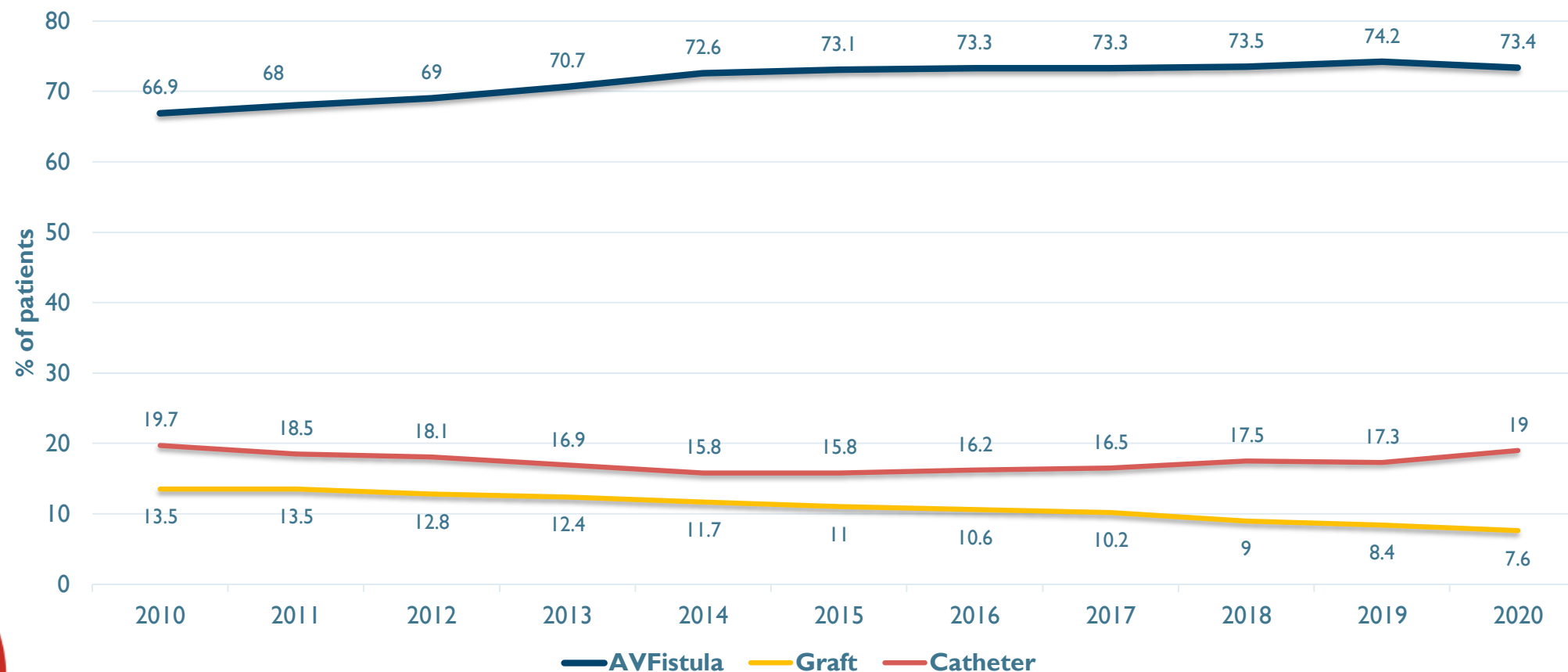
N = 12458



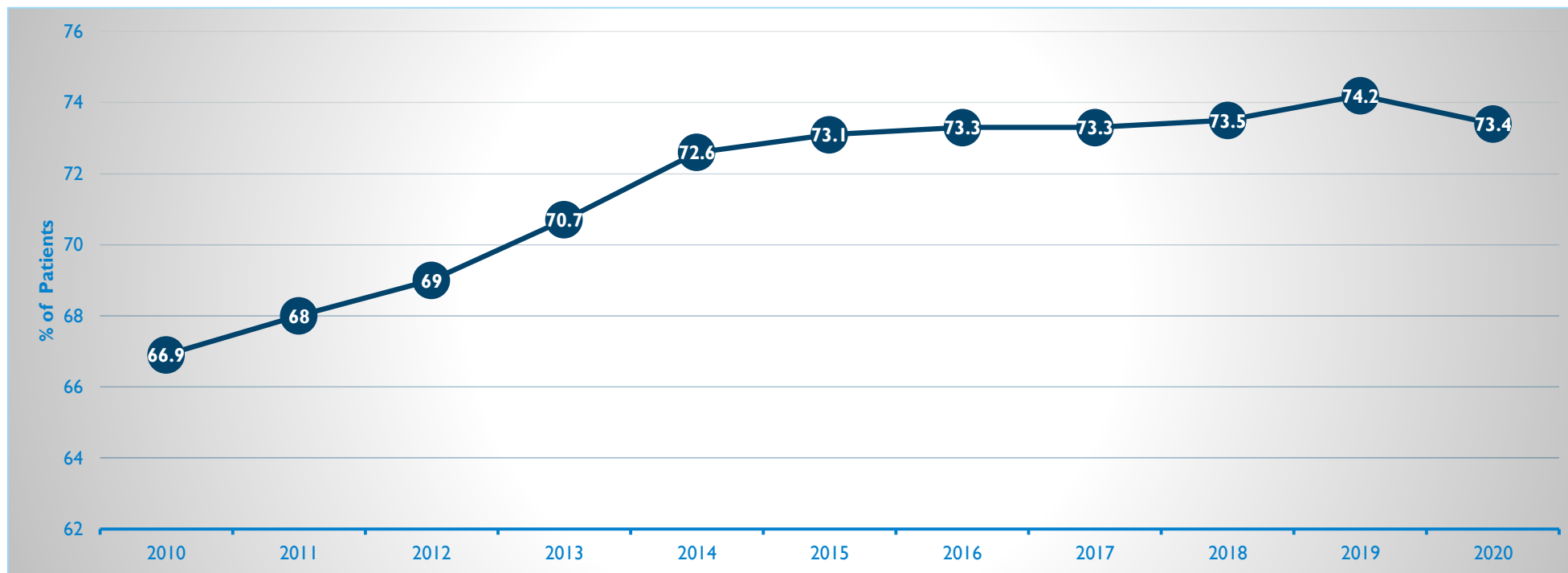
Vascular access of HD prevalent patients 31st December, 2010 - 2020



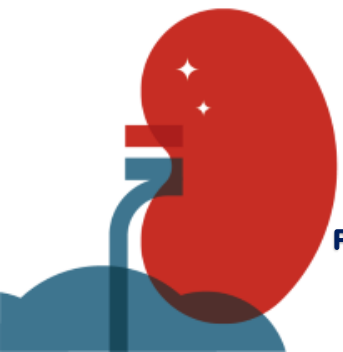
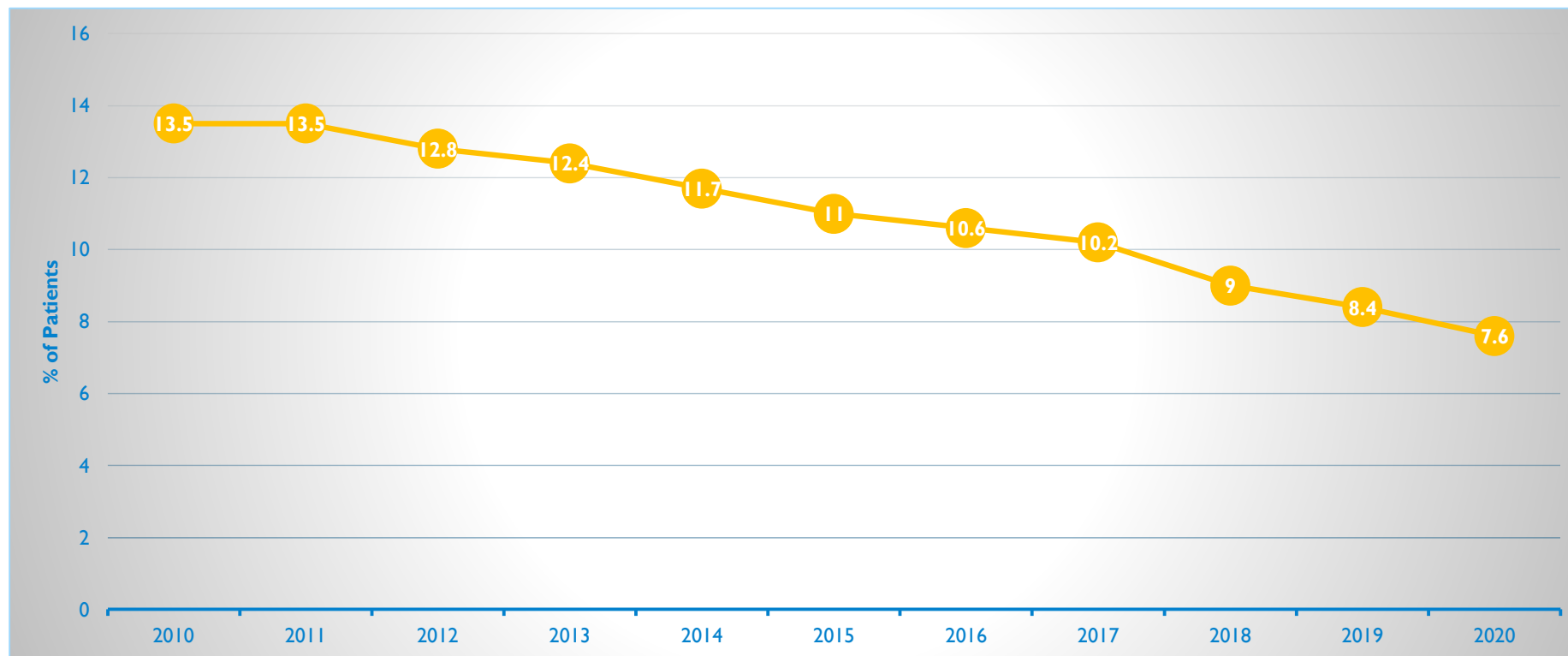
Vascular access of prevalent patients (%) 31st December, 2010 - 2020



AV Fistula rate of prevalent patients (%) 31st December, 2010 - 2020

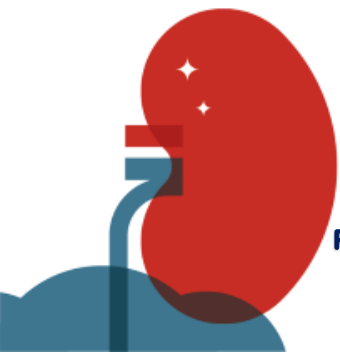
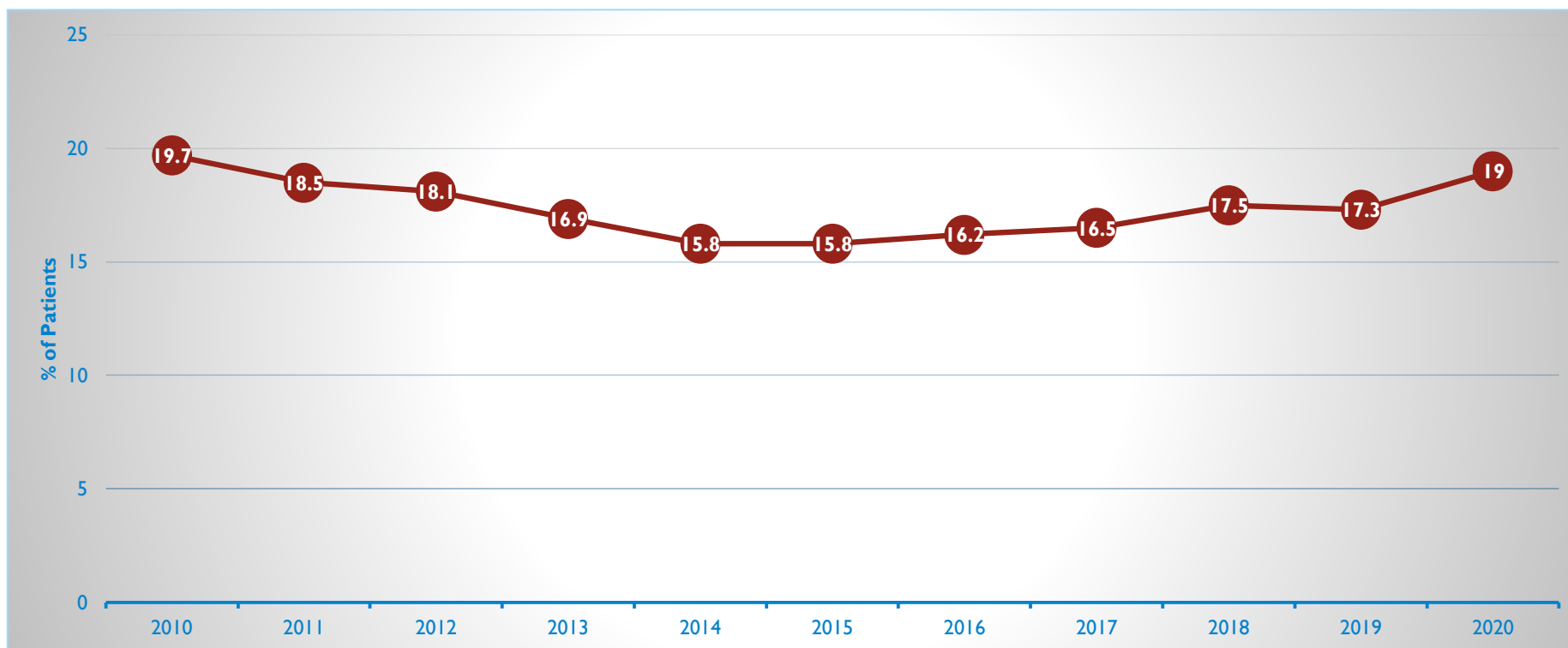


Graft rate of prevalent patients (%) 31st December, 2010 - 2020

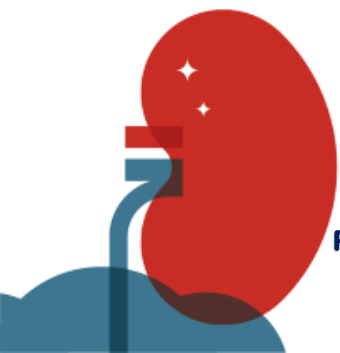
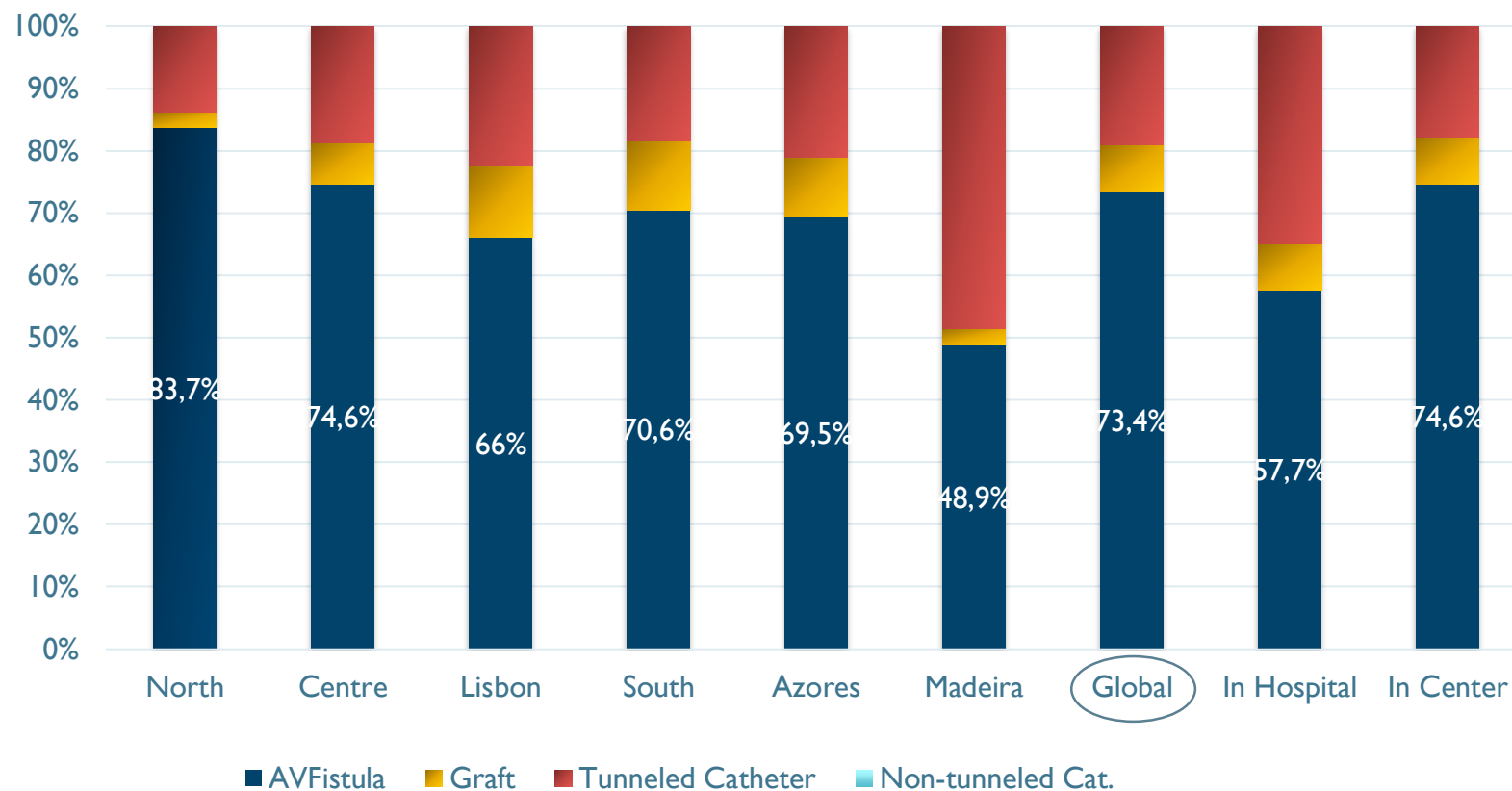


Catheter rate of prevalent patients (%)

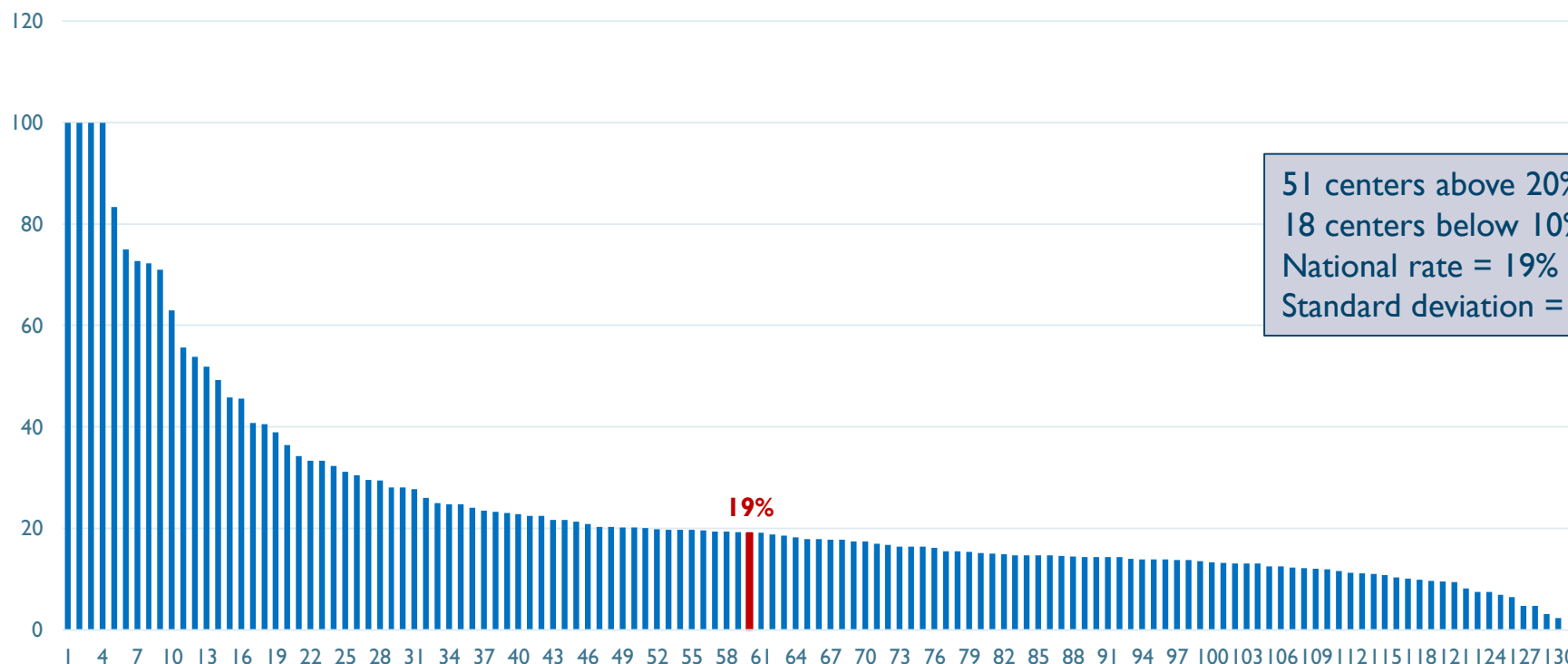
31st December, 2010 - 2020



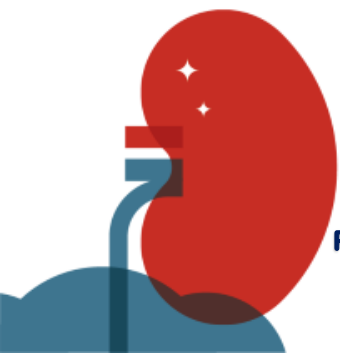
Vascular access of HD prevalent patients by country region and facility type, 31st of December 2020



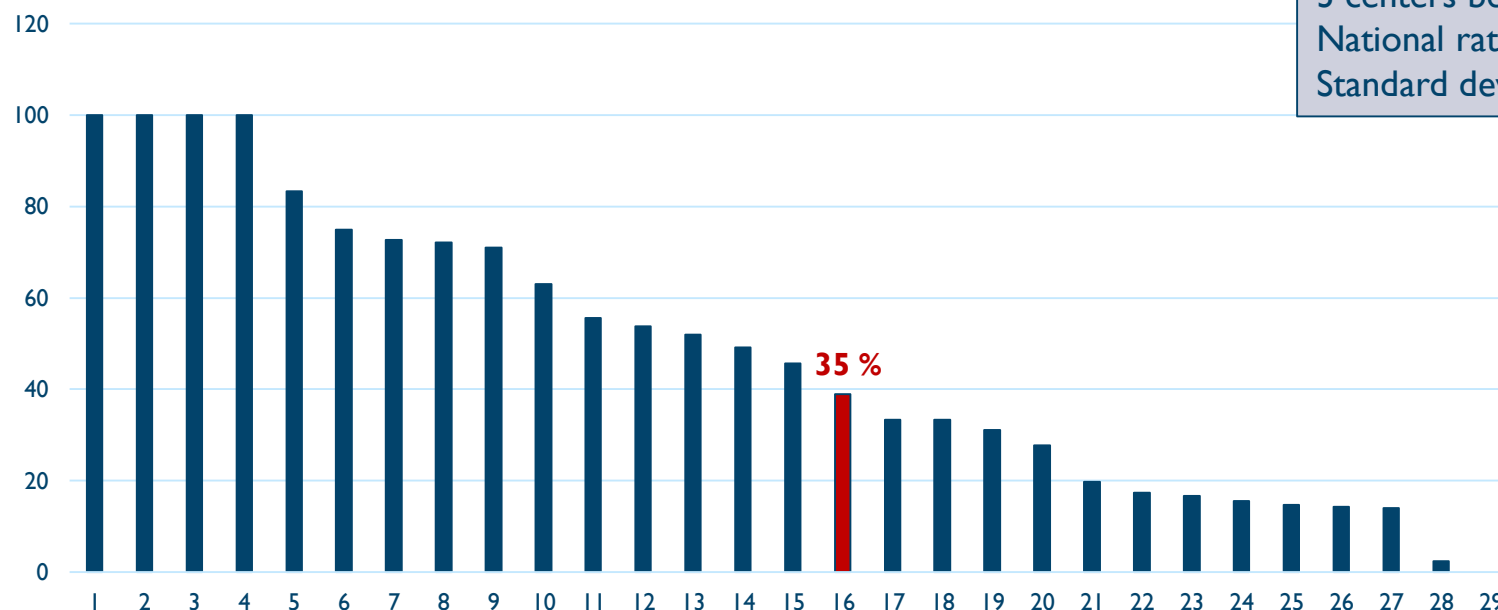
Catheter rate of prevalent patients (%) 31st December 2020



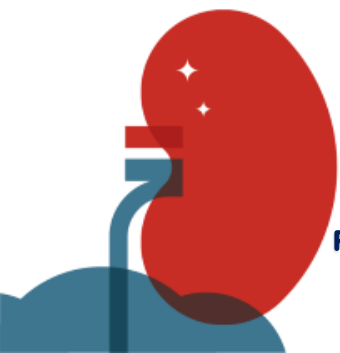
51 centers above 20% cat rate
18 centers below 10% cat rate
National rate = 19%
Standard deviation = 4,1



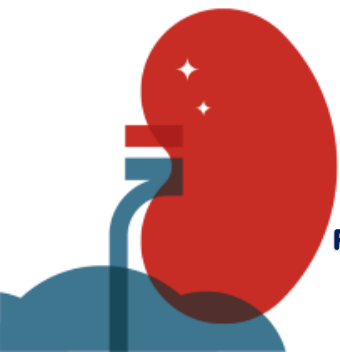
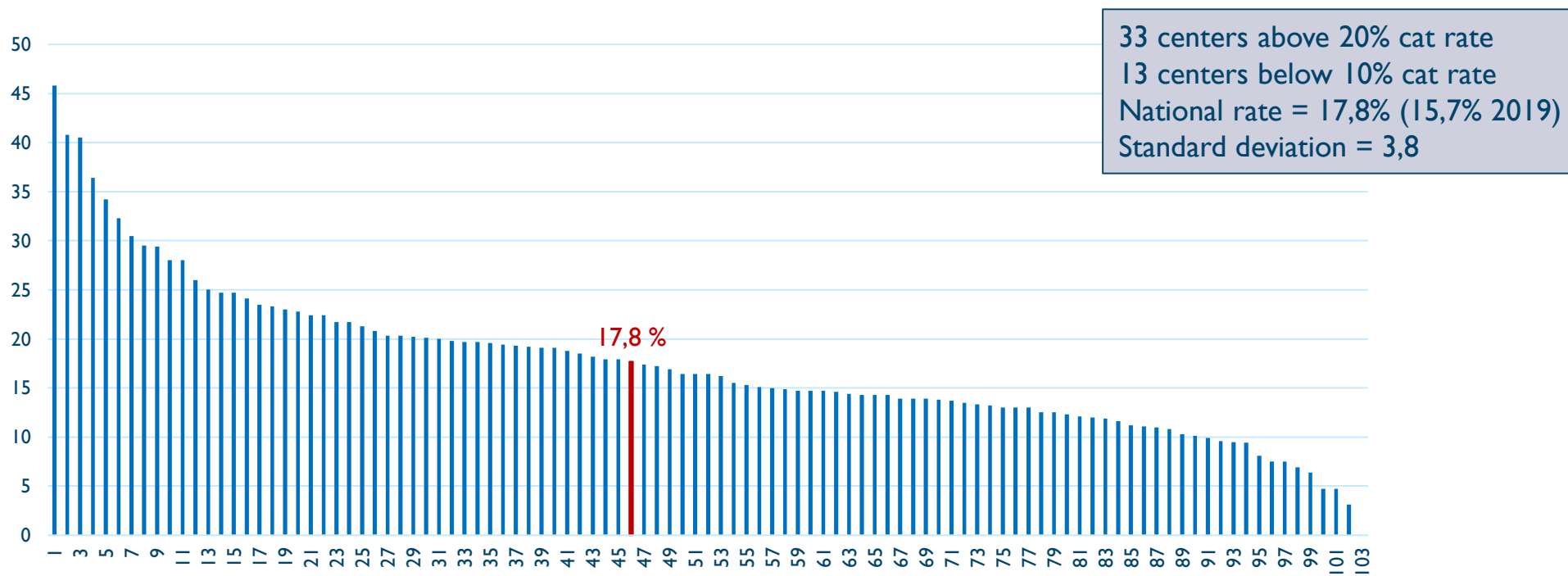
Catheter rate of prevalent patients (%) *In Hospital HD patients - 2020*



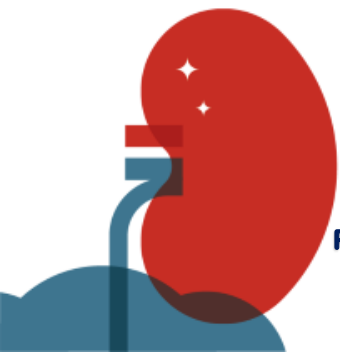
20 centers above 20% cat rate
3 centers below 10% cat rate
National rate = 35 %
Standard deviation = 21,3



Catheter rate of prevalent patients (%) *In Center HD patients - 2020*



Mortality - hemodialysis

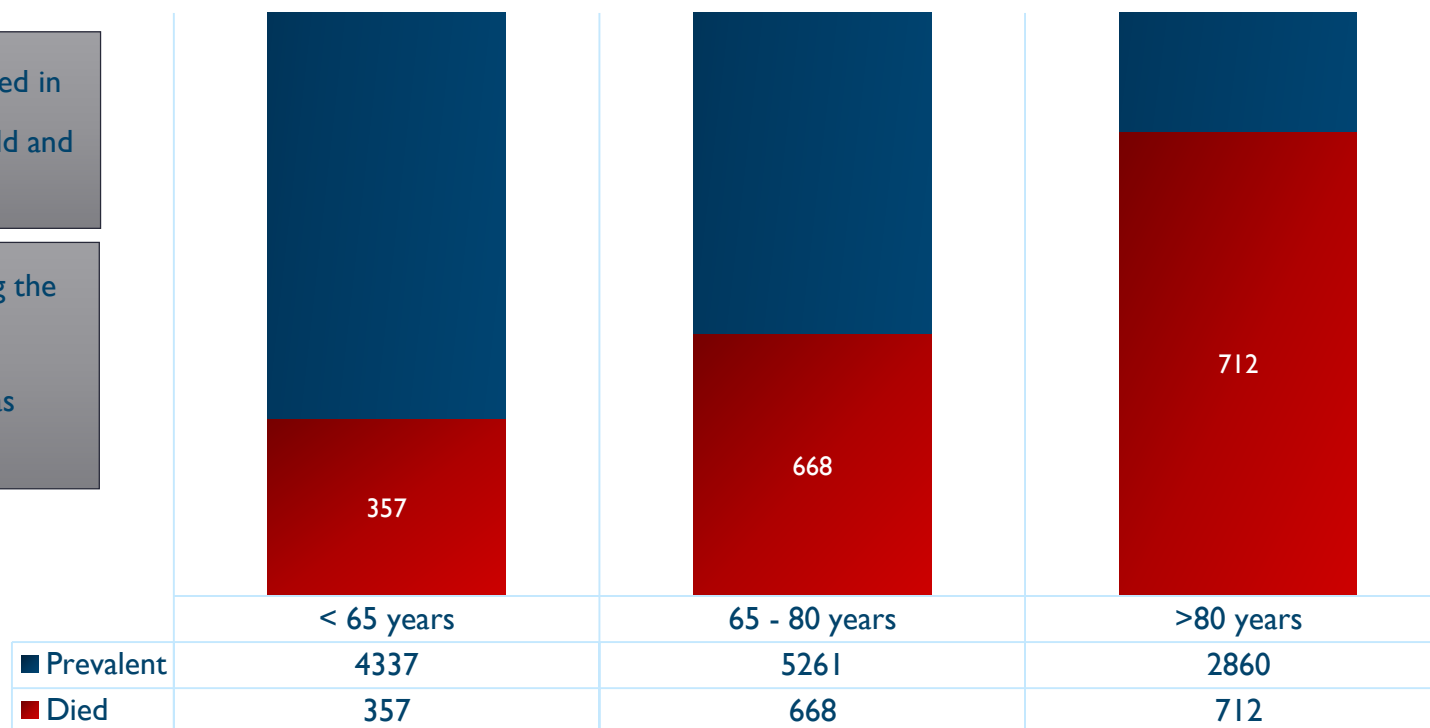


Deaths in hemodialysis by age group in 2020

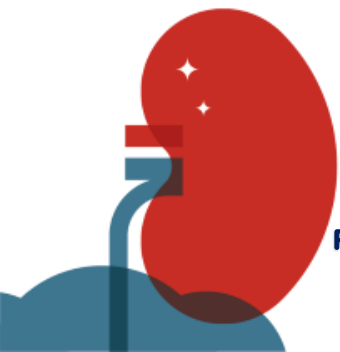
* 79,4% of **1737** patients that died in 2020 were more than 65 years old and 41% more than 80 years

* 6,3 % of deaths occurred during the first 90 days after starting dialysis

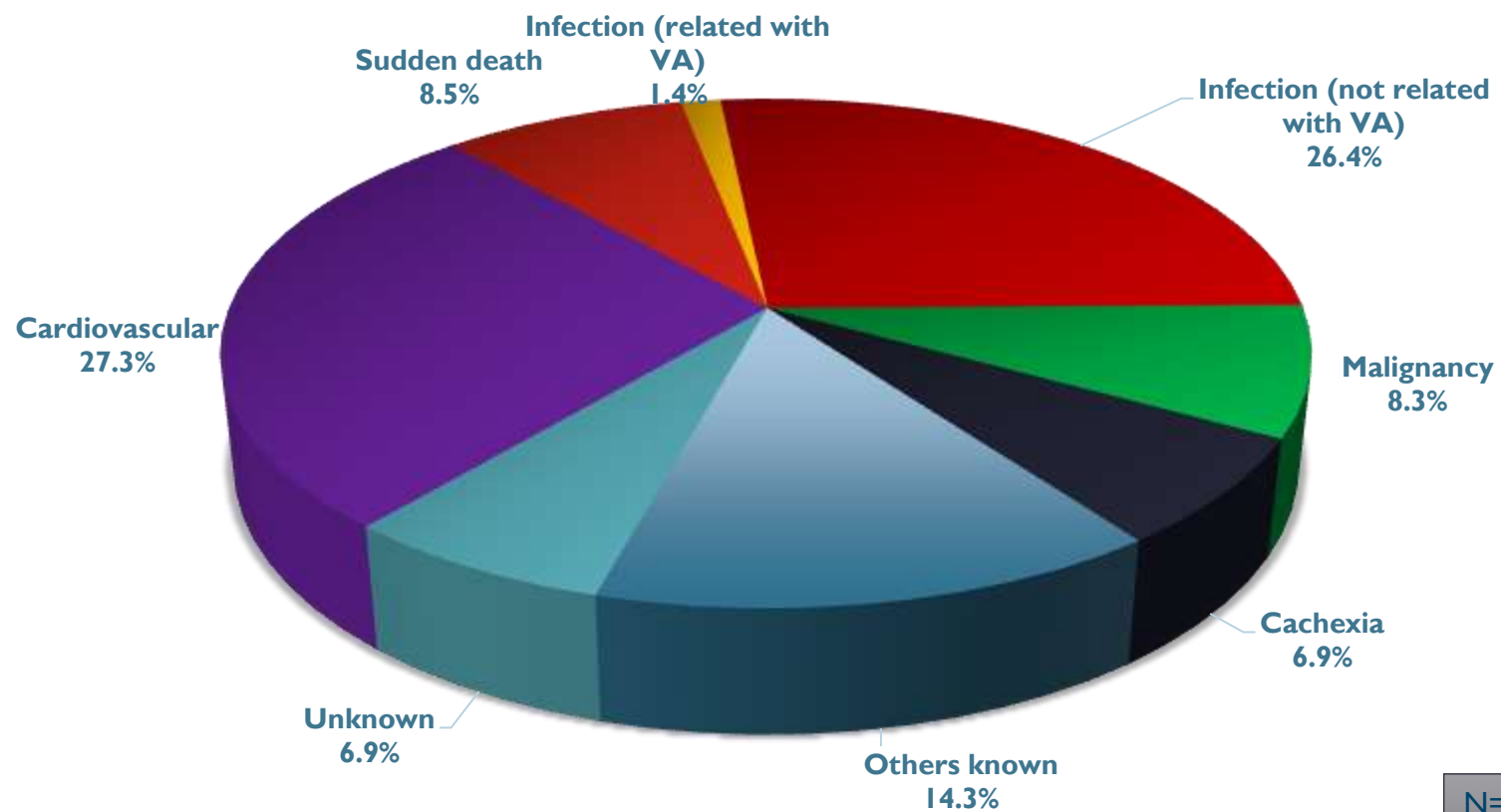
* Mortality in the first 90 days was 4,6% (3,4 % em 2019)



N: 1737

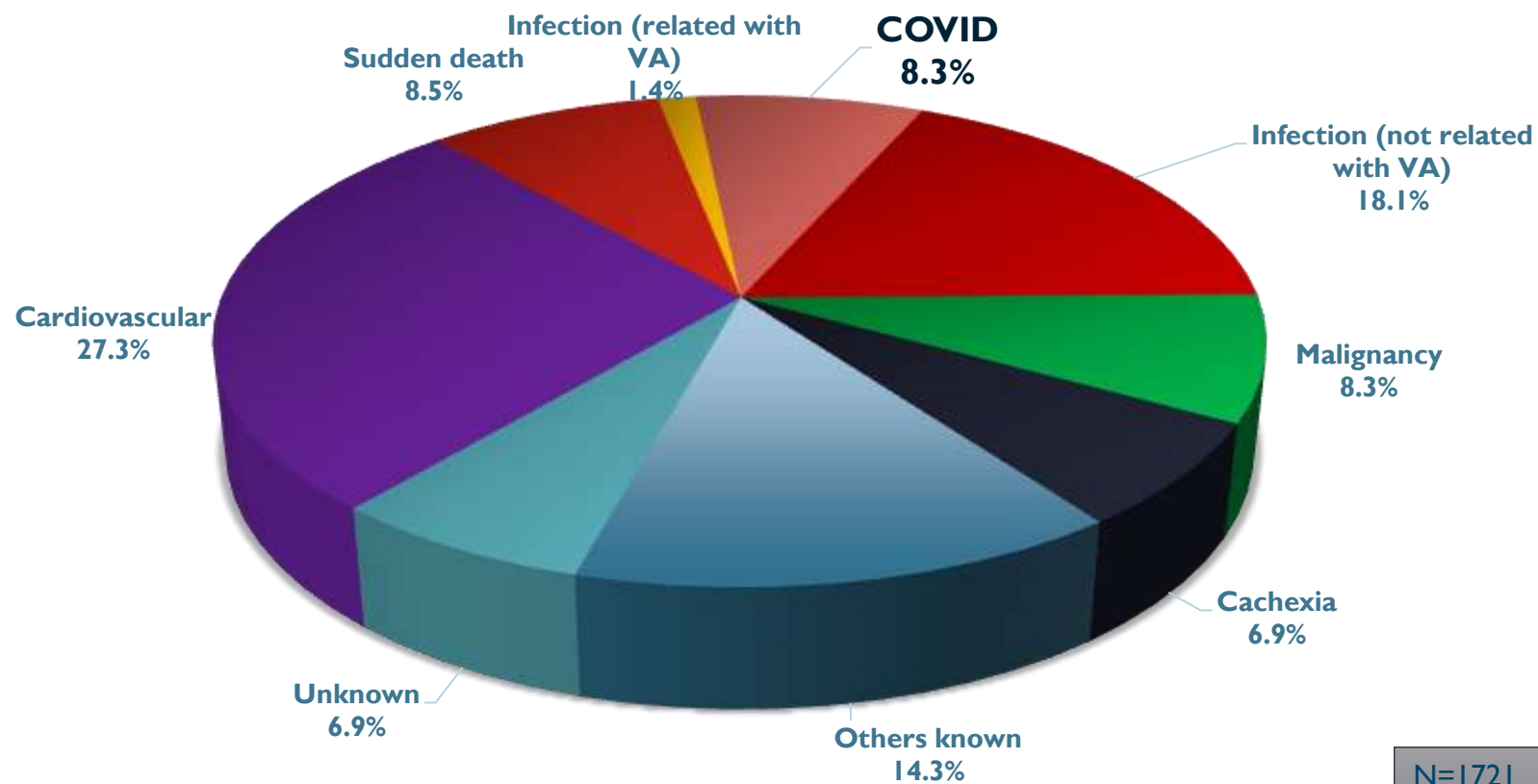


Death causes in HD patients during 2020



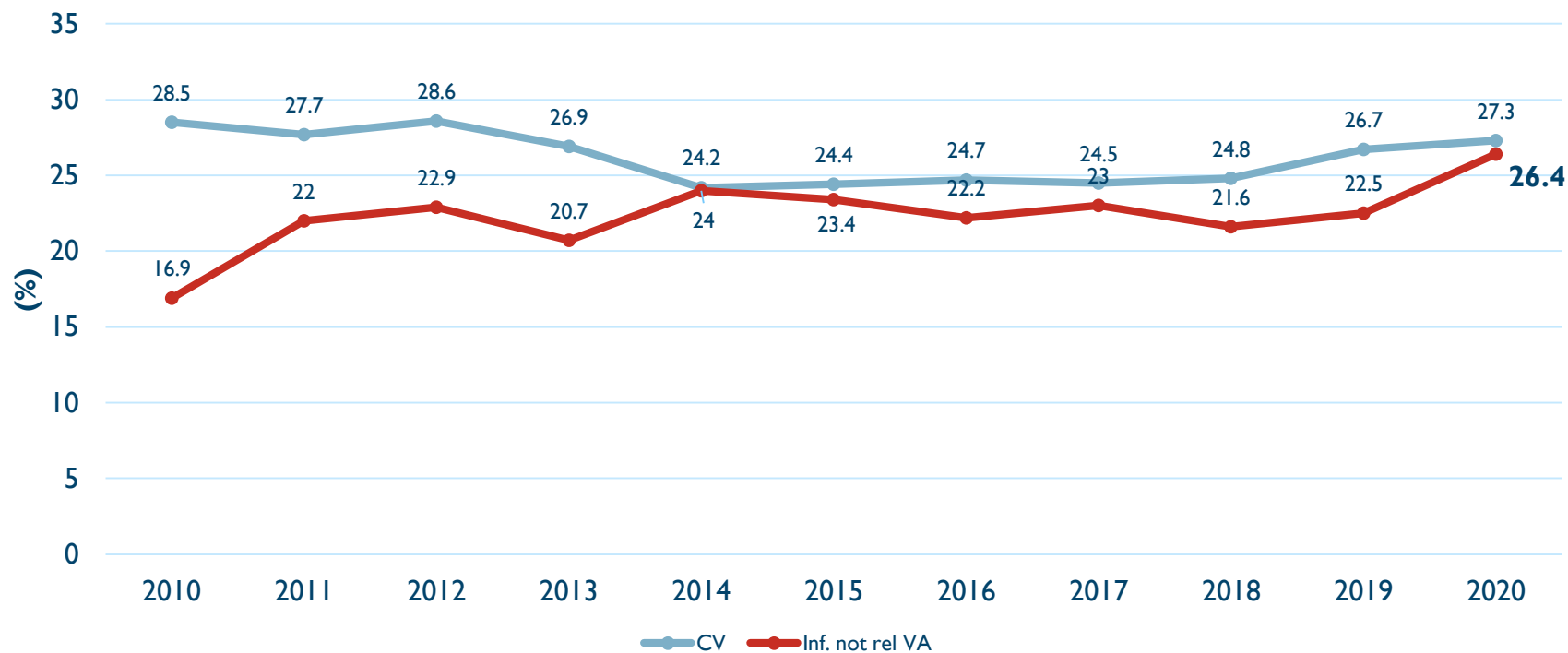
N=1721
16 not available

Death causes in HD patients during 2020

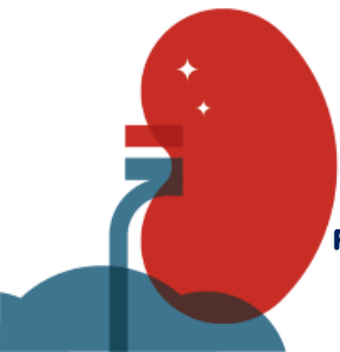
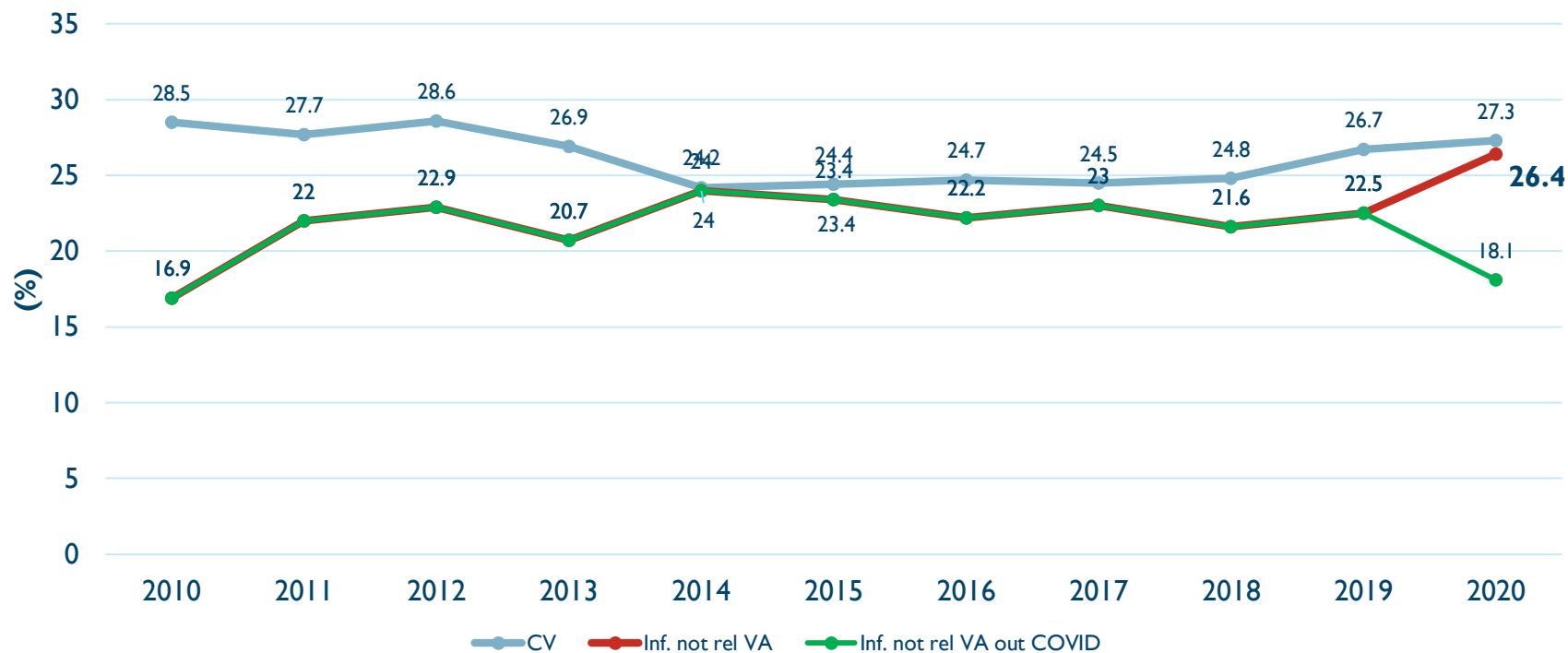


N=1721
16 not available

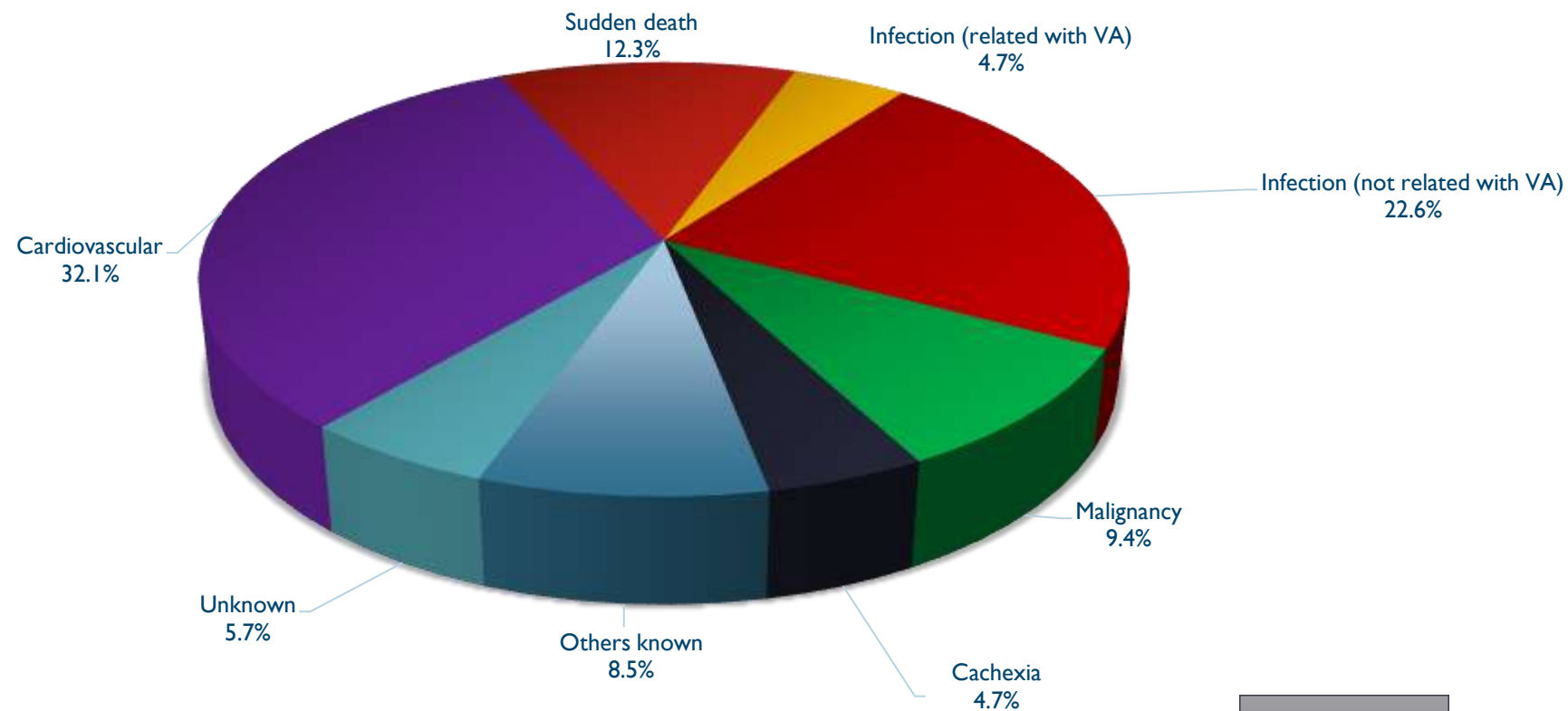
Cardiovascular and Infection deaths in hemodialysis (%) 2010 - 2020



Cardiovascular and Infection deaths in hemodialysis (%) 2010 - 2020



Death causes during the first 90 days of HD 2020



N=106
4 not available

HD patients movement in 2020

	IN		OUT
First treatment	2101	Deaths	1737
Transplant failure	121	Transplanted	303
PD into HD	143	HD into PD	69
		Stop treat. or recovery	192
		?	129

GROSS MORTALITY RATE = 14%

(90d mortality = 4,6%)

Mortality rates – hemodialysis 2020

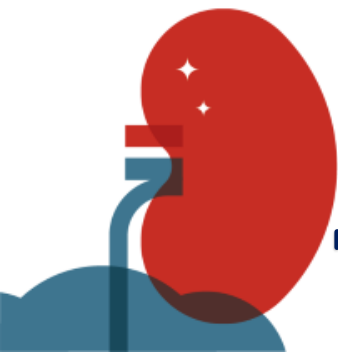
National gross mortality rate = **14%**
(90 day mortality = 4,6%)

Hemodialysis *in hospital*

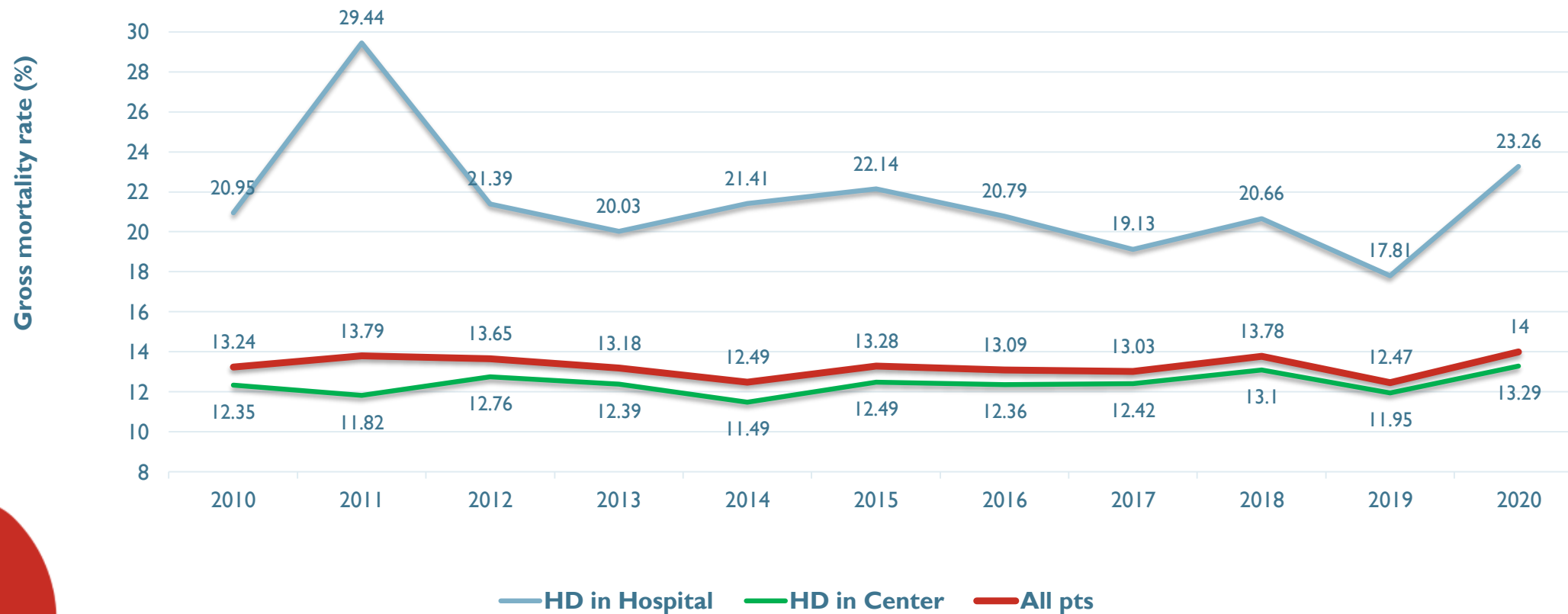
23,26%
(90 day mortality = 7,74%)

Hemodialysis *in center*

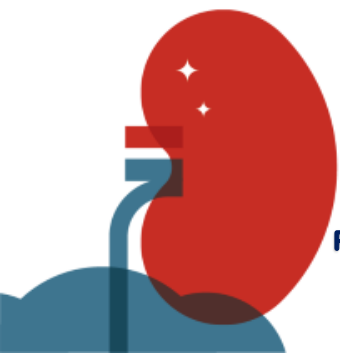
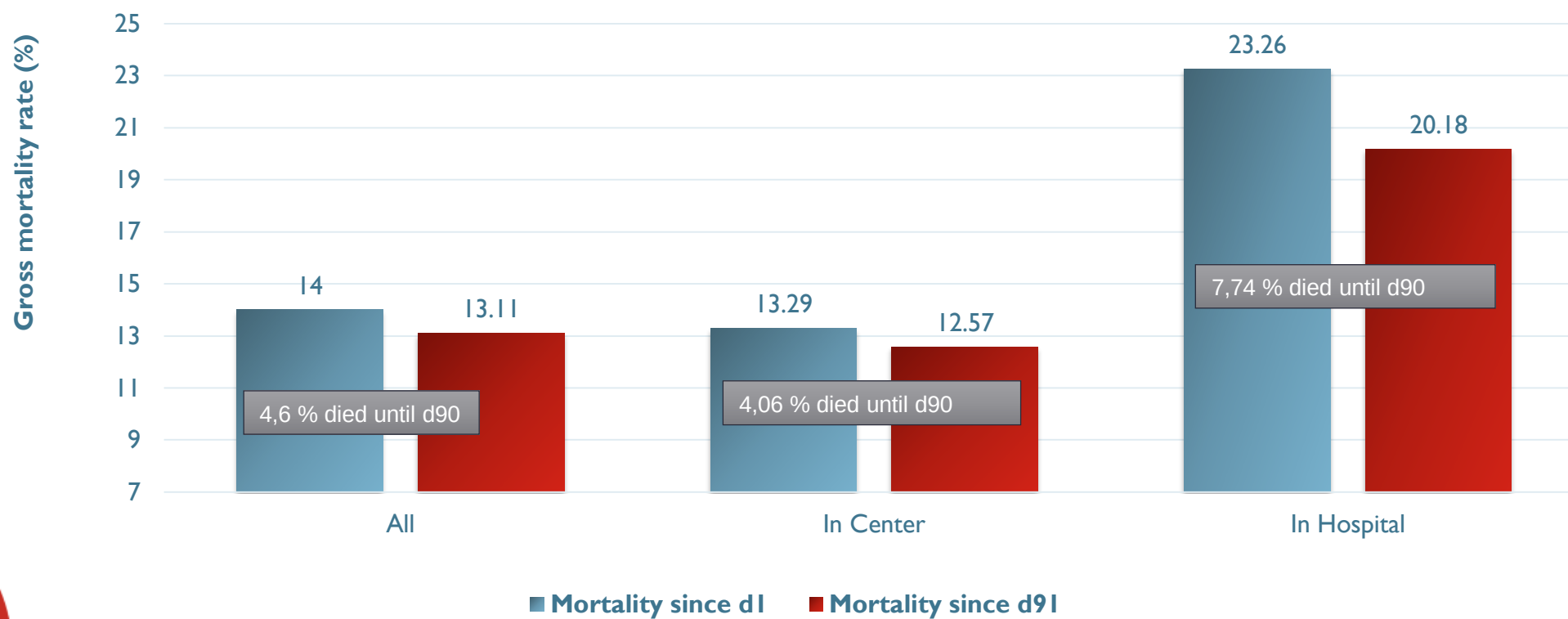
13,29%
(90 day mortality = 4,06%)



Gross mortality rate in hemodialysis 2010 - 2020



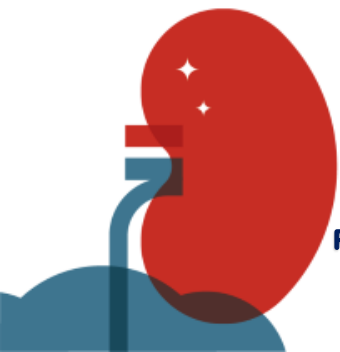
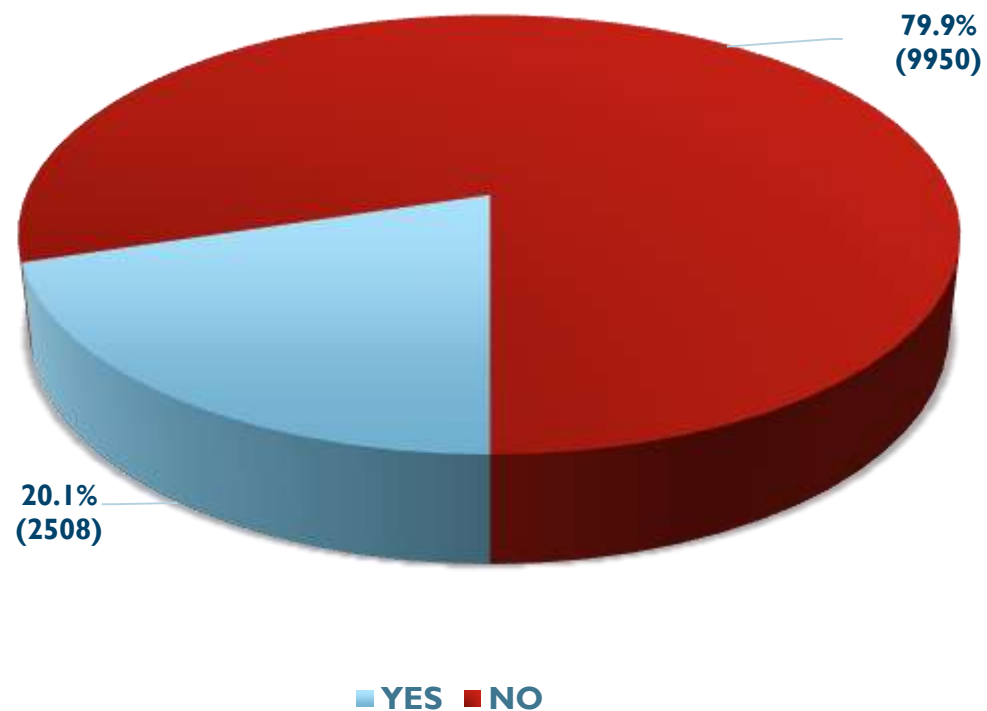
Gross mortality rate *Impact of deaths until day 90, 2020*



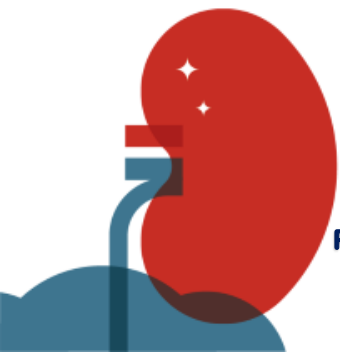
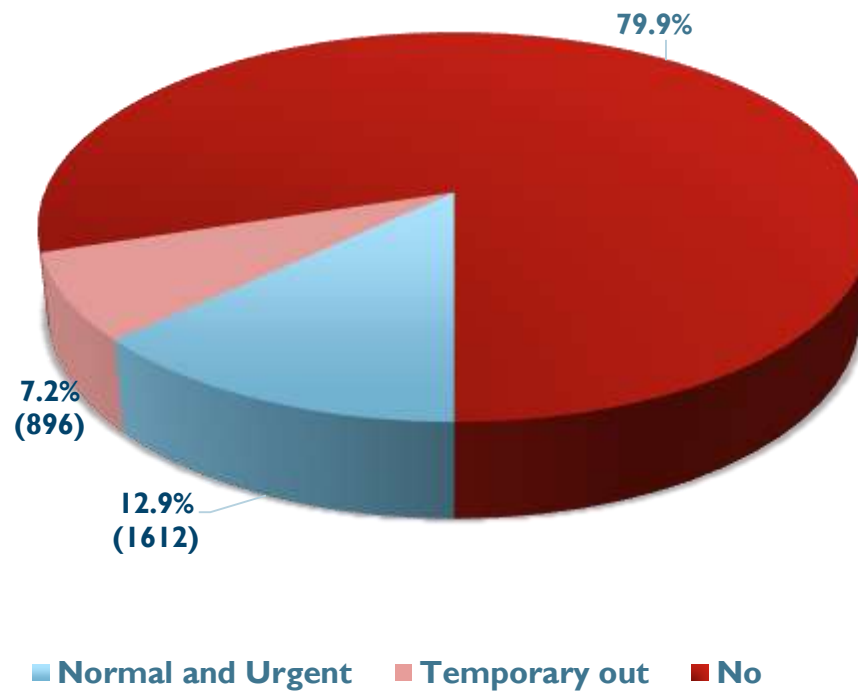
Gross mortality rates – hemodialysis since dI and d9I by country region, 2020

	Mean Age	Mortality since dI	Mortality since d9I	Deaths until d90 (% of incident)
Global	68,48	14%	13,11%	4,6%
North	68,65	14,1%	13,28%	4,15%
Center	70,28	14,16%	13,31%	4,65%
South	69,14	13,15%	12,28%	5,38%
Lisbon	67,27	14,19%	13,24%	4,48%
Azores	64,5	18,87%	17,79%	4,44%
Madeira	64,16	10,82%	9,62%	3,33%

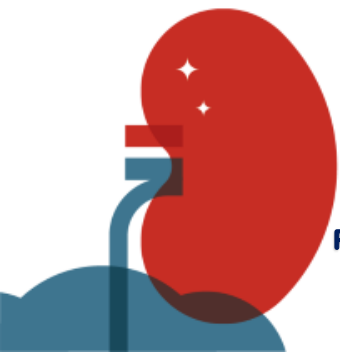
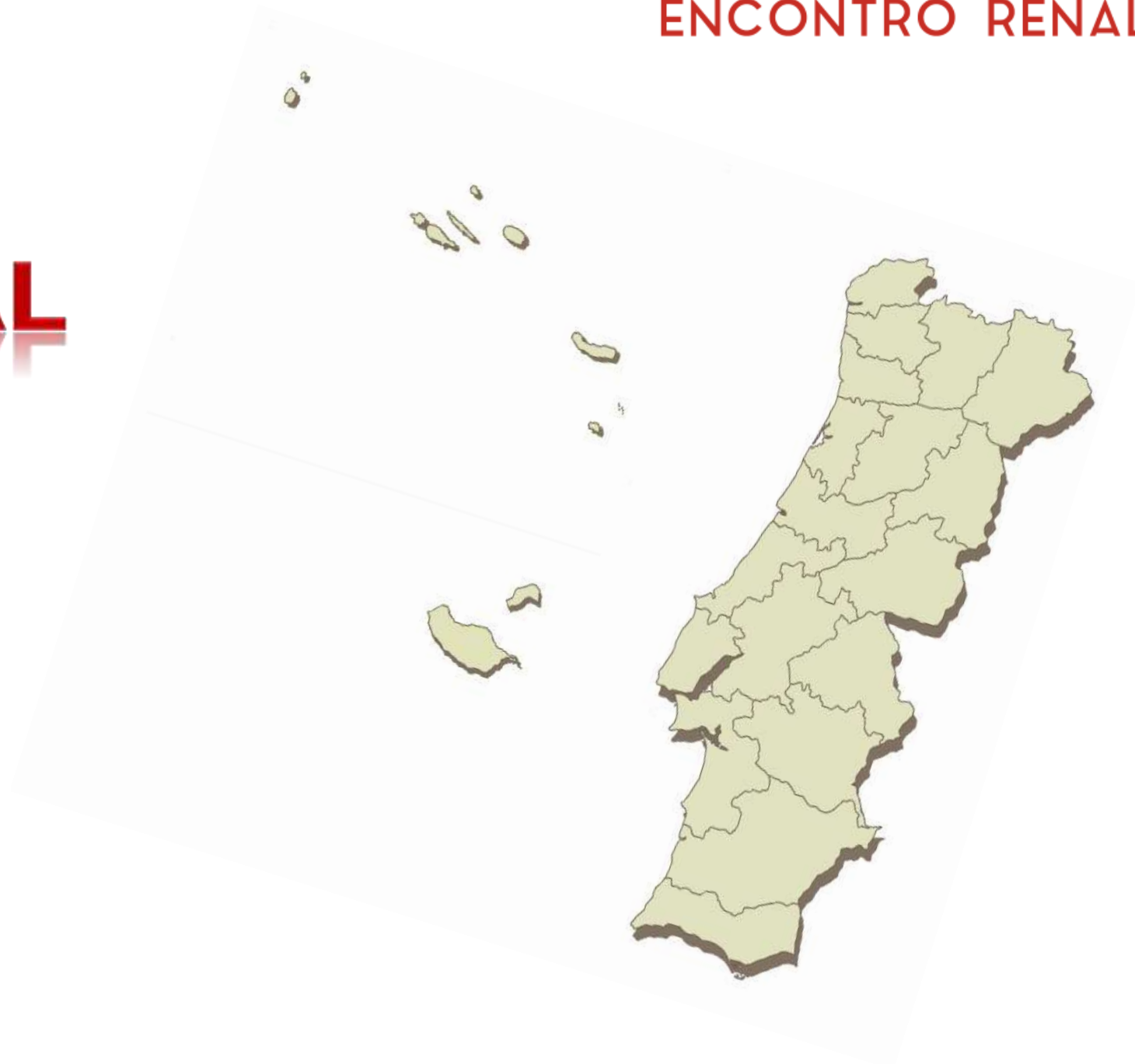
Waiting list for renal transplantation *Hemodialysis patients, 2020*



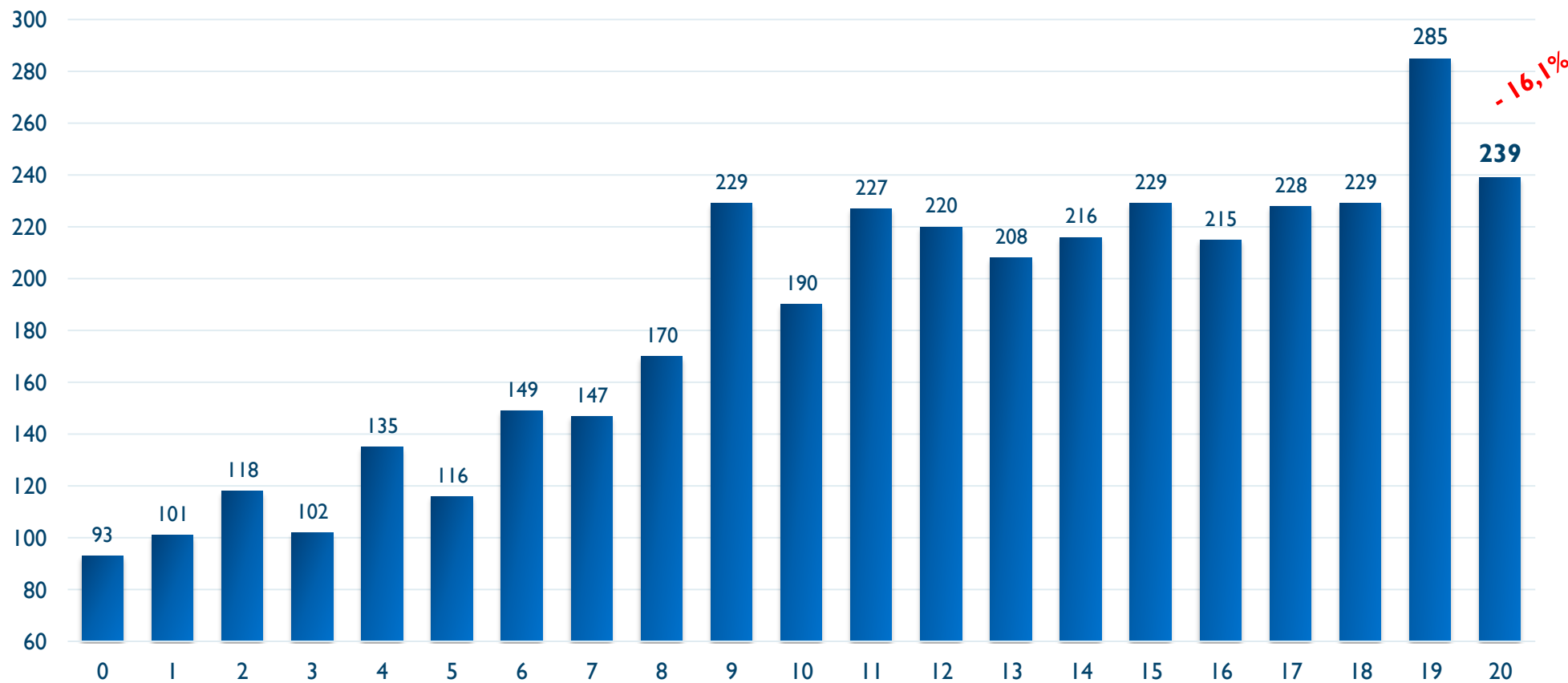
Waiting list for renal transplantation *HD patients, Active and temporary contraindication - 2020*



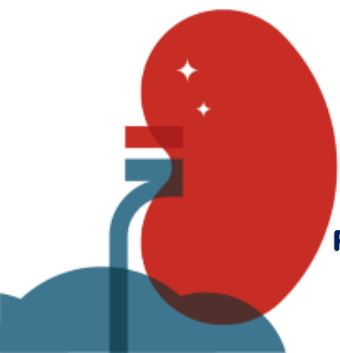
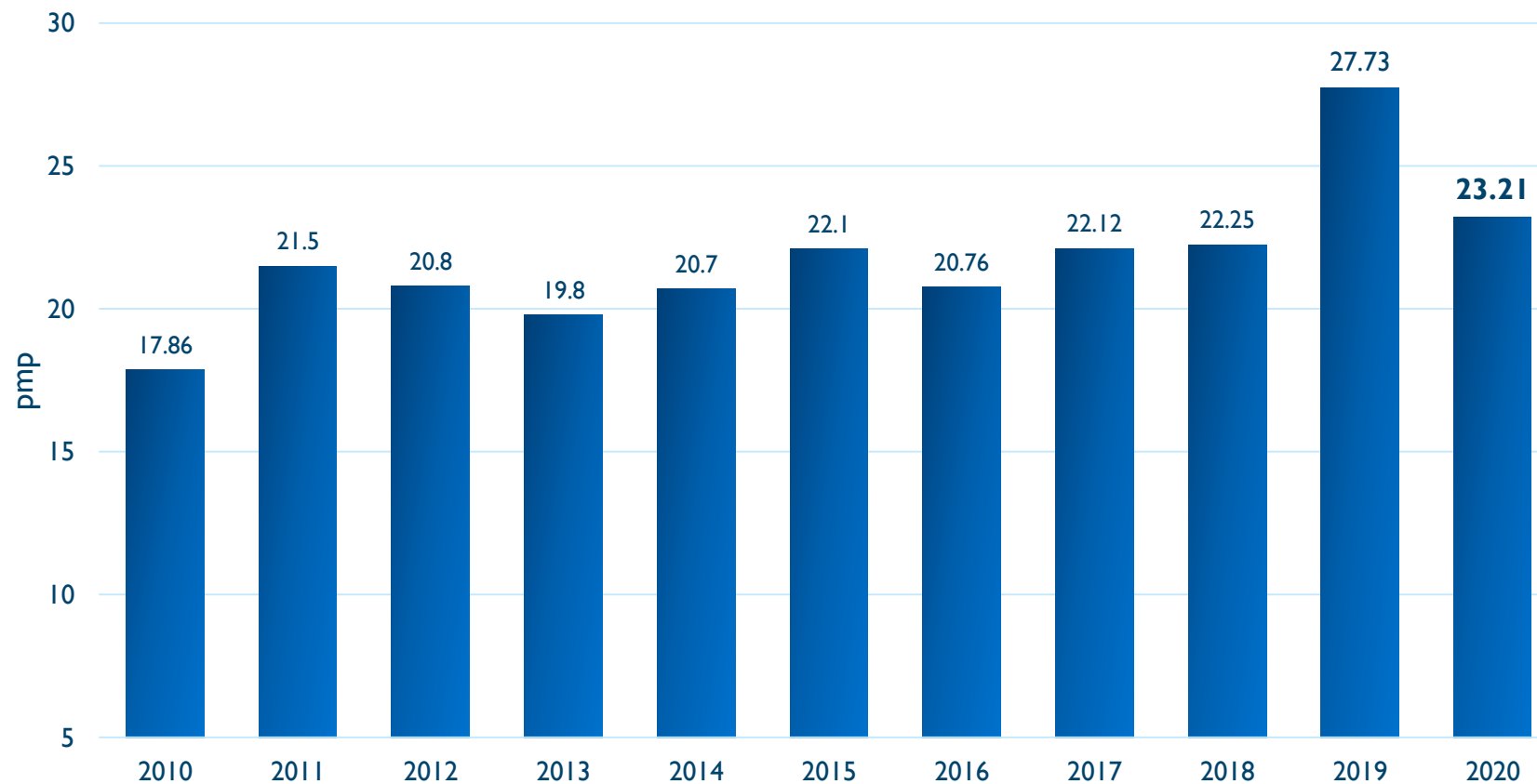
PERITONEAL DIALYSIS



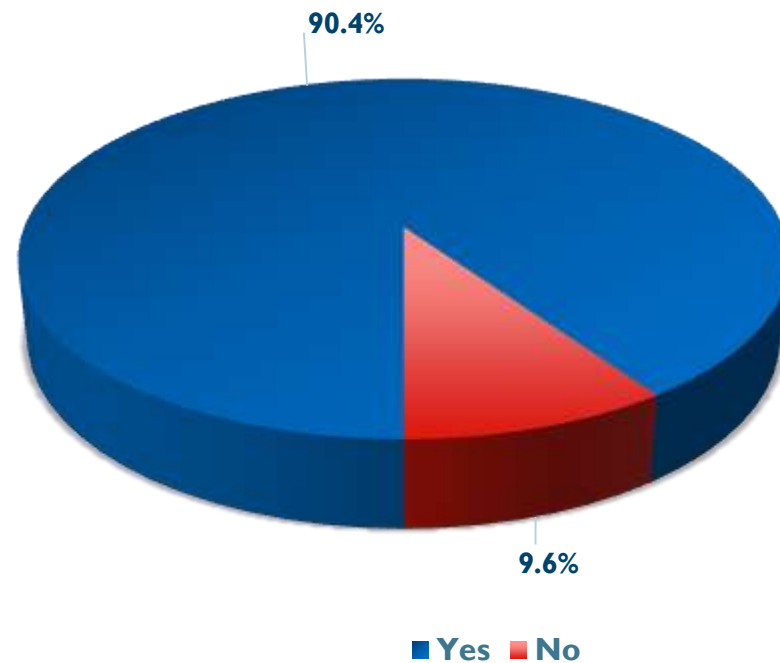
New patients starting peritoneal dialysis 2000 - 2020



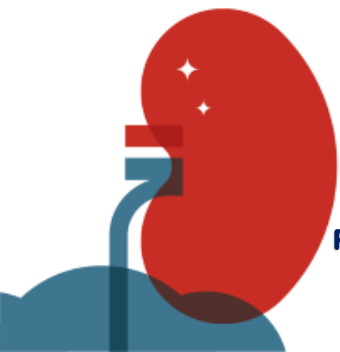
Incident patients accepted for peritoneal dialysis *per million population 2010 - 2020*



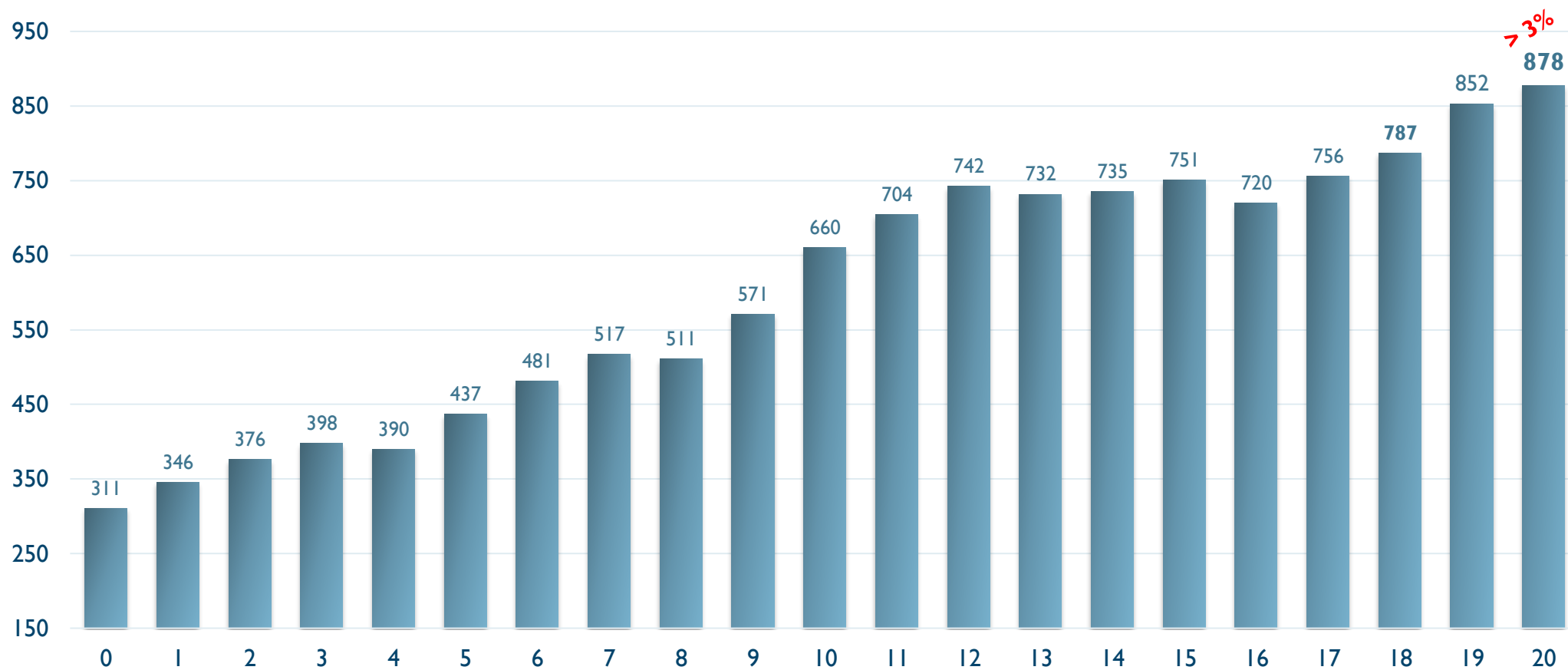
Previous follow-up by nephrology (> 3 months) PD patients, 31st of December 2020



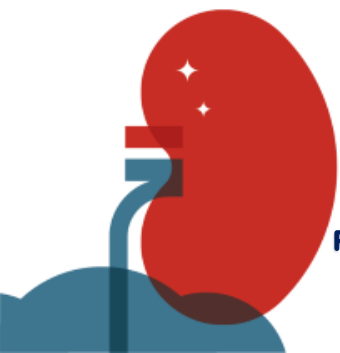
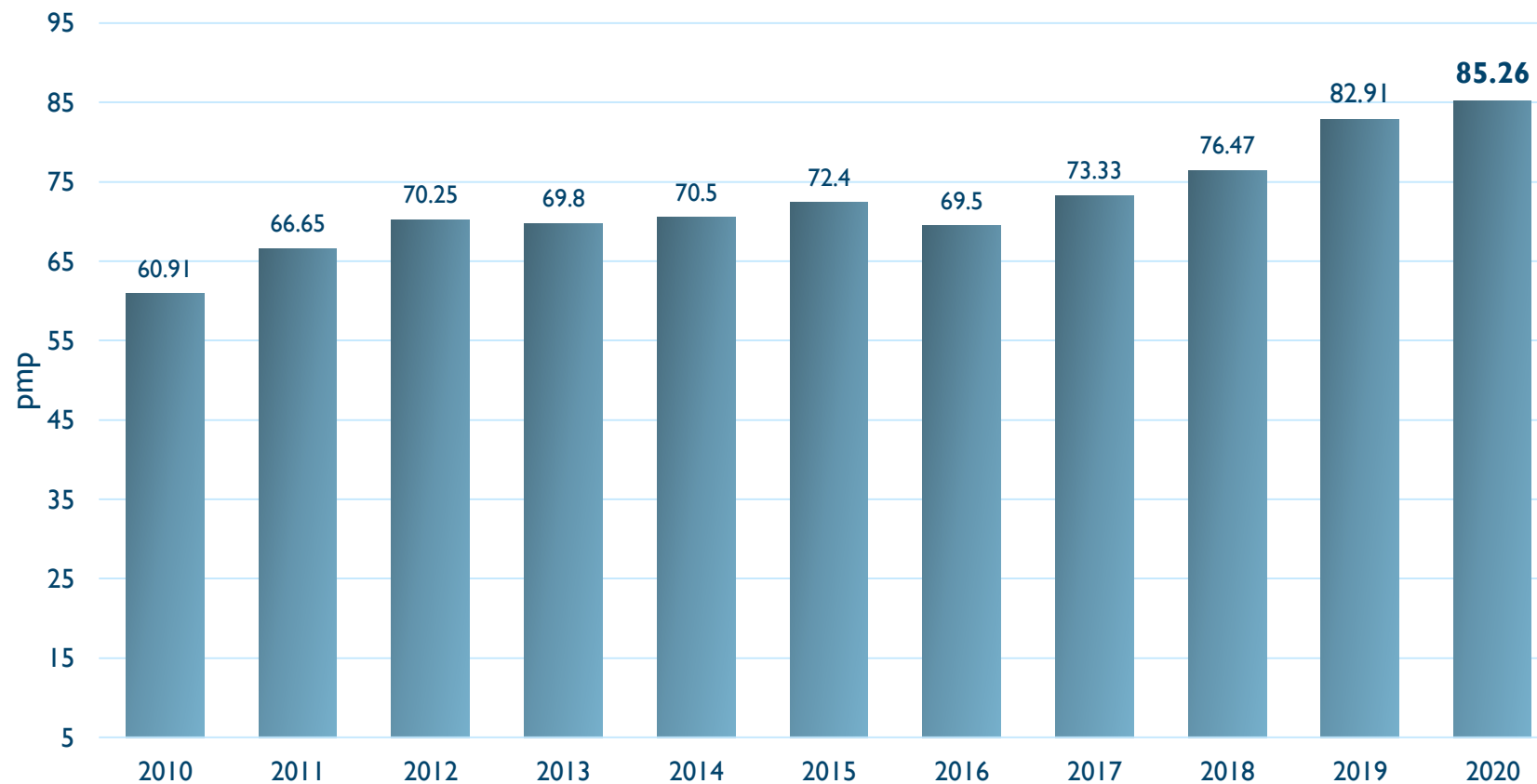
N = 216



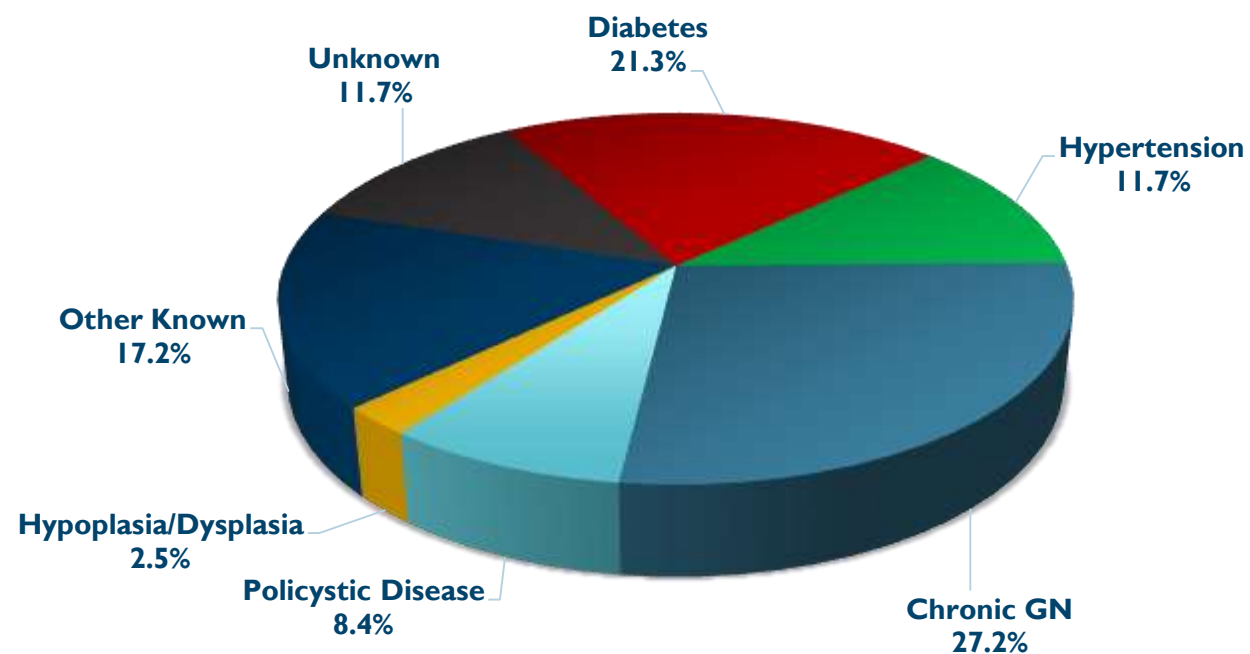
Patients treated by peritoneal dialysis Count at 31st of December each year, 2000 – 2020



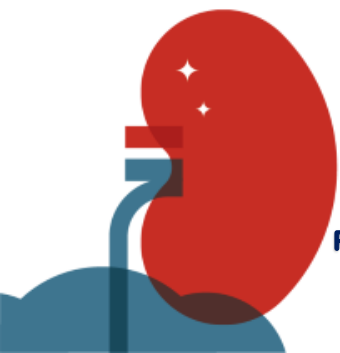
Prevalent patients treated by peritoneal dialysis *per million population 2010 - 2020*



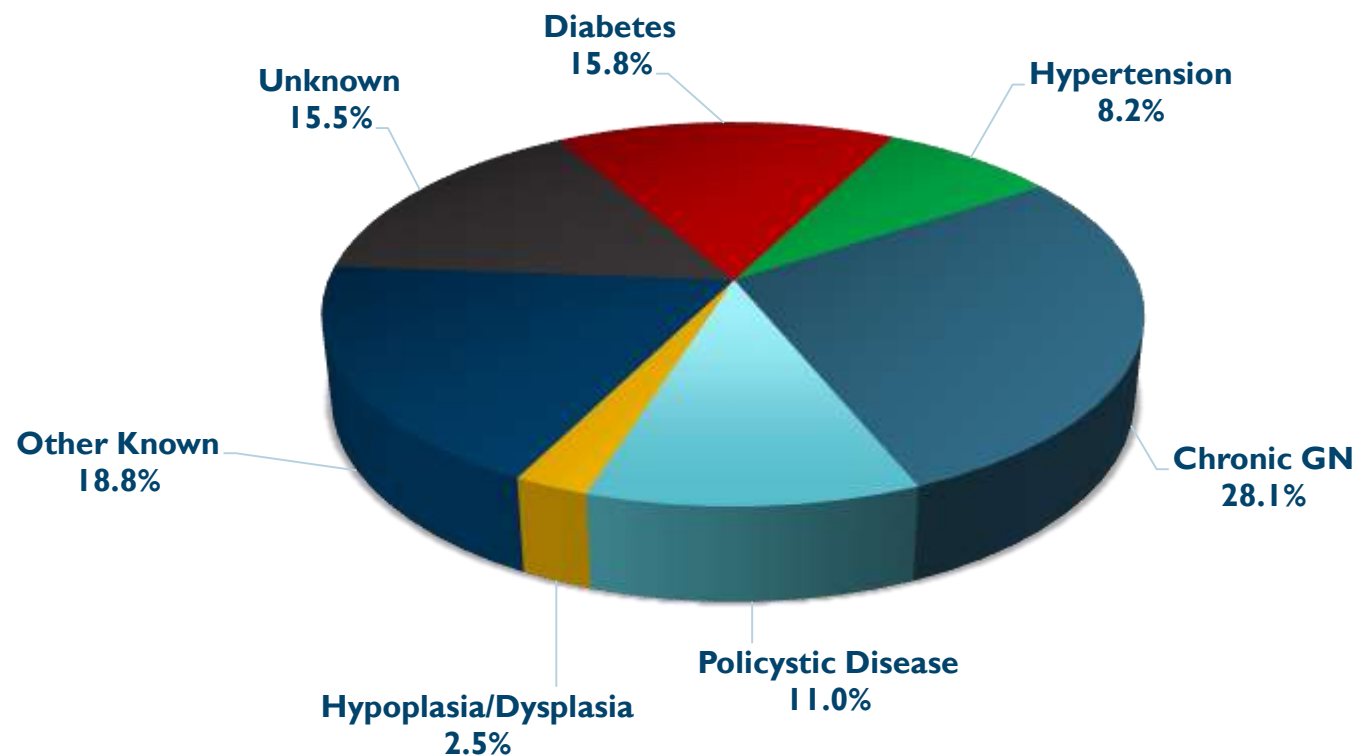
Primary renal disease of patients accepted for peritoneal dialysis during 2020



N = 239

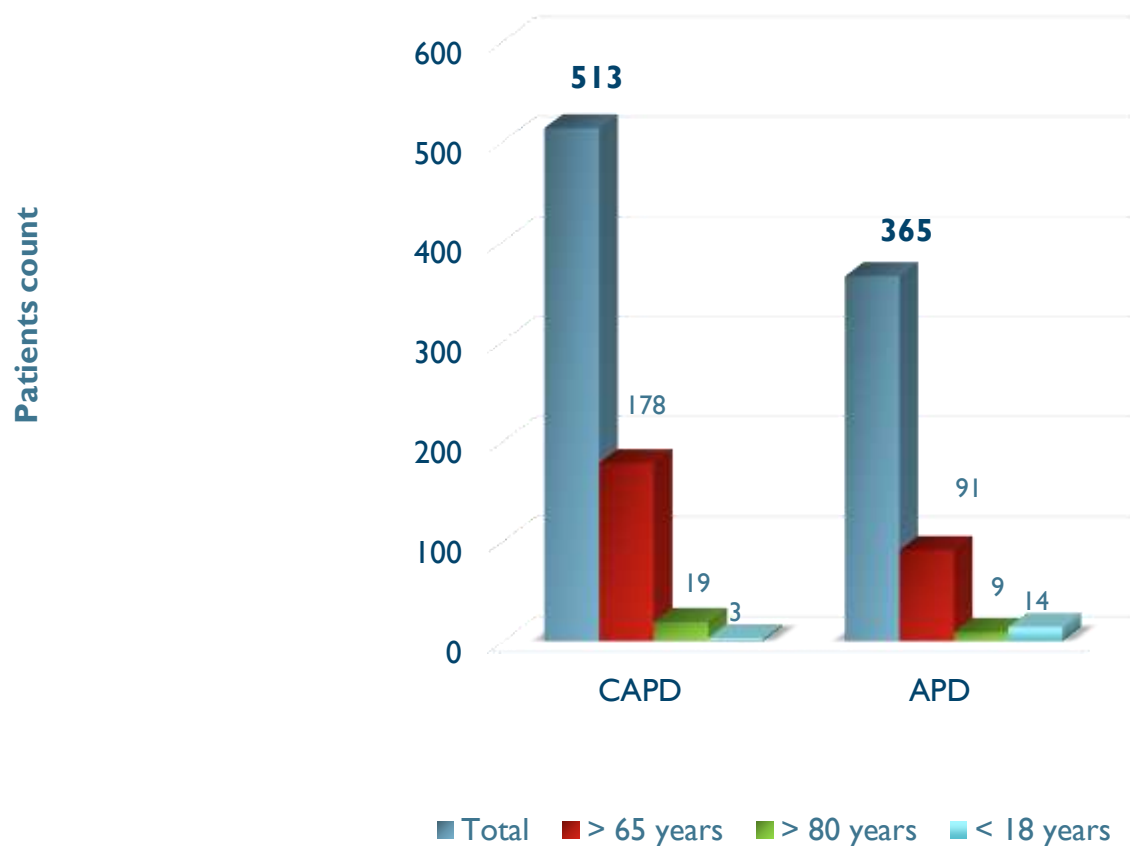


**Primary renal disease of prevalent peritoneal dialysis
patients**
31st December 2020



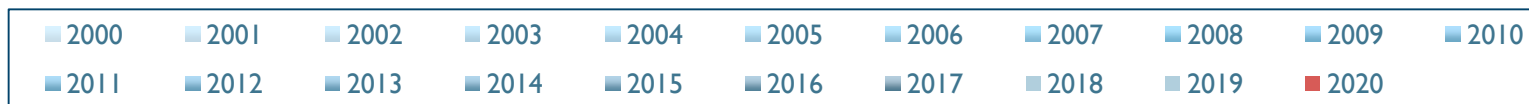
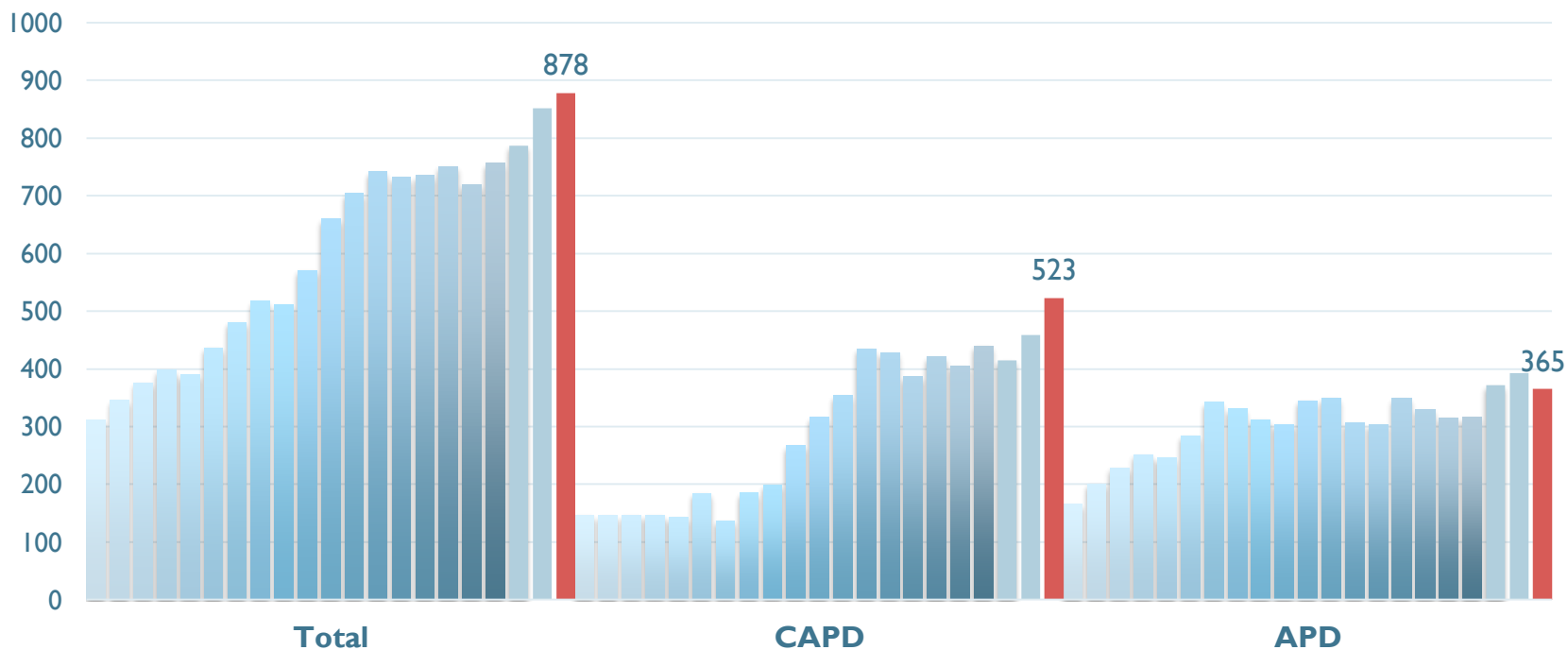
N = 878

Patients treated by peritoneal dialysis *Manual vs automated, 31st of December 2020*

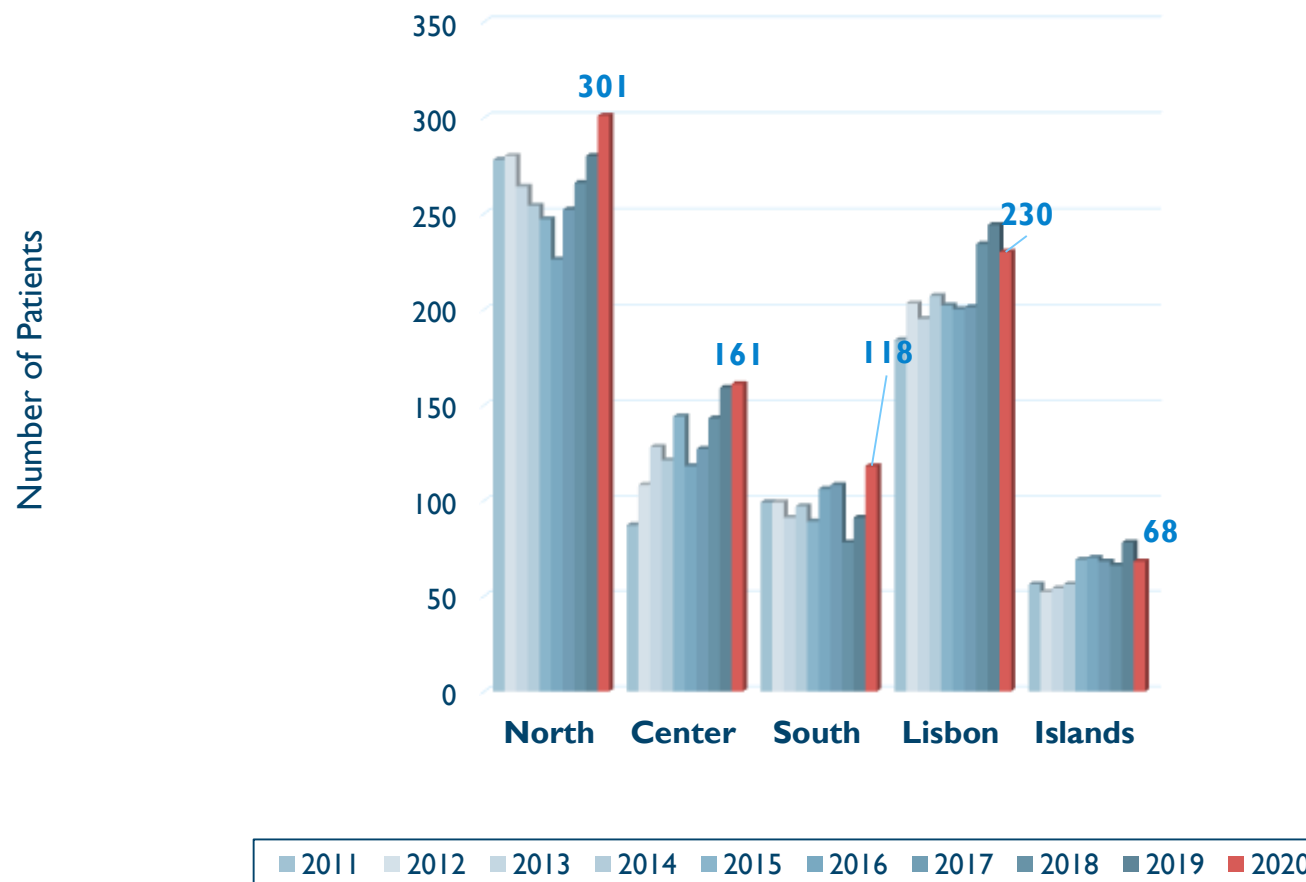


N = 878
 APD: 41,5%
 Age > 65 years: 30,6%;
 Age > 80 years: 3,1%

Patients treated by peritoneal dialysis *Manual vs automated, 31st December 2000 - 2020*

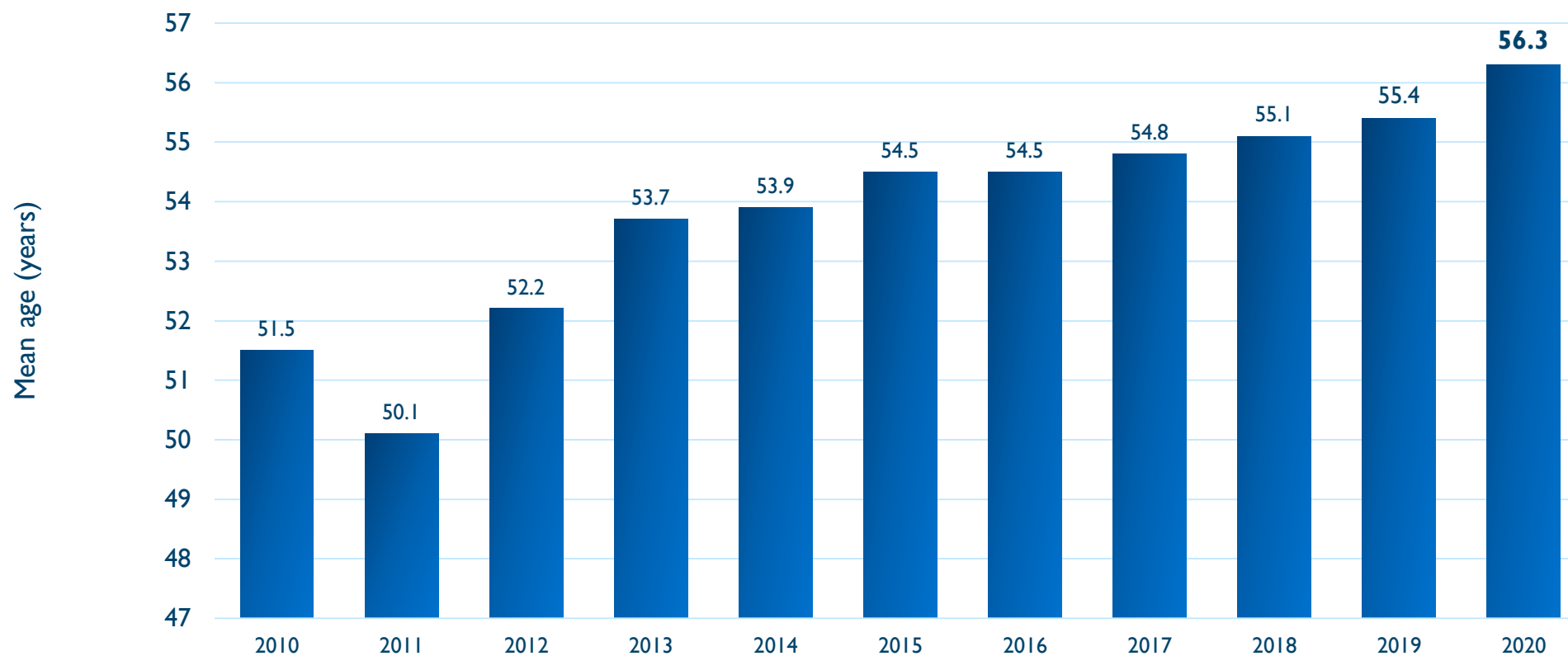


Patients treated by peritoneal dialysis by region, 31st of December 2011 to 2020

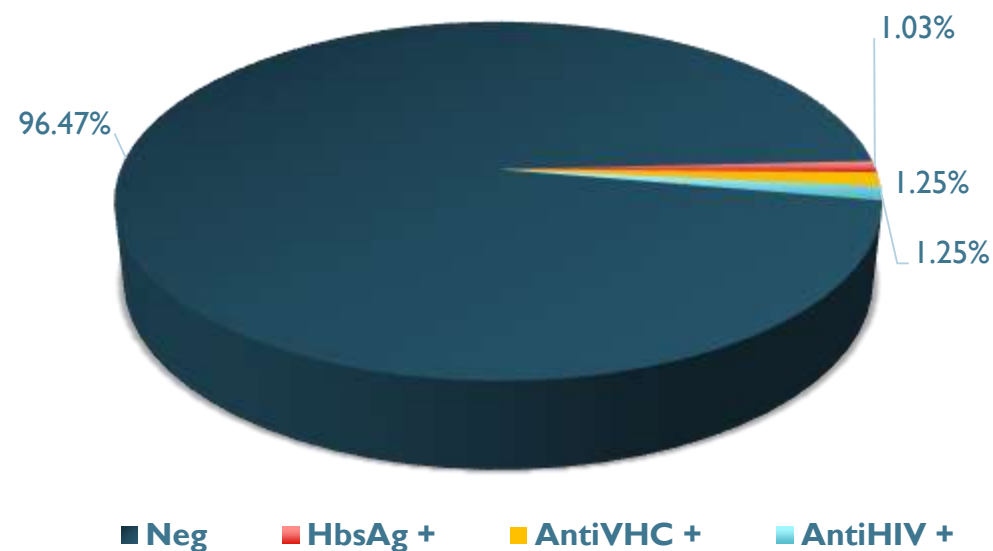


N = 878

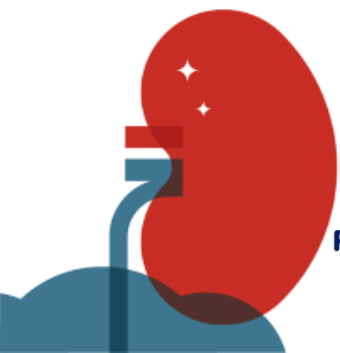
Mean Age of patients treated by peritoneal dialysis 31st of December 2010 – 2020



Viral status in PD prevalent patients
31st December 2020

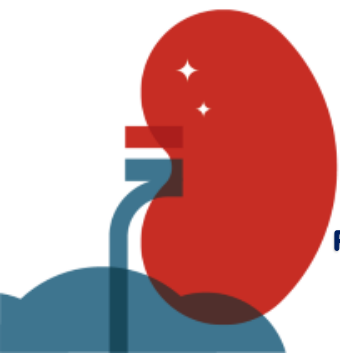


N = 878

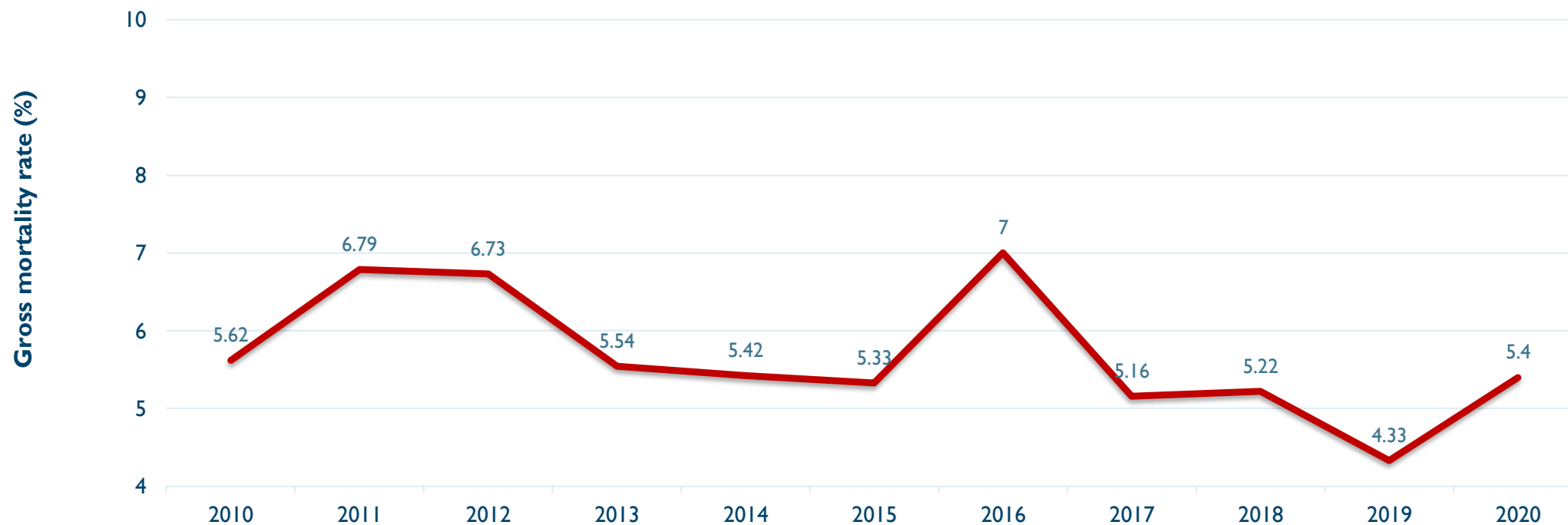


PD patients movement in 2020

	IN		OUT
New patients	239	Death	54
KTr failure	10	Transplant	69
HD to PD	69	PD to HD	143
		Suspension	3
		Renal Recovery	6
		?	17
Mortality rate = 5,4 % (90 d mortality = 2%)			



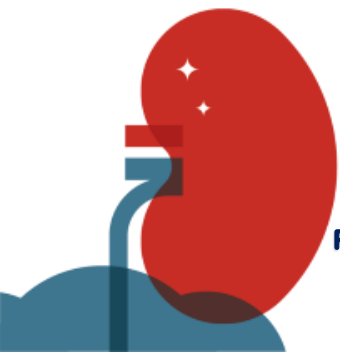
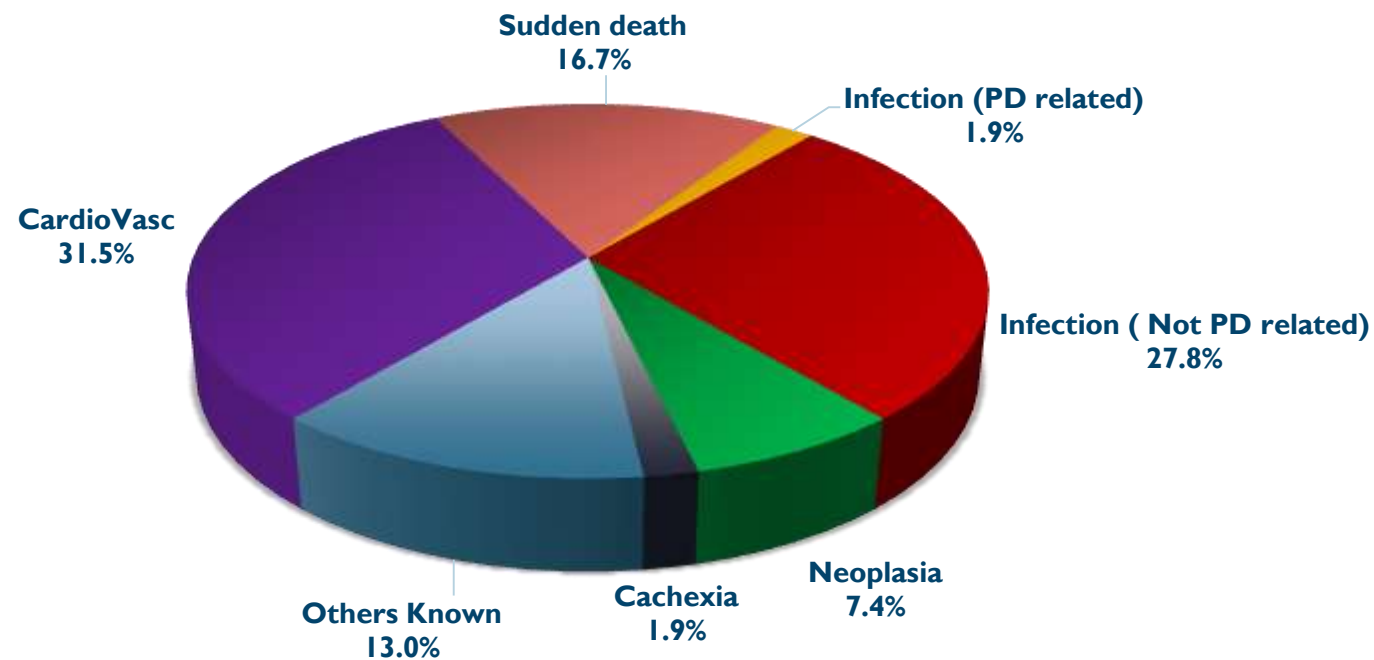
Gross mortality rate in peritoneal dialysis 2010 - 2020



Death causes in PD patients 2020

N = 54

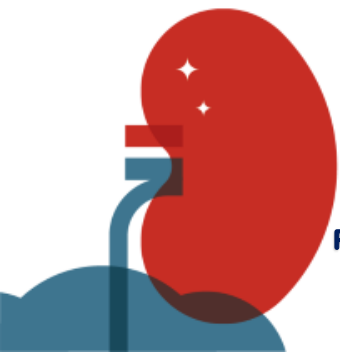
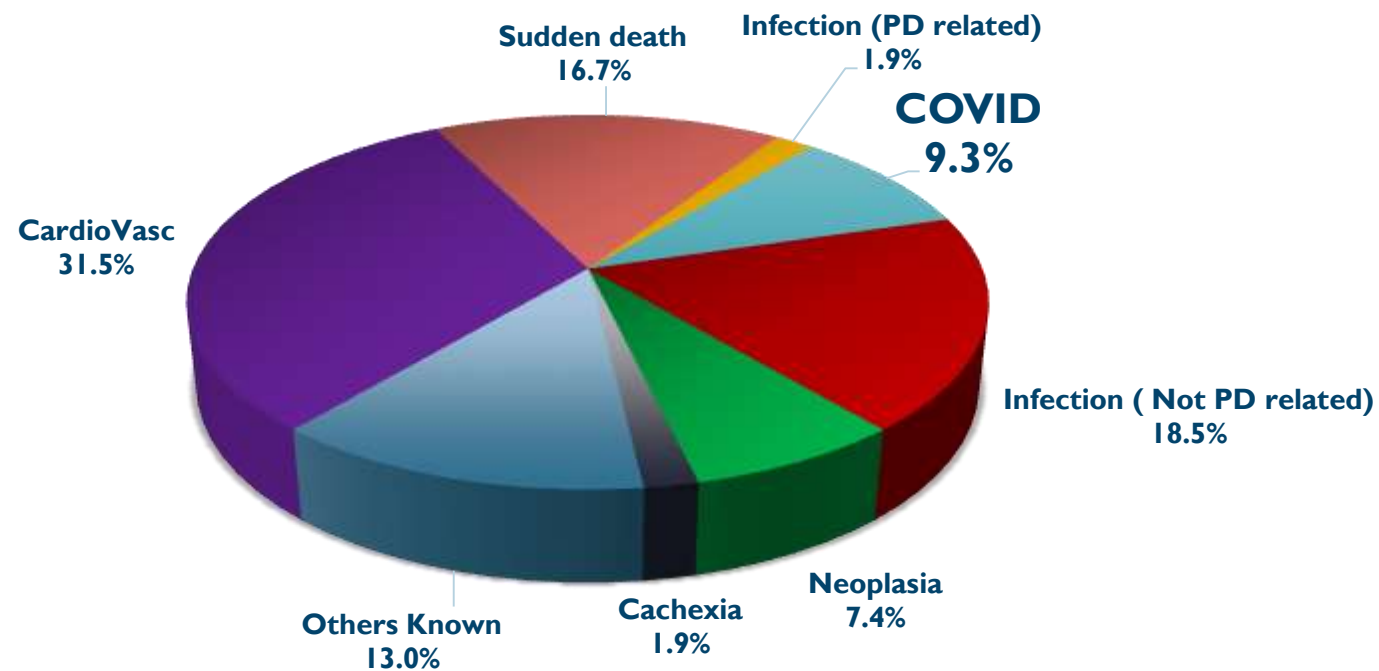
6 patients died until day 90; 2% of incidente patients and 11% of all deaths



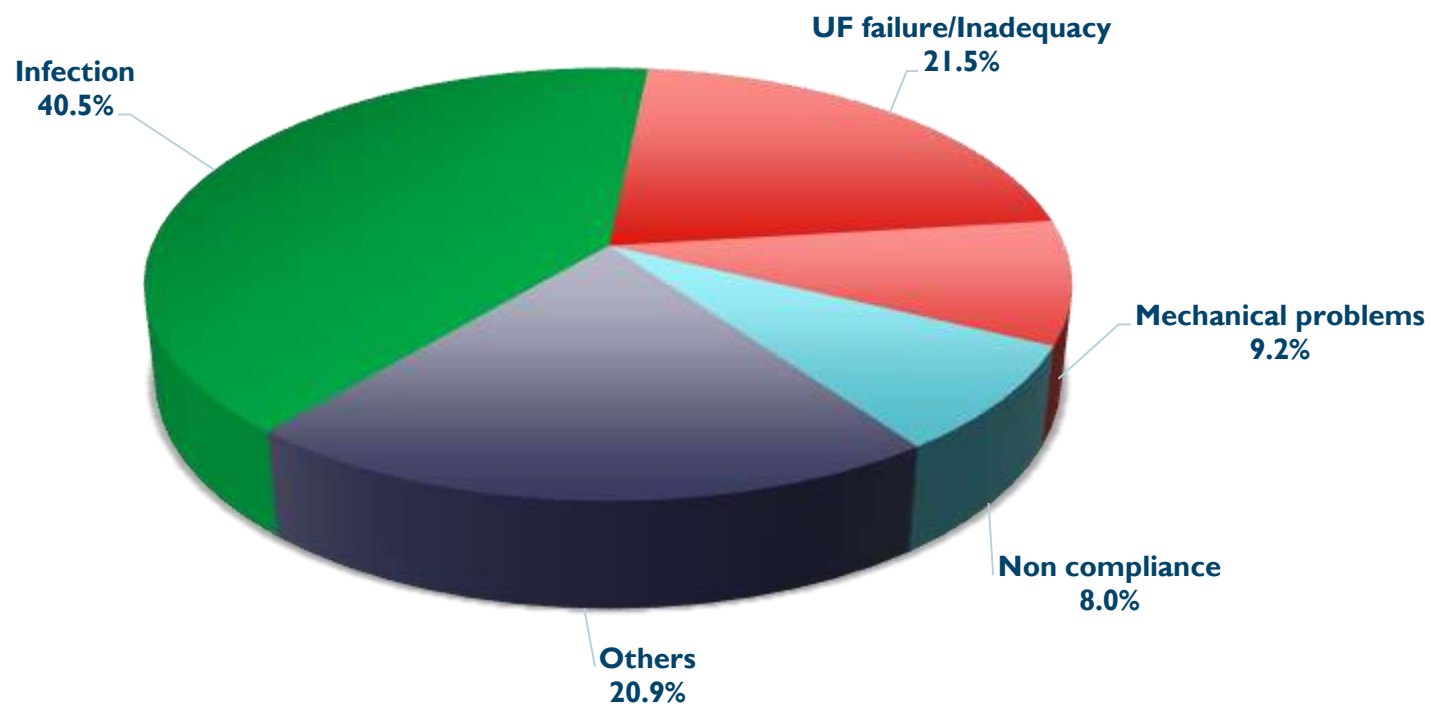
Death causes in PD patients 2020

N = 54

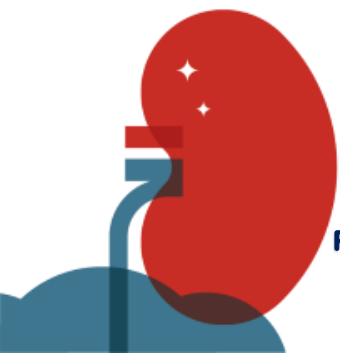
6 patients died until day 90; 2%
of incidente patients and 11% of
all deaths



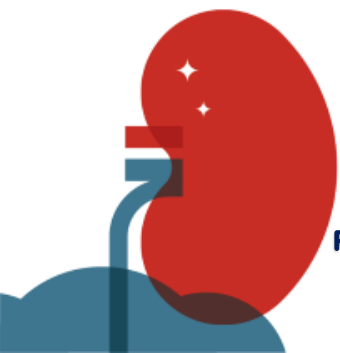
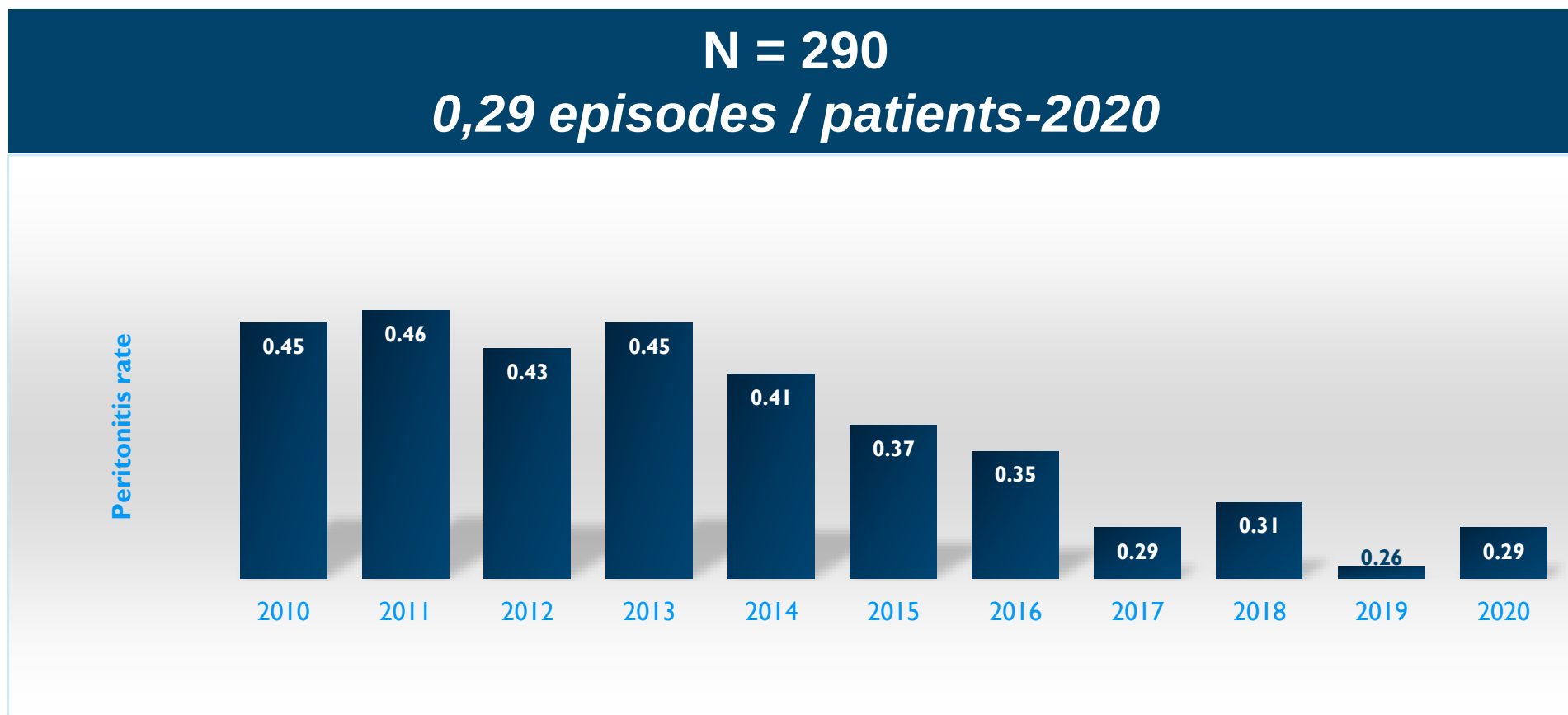
Reasons for PD withdraw 2020



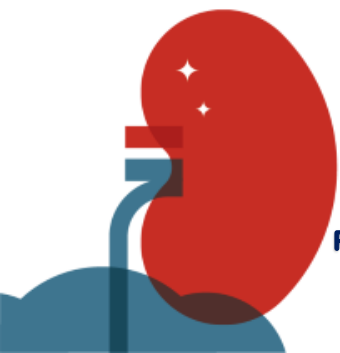
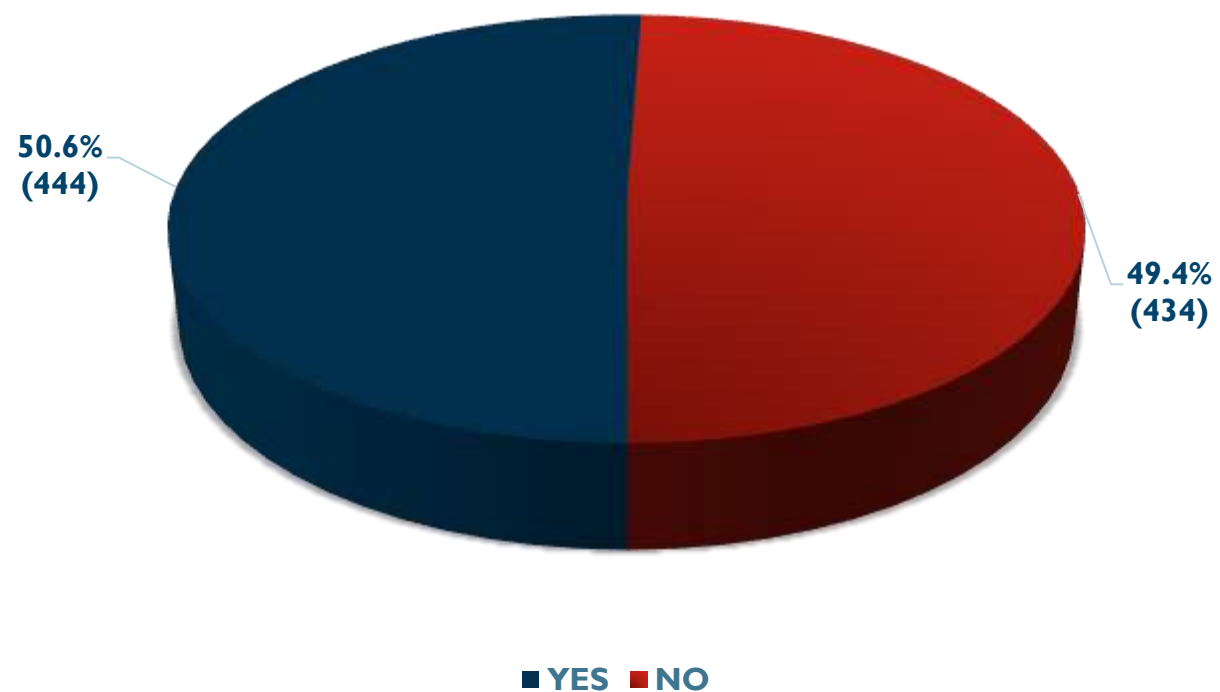
N = 163



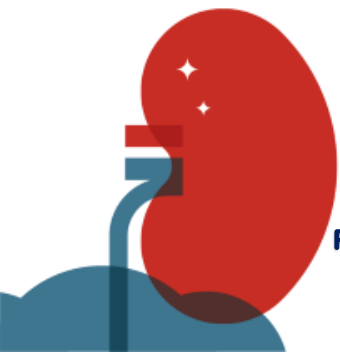
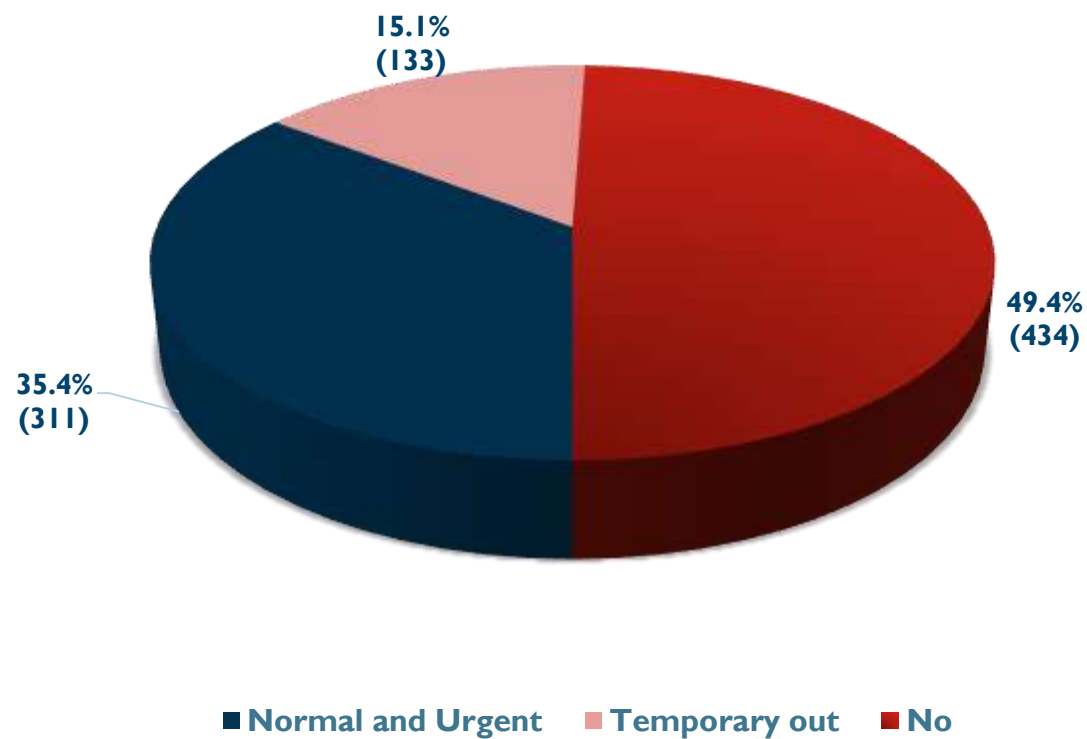
Peritonitis episodes 2020



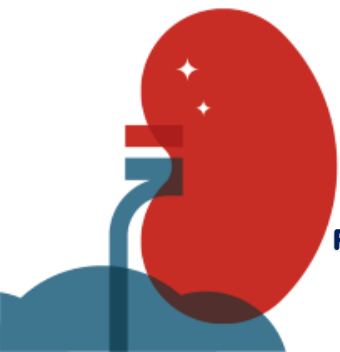
PD patients in waiting list for renal transplantation 2020



PD patients in waiting list for renal transplantation Active ant temporary contraindication for transplantation

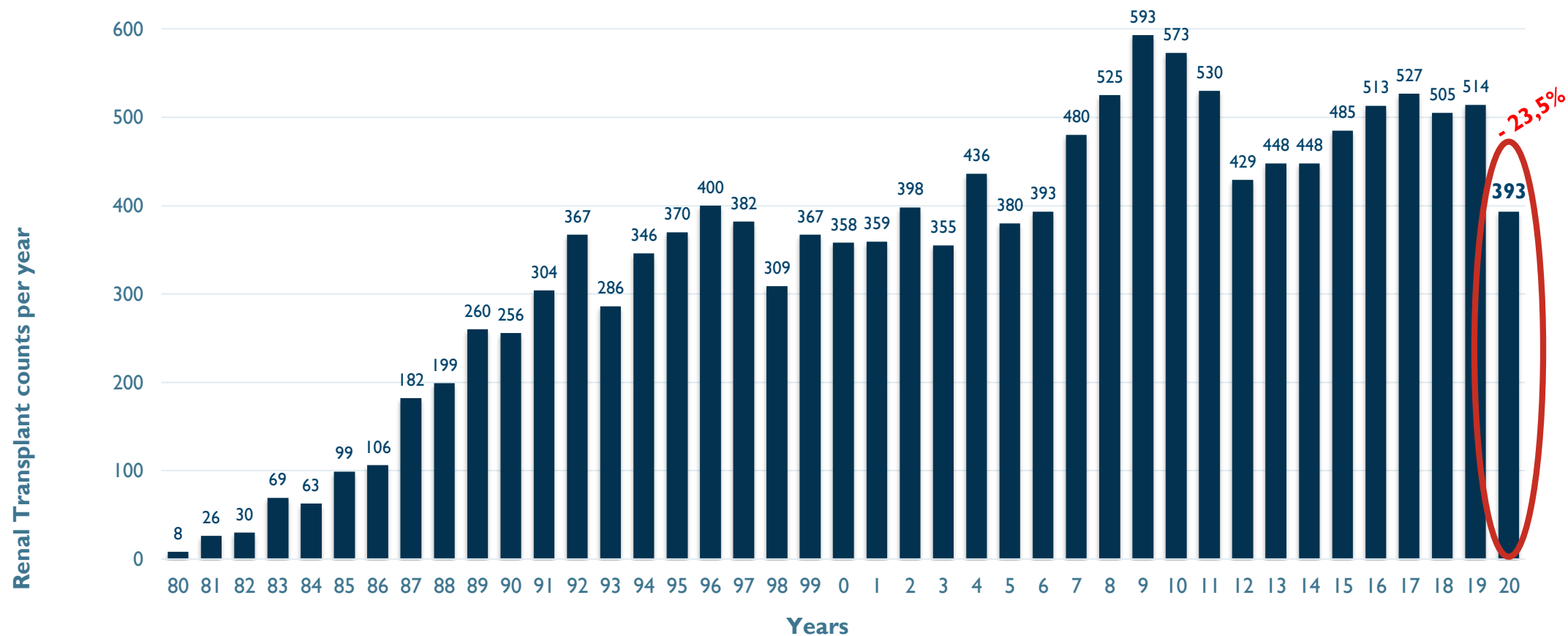


RENAL TRANSPLANTATION

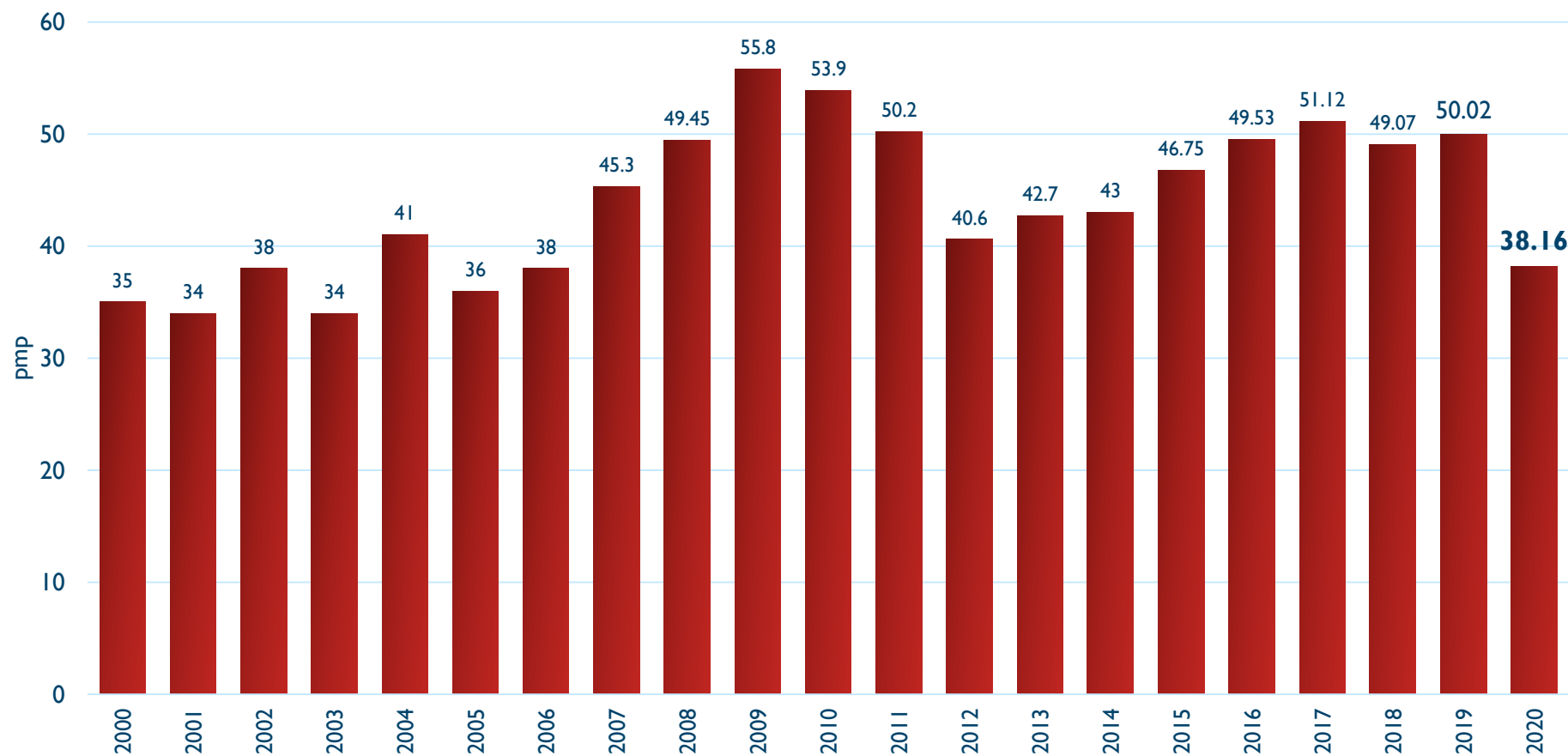


Renal Transplants performed 1980-2020

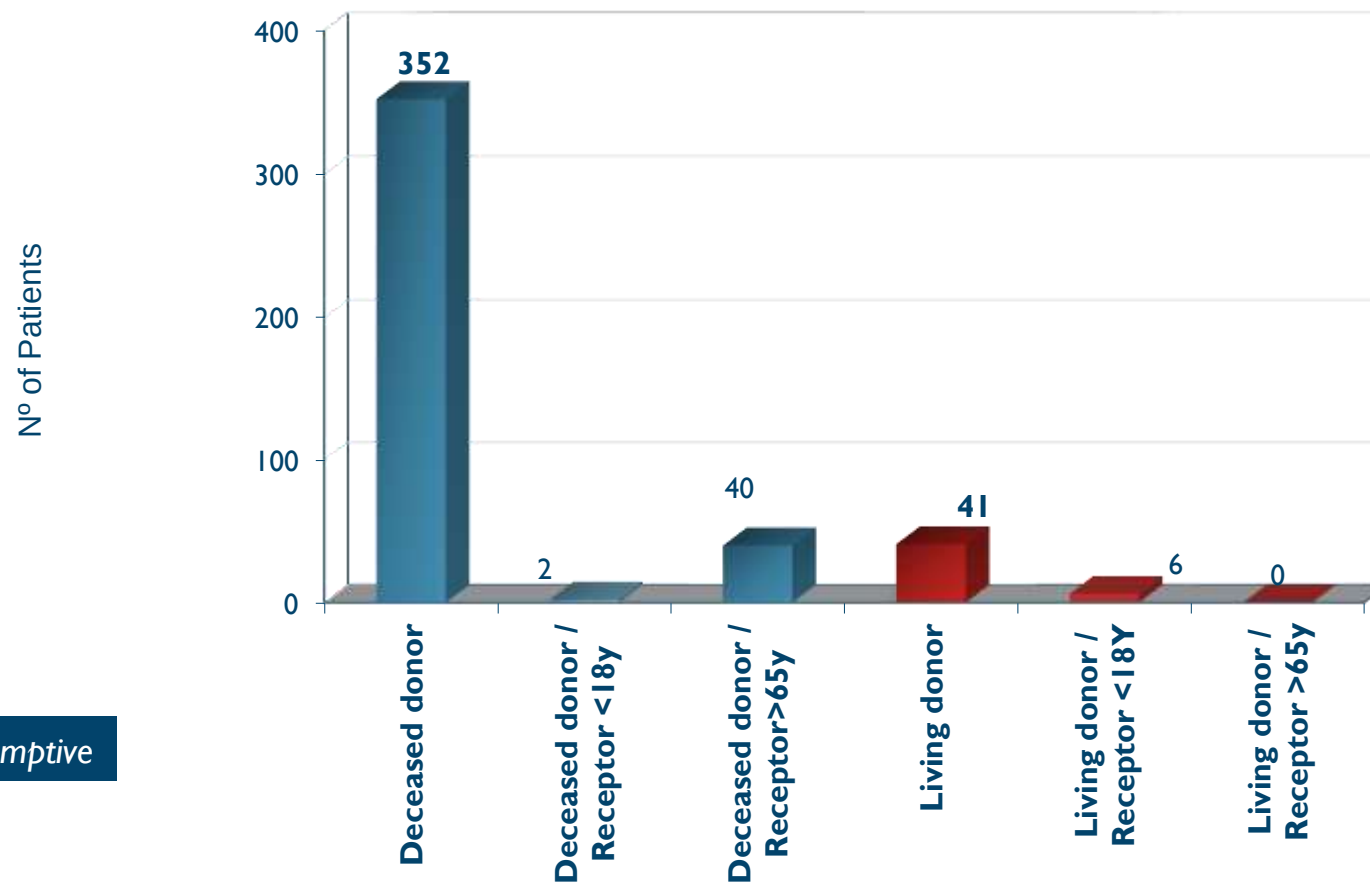
Total = 14063



Renal Transplants Performed *per million population, 2010 - 2020*

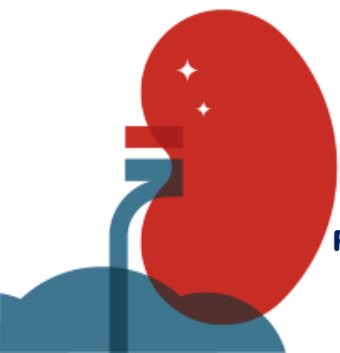
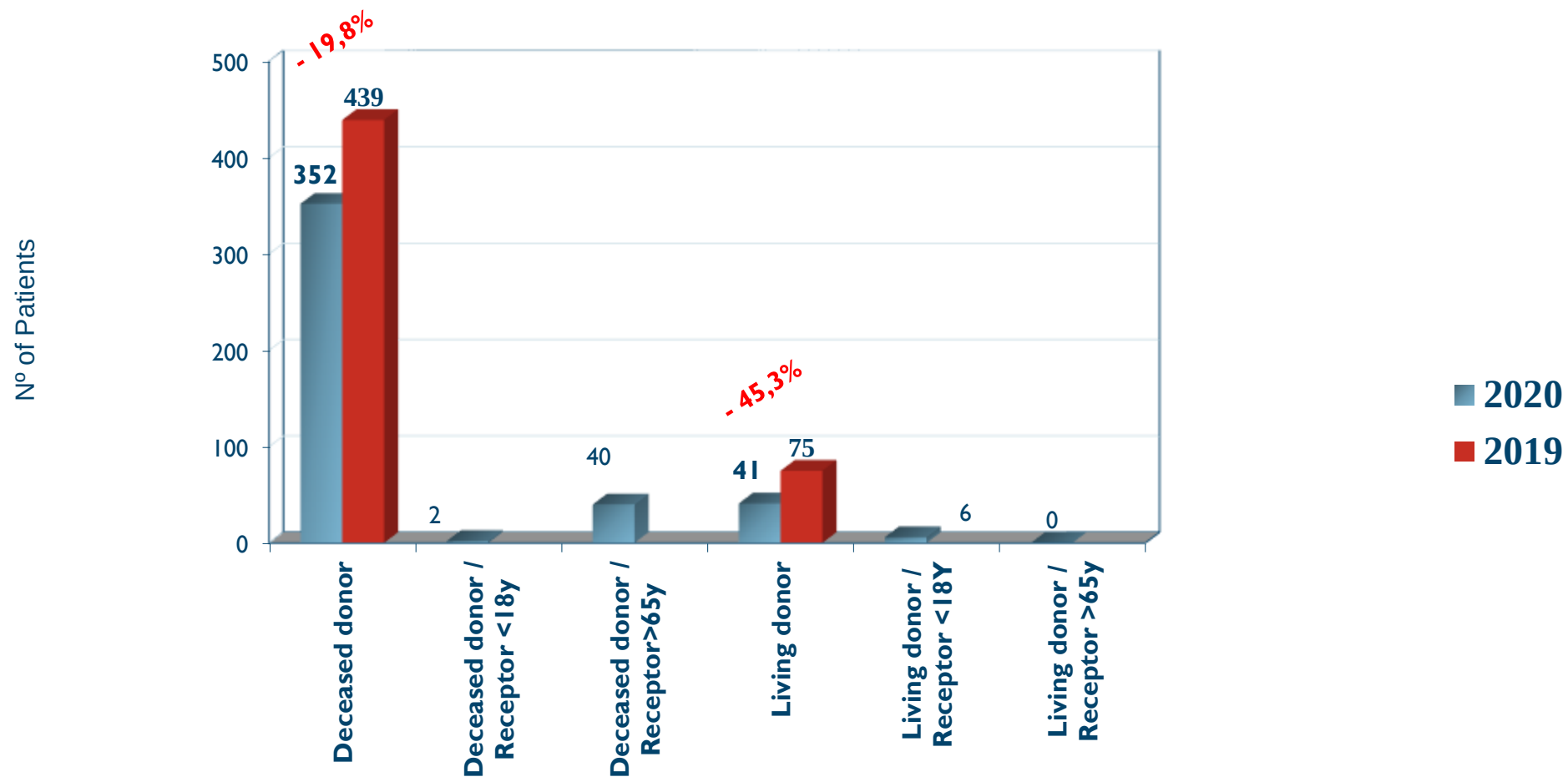


Renal transplantation activity characterization 2020

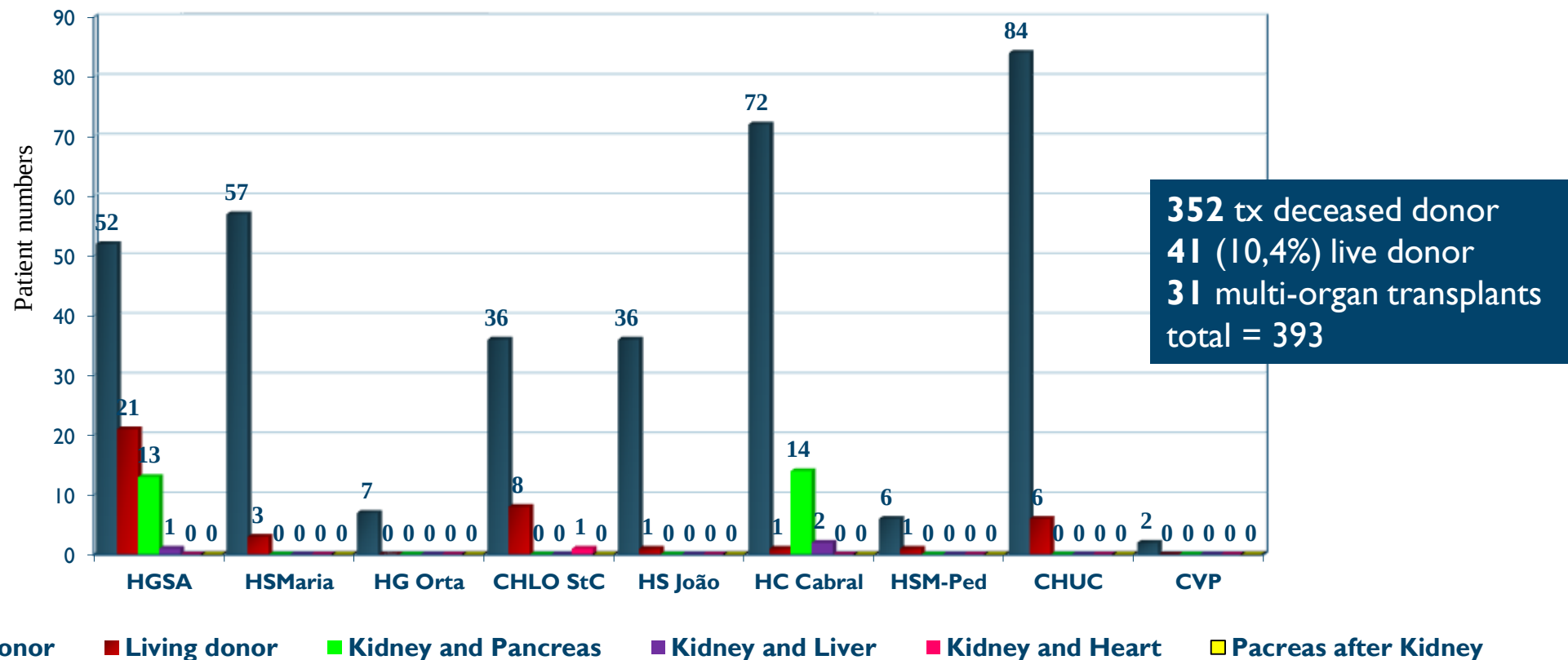


21 pre-emptive

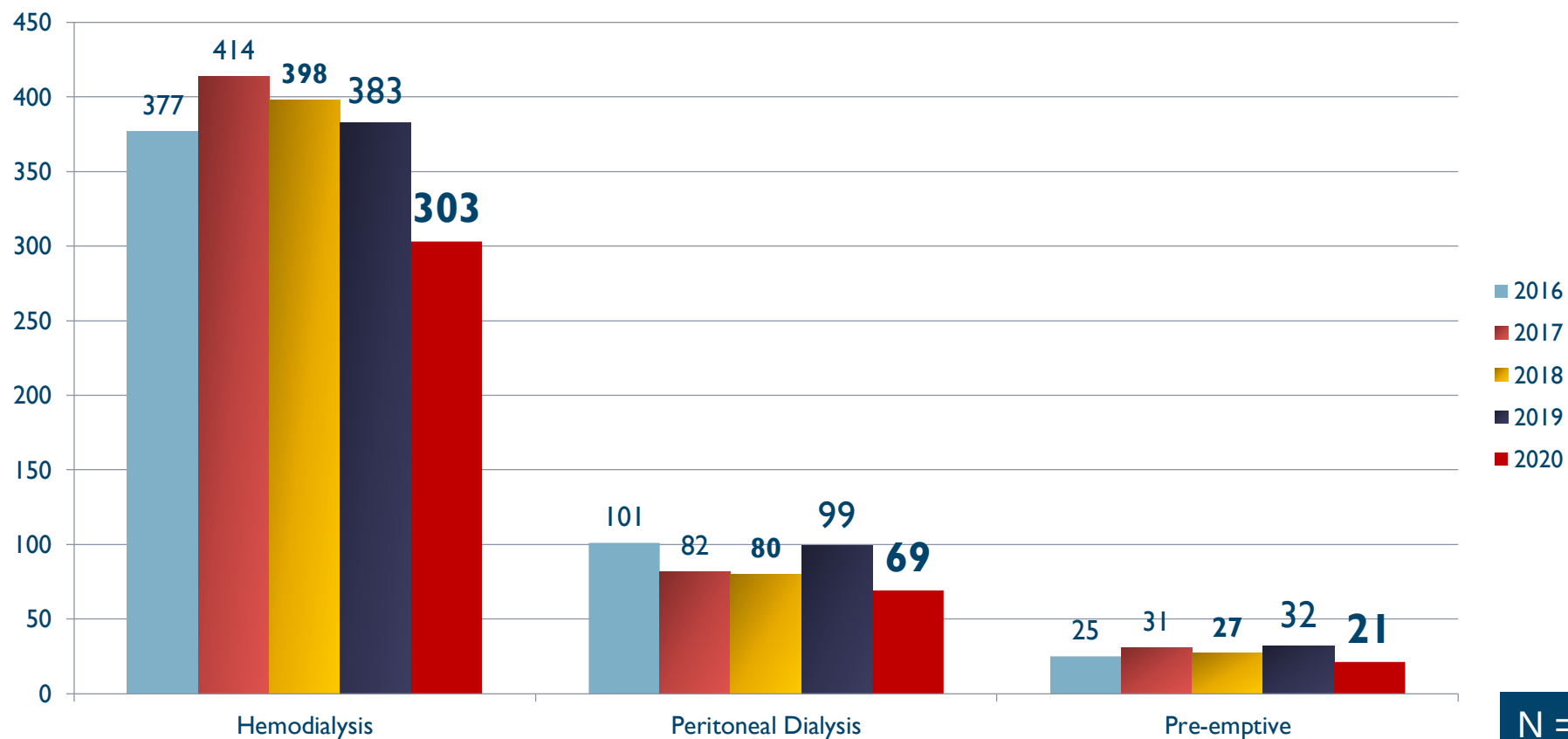
Renal transplantation activity characterization 2020



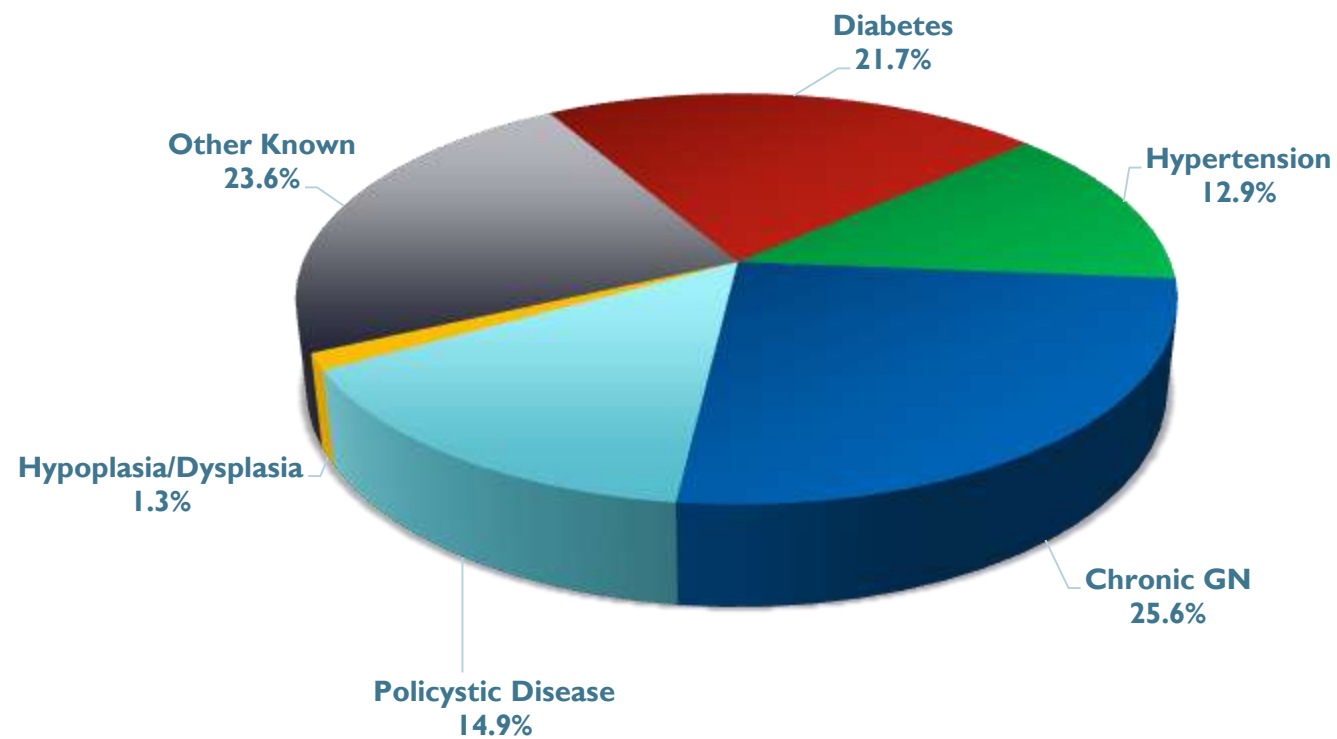
Portuguese Transplant Centers Activity 2020



Renal Transplanted Patients *Previous renal replacement therapy, 2016-2020*

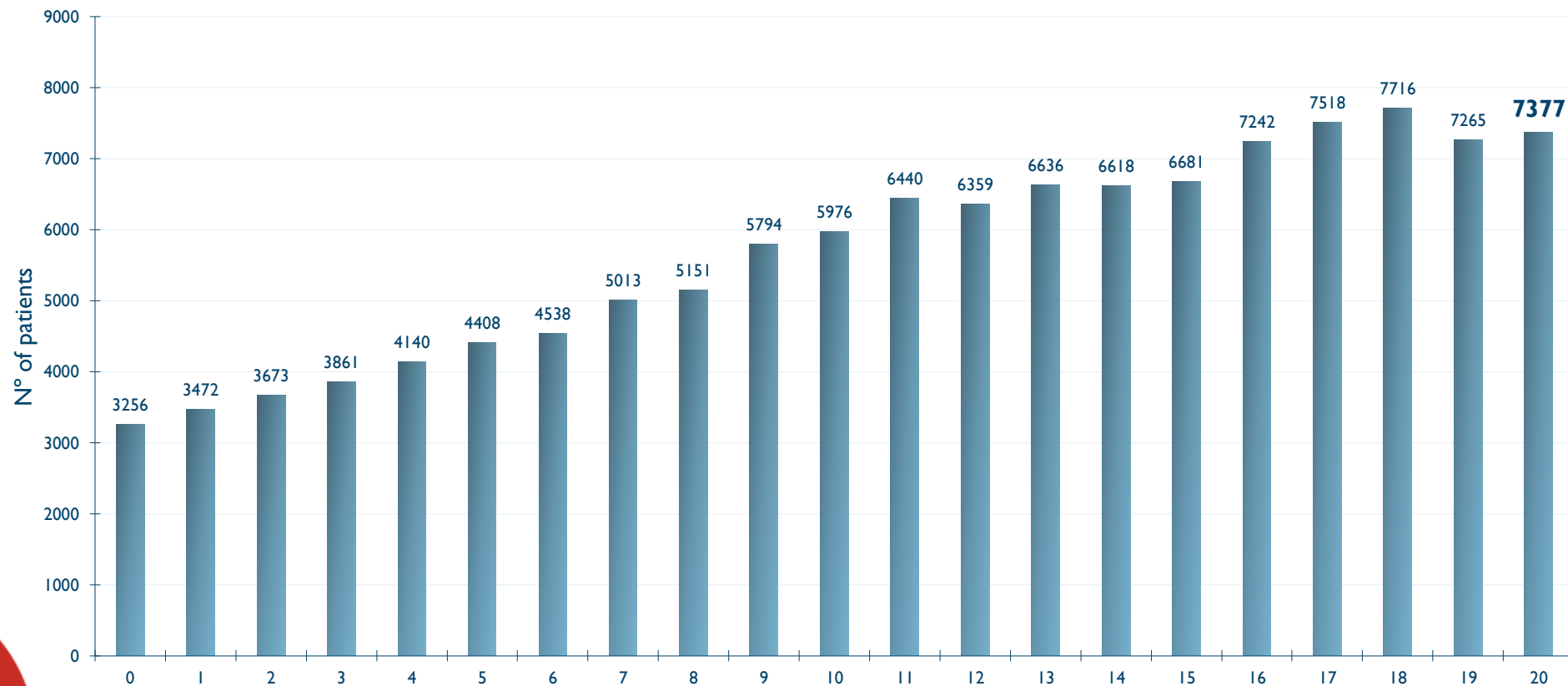


Primary renal disease of renal transplanted patients during 2020

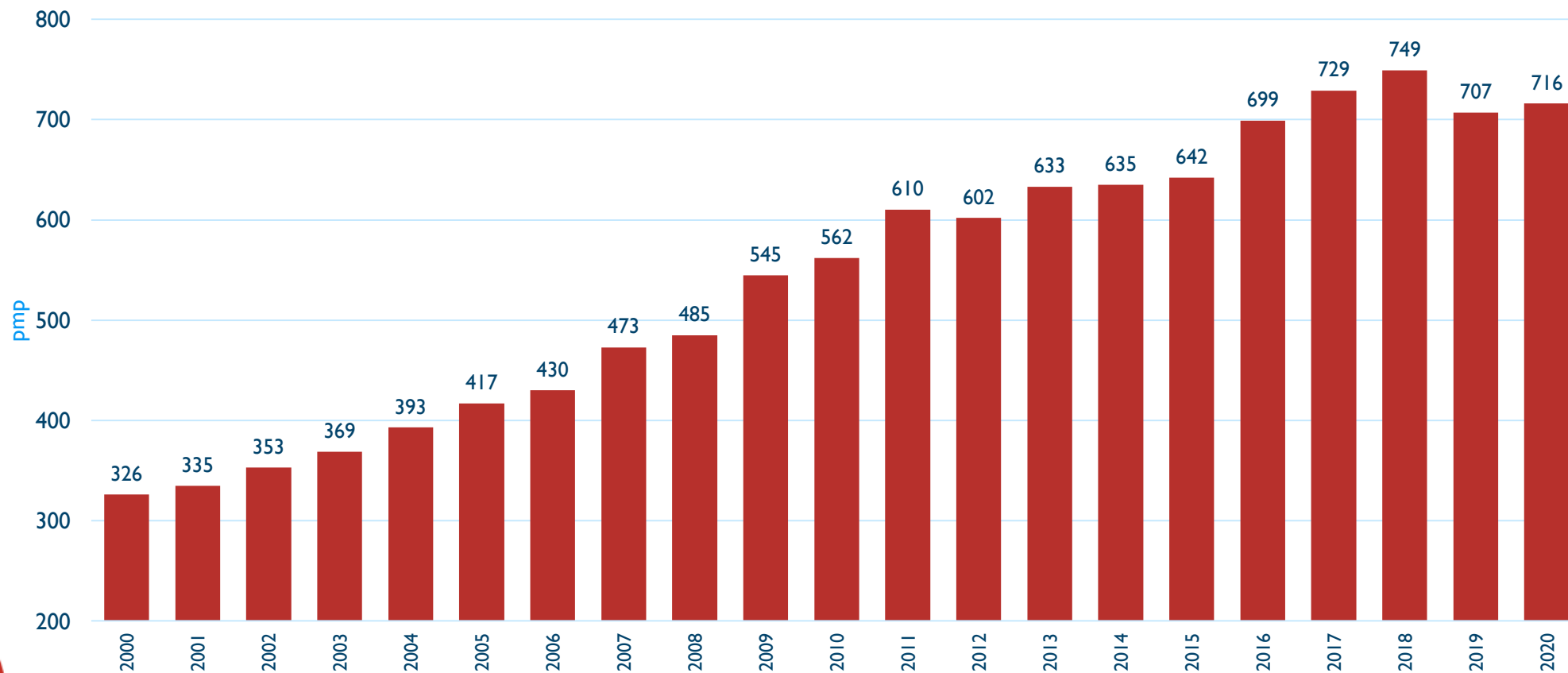


N = 393

Patients with functioning graft and annual growth 31st December 2000 - 2020

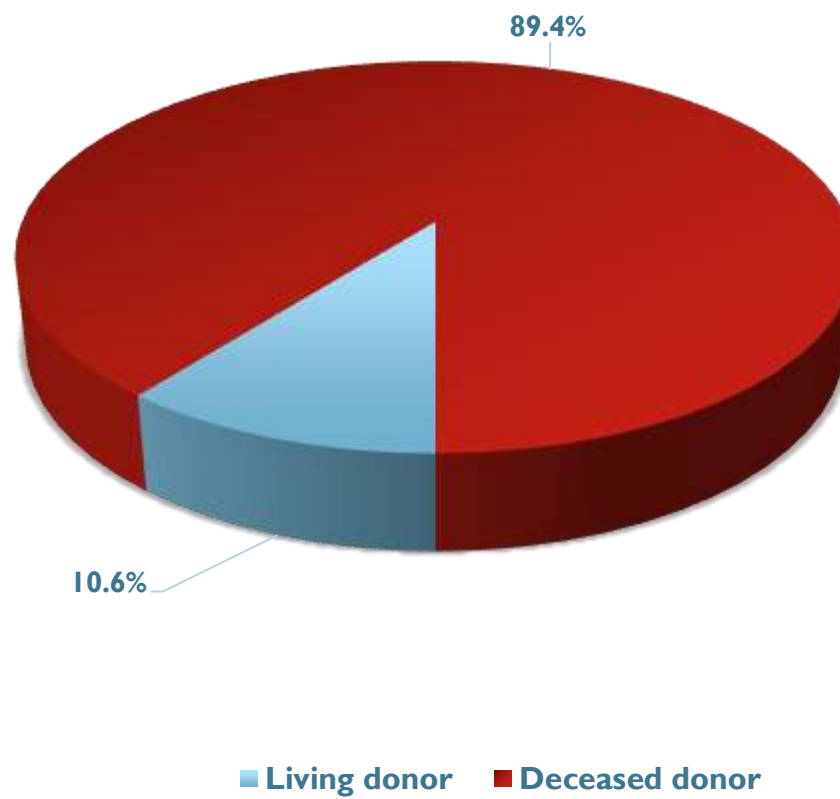


Prevalence of CKD patients with functioning graft *cumulative per million population end of each year 2000 - 2020*

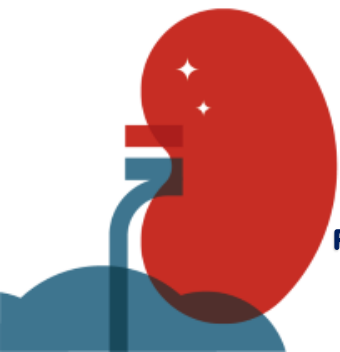


N = 7377

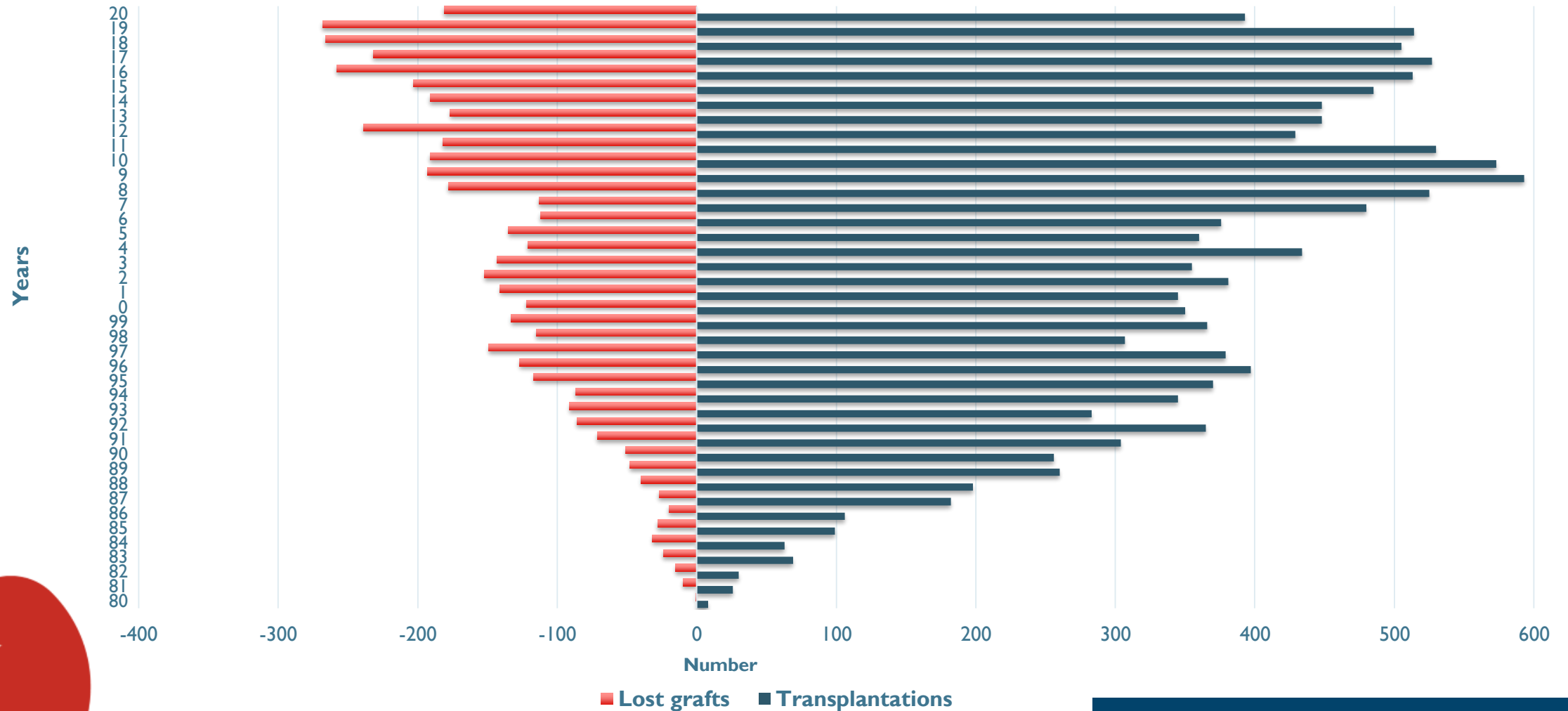
Renal transplantation: living vs deceased donor 2020



N = 7377

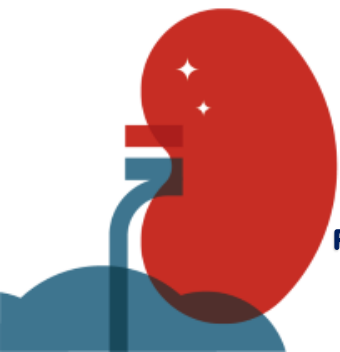


Renal transplantation activity 1980 - 2020



Portuguese Registry of Dialysis and Transplantation 2020

- ✓ Redução de 11,5% na incidência pmp de novos doentes a iniciar Diálise (em relação a 2019)
- ✓ A incidência de novos doentes a iniciar TSFR continua muito elevada > 200 pmp
- ✓ A Prevalência de doentes em diálise diminuiu pela 1ª vez (0,3% em relação a 2019)
- ✓ A prevalência de doentes sob TSFR continua muito elevada > 2000 pmp



Portuguese Registry of Dialysis and Transplantation 2020

Hemodiálise

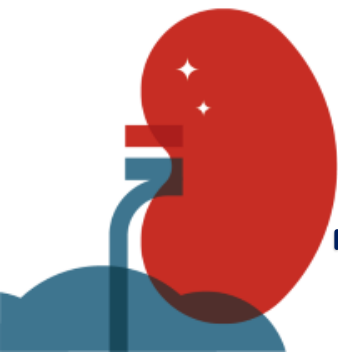
- ✓ Redução da incidência (10.8% em relação a 2019) mantendo-se > 200 pmp
- ✓ Pela 1ª vez redução na prevalência (0,52% em relação a 2019)
- ✓ A idade média continua a aumentar (68,48 anos)
- ✓ Maior % de doentes a iniciar HD por CVC (60,4%) e a taxa de CVC nos doentes prevalentes atingiu os 19%
- ✓ Maior taxa de mortalidade 14% com maior % de mortes por infeção não relacionada com AV

Diálise Peritoneal

- ✓ Redução da incidência de novos doentes (16,1% em relação a 2019)
- ✓ A prevalência continua a aumentar (3% em relação a 2019)
- ✓ A idade média continua a aumentar (56,3 anos)
- ✓ A taxa de mortalidade e o nº de episódios de peritonite/doente.ano aumentaram

Transplantação Renal

- ✓ Redução da incidência de 23,5% em relação a 2019
- ✓ Redução da incidência de tx com dador vivo (45% em relação a 2019)
- ✓ A incidência de tx duplos aumentou (Rim/Panc)
- ✓ Pool de doentes transplantados continua a crescer



Gabinete do Registo da Doença Renal Crónica da Sociedade Portuguesa de Nefrologia

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