WIE DIALYSIEREN UNSERE NACHBARN? – DIE SCHWEIZ

Prof. Dr. med. Patrice M. Ambühl

Chefarzt Institut für Nephrologie Stadtspitäler Waid und Triemli, Zürich / Schweiz

Geschäftsführer Schweizerisches Dialyseregister

1./2.12.2017

Berliner DialyseSeminar

srrqap

swiss renal registry and quality assessment program

Darlegung potentieller Interessenskonflikte

Berliner DialyseSeminar

Der Inhalt des folgenden Vortrages ist Ergebnis des Bemühens um größtmögliche Objektivität und Unabhängigkeit.

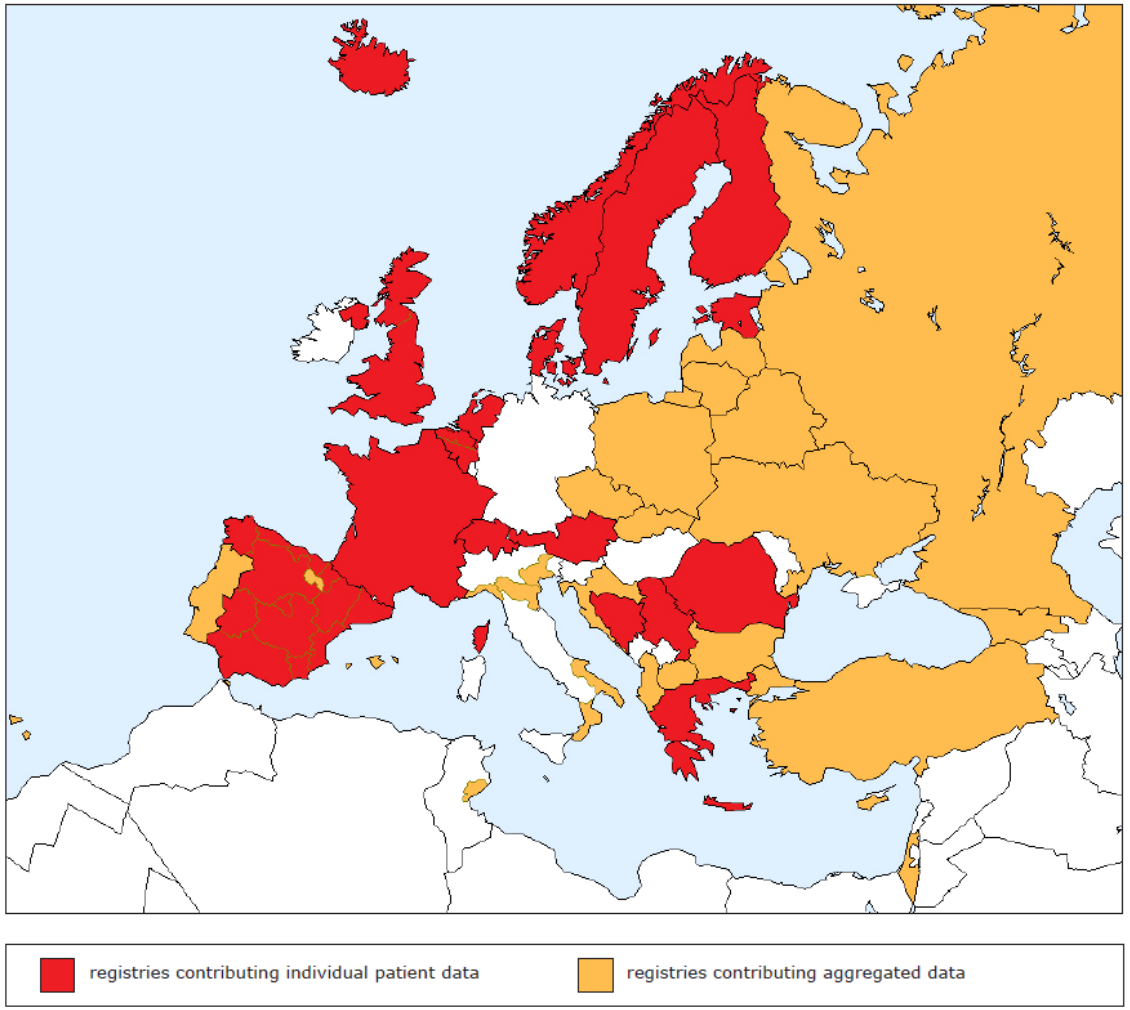
Als Referent versichere ich, dass in Bezug auf den Inhalt des folgenden Vortrags **keine Interessenskonflikte** bestehen, die sich aus einem Beschäftigungsverhältnis, einer Beratertätigkeit oder Zuwendungen für Forschungsvorhaben, Vorträge oder andere Tätigkeiten ergeben.

National and regional renal registries that contributed data to the 2015 ERA-EDTA Registry Annual Report

Die Schweiz vor 2013

Die Schweiz seit 2015

Figure 1: National and regional renal registries that contributed data to this annual report



Übersicht

- Vorstellung des Schweizer Dialyseregisters
- Demografie der Schweizer Dialysepopulation
- Ausgewählte Analysen (Behandlungsqualität, Outcome) zu:
  - Gefässzugang
  - Dialysedauer
  - Anämiemanagement
  - Diabetes
  - Geschlechter-Aspekten

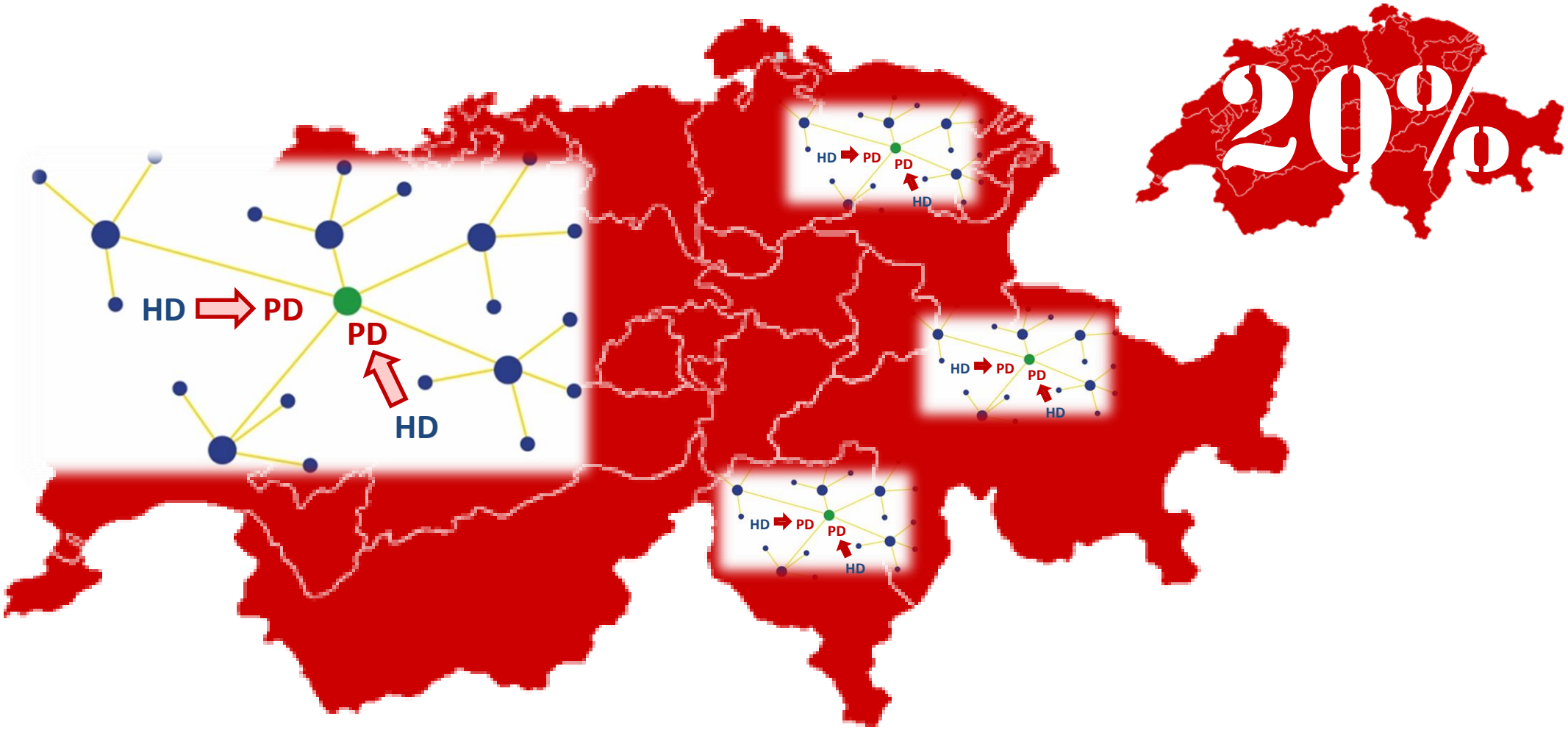
Entwicklung des Schweizer Dialyseregisters

- Begründet 2006, Datenlieferung auf «freiwilliger» Basis
- Ab 2012 Datenerhebung geregelt als Teil des nationalen Dialysevertrages:
  - Qualitätssicherungsprogramm
  - Finanziert über 1‰ des Dialysetarifs (von CHF 530.-/Dialyse)
  - Nicht-Teilnahme wird sanktioniert mit Reduktion der Dialyseentschädigung
  - ➢ Garantiert eine gesicherte Finanzierung und hohe Datenrücklaufquote

Entschädigungssystem für (Hämo-)dialysebehandlungen in der CH

- Einheitliche Entschädigung:
  - CHF 530.-/Dialyse
  - Bedingungen:
    - **20% der Behandlungen mittels Heimdialyse** (PD, Heim-HD oder limited care)
    - Deklaration weshalb Patient nicht für eine Lebendspende qualifiziert
    - Nachweis, dass Patient über alle Therapiemodalitäten aufgeklärt wurde
    - Meldung des Patienten an ein TPL-Zentrum, sofern < 65-jährig
  - Falls die Quote (oder die anderen Bedingungen) nicht erfüllt sind
    - **Abschlag von CHF 50.-/Dialyse** im Zeitraum der nächsten Bemessungsperiode

Regionale Zusammenarbeit/Zentrumsbildung



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- Seit 2013 Re-Launch des Registers
  - Hosting durch Stadtspital Waid Zürich
  - Unter Aegide der Schweiz. Gesellschaft für Nephrologie
  - Neue, webbasierte Online-Plattform (SecuTrial®) zur Datenerhebung
  - Seit 2016 direkter elektronischer Import von Labordaten

Stadt Zürich
Stadtspital Waid
NEPHRO
secuTrial®
web-based data capture in clinical trials

Erhebungen im Schweizer Dialyseregister

- Demografische Daten
  - Alter, Geschlecht, Ethnizität, Wohnort/Sprachregion/Landesteil
- Krankheitsbezogene Daten
  - Grunderkrankung (bioptisch gesichert?)
  - Zeitpunkt des Dialysebeginns/Dialysedauer
  - Co-Morbidität (Anzahl und Charlson-Score)
  - Todesursache
- Dialysebezogene Daten
  - Modalität, Zugang, Dauer, KtV, Blutdruck vor/nach HD
- Medikamentöse Therapie
  - Antihypertensiva (+/-), ESA (+/-), Eisen (+/-)
- Labordaten
  - Hb, Ferritin, Calcium, Phosphat, PTH
- «Endpunkt»-Daten
  - Tod, Transplantation, Modalitätswechsel, Wechsel des Dialysezentrums

Census 2013 through 2016

	2013	2014	2015	2016
Data expected (pts.)	3’860	4’220	4’400	4’600
Data collected (pts.)	**3’712 (~ 96%)**	**4’215 (~100%)**	**4’453 (~100%)**	**4’502 (~100%)**
Centers in CH / collaborating	85 / 81	87/88	89 / 88	89 / 88
Export to ERA-EDTA registry	☑	☑	☑	☑

(Sprach-)Region

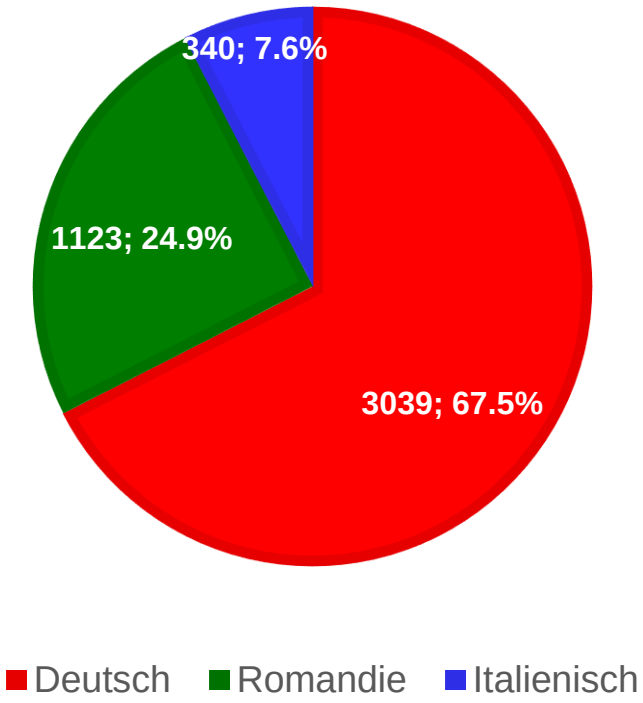
Prävalenz/Inzidenz

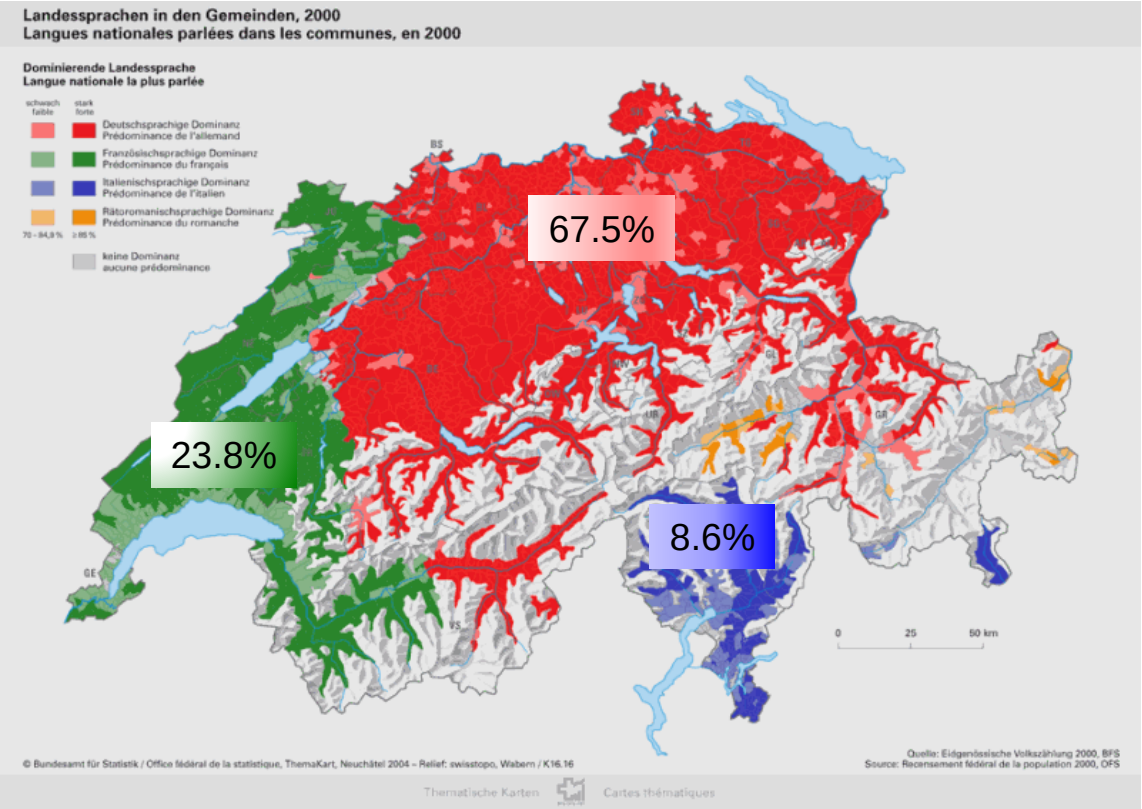
Alter

Geschlecht

DEMOGRAFIE

Distribution of patients according to language

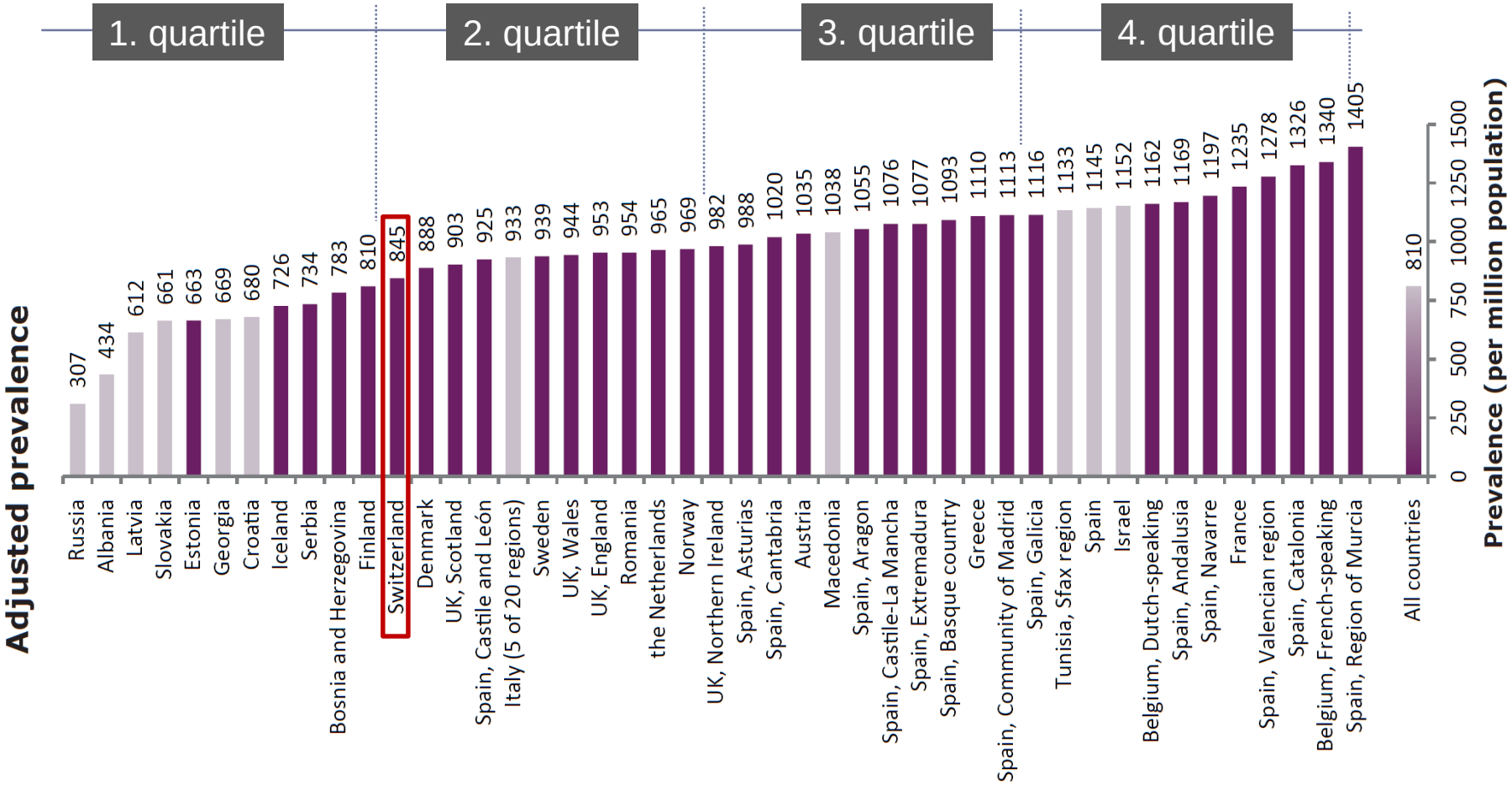




Population living in Switzerland according to language
(2013-2015; Bundesamt für Statistik)

Prevalent patients on RRT in 2015

by country, adjusted for age and gender

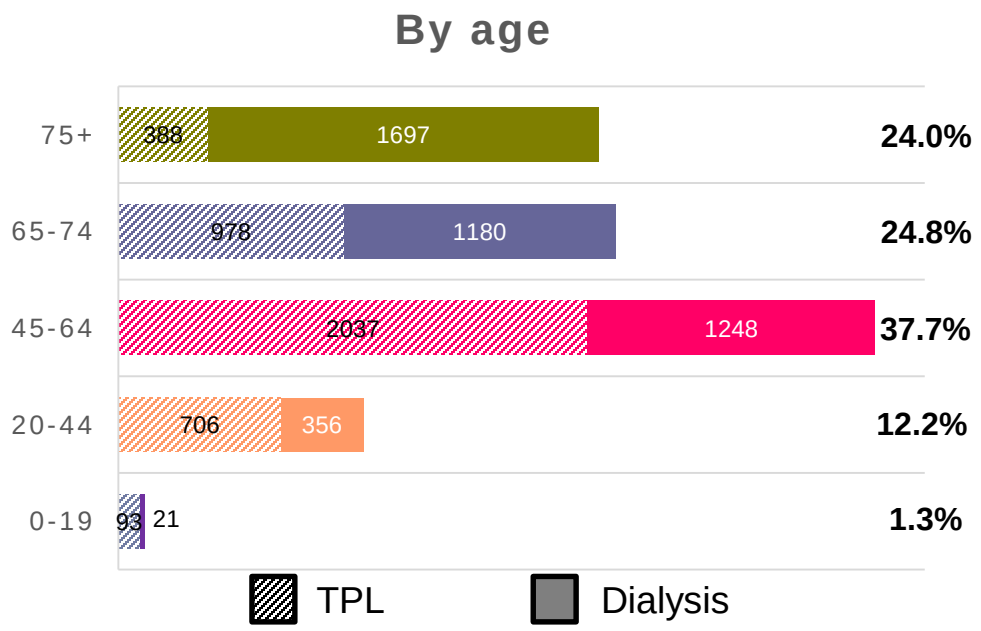


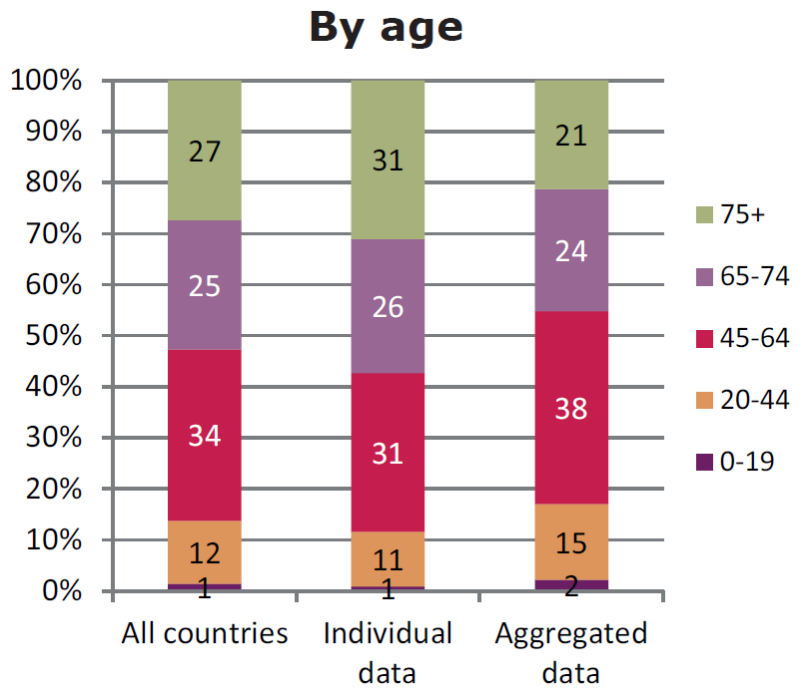
Adjustment of the prevalence was performed by standardising the prevalence to the age and gender distribution of the EU27 population.

Deutschland: ca. 1’010 pro Mio. Einwohner (nur Dialyse!)

Prevalent patients on RRT in 2015

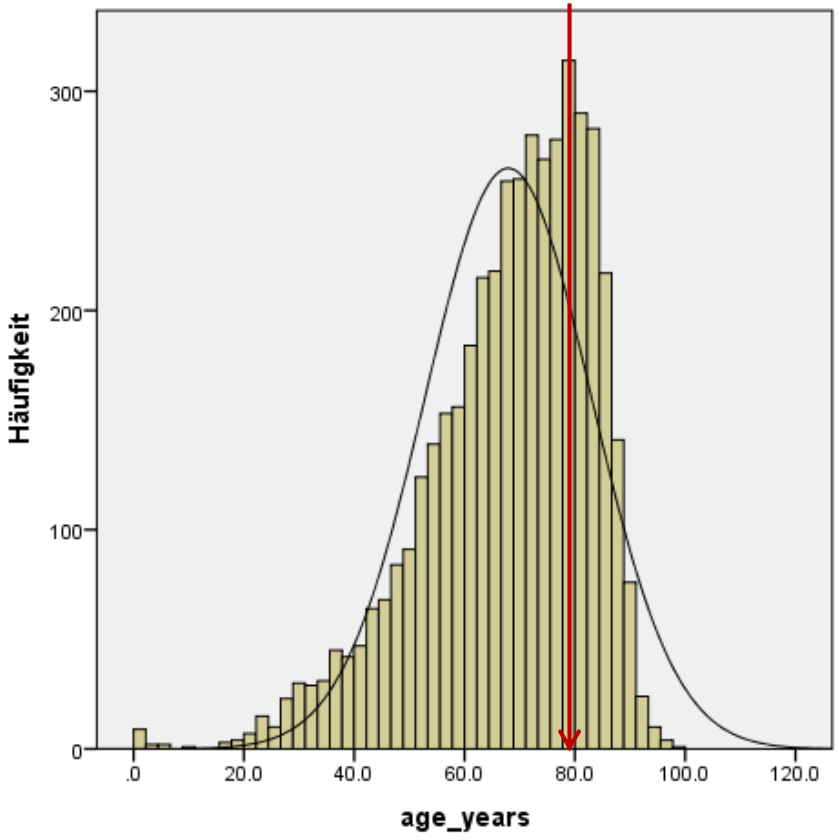
by age category





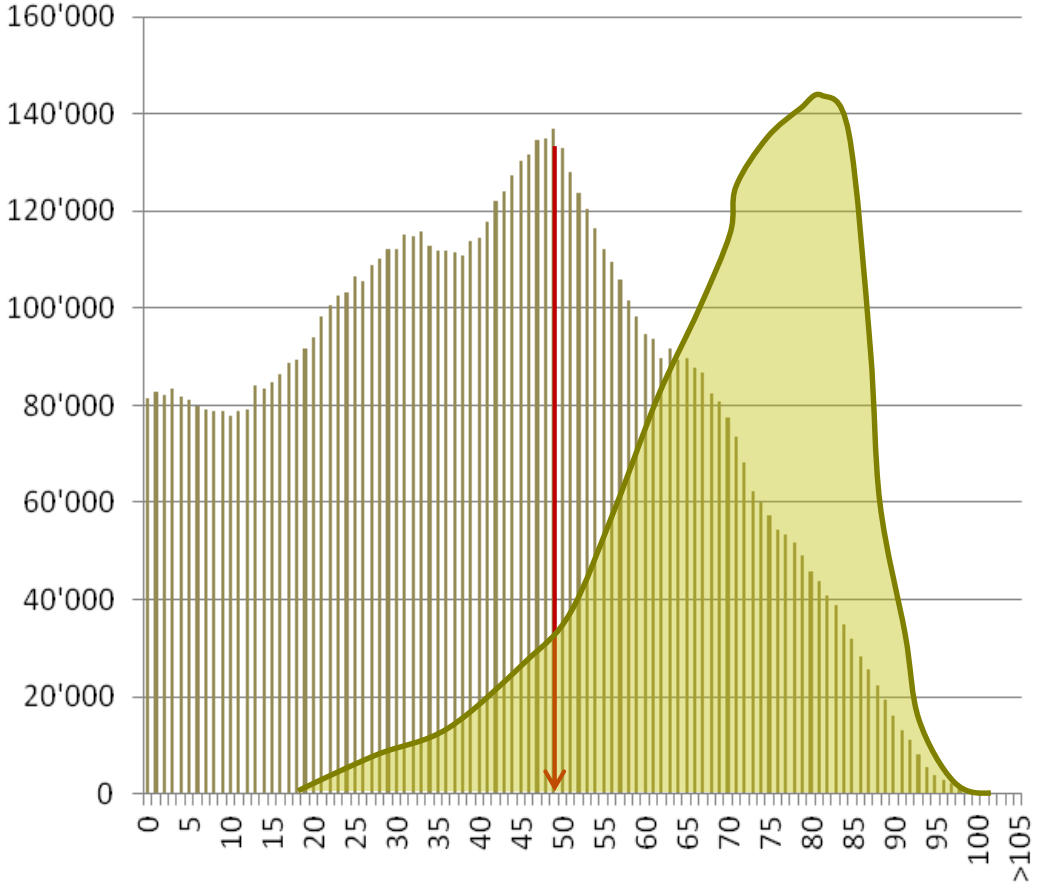
Age distribution (by December 31 2016)

Swiss dialysis population



Mittelwert, yr	**67.9**
Median, yr	70.6

Swiss general population

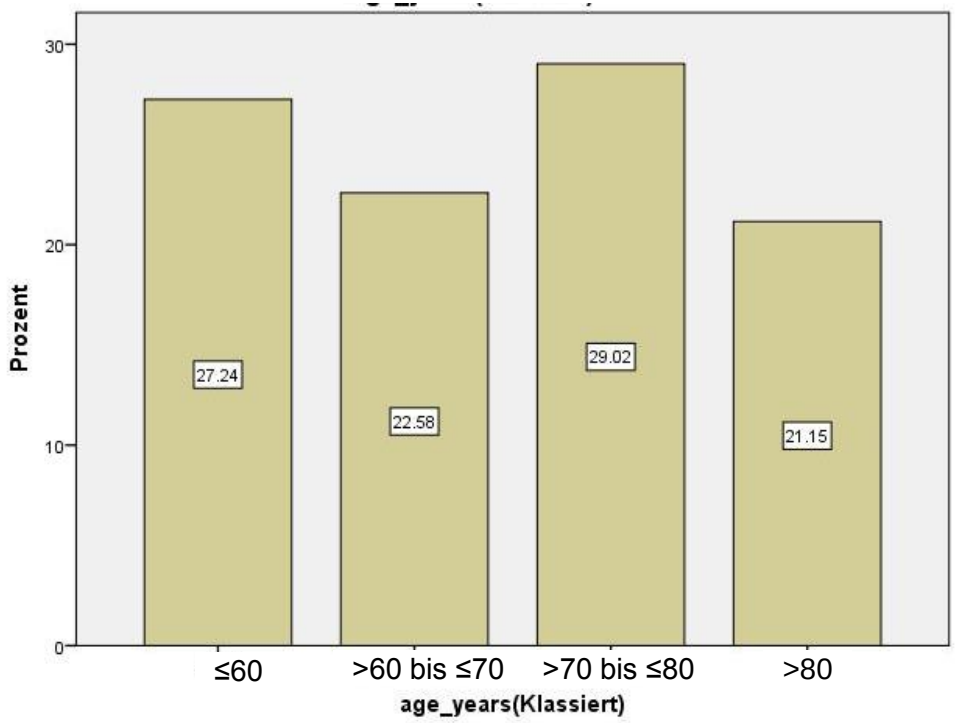


Mittelwert, yr	**41.9**
Median, yr	?

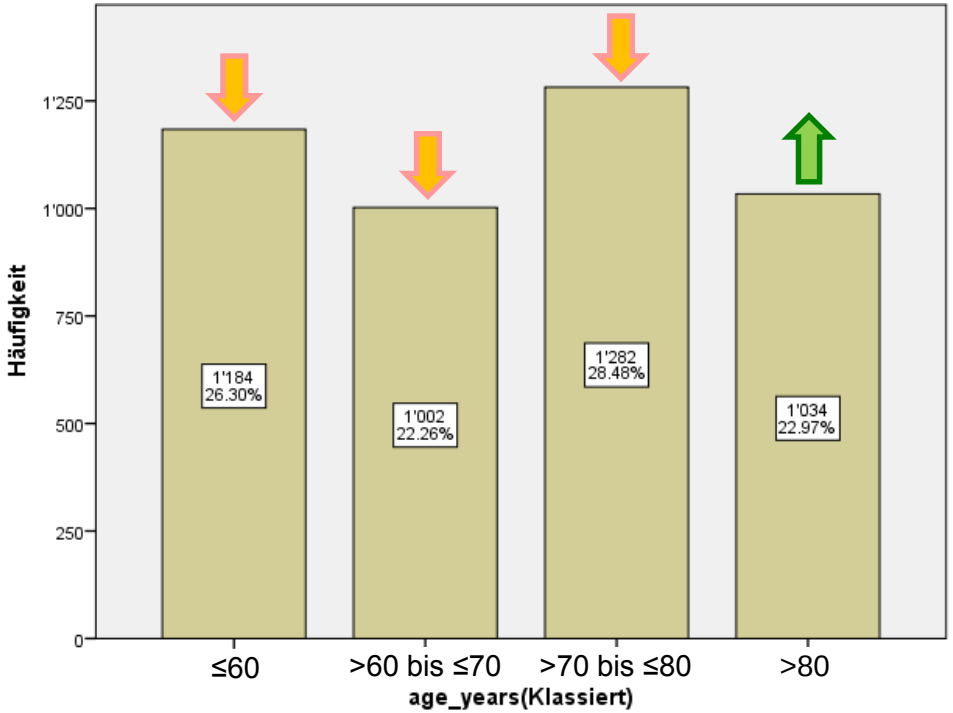
Age/age distribution (by December 31 2013 vs. 2016)

All patients

2013

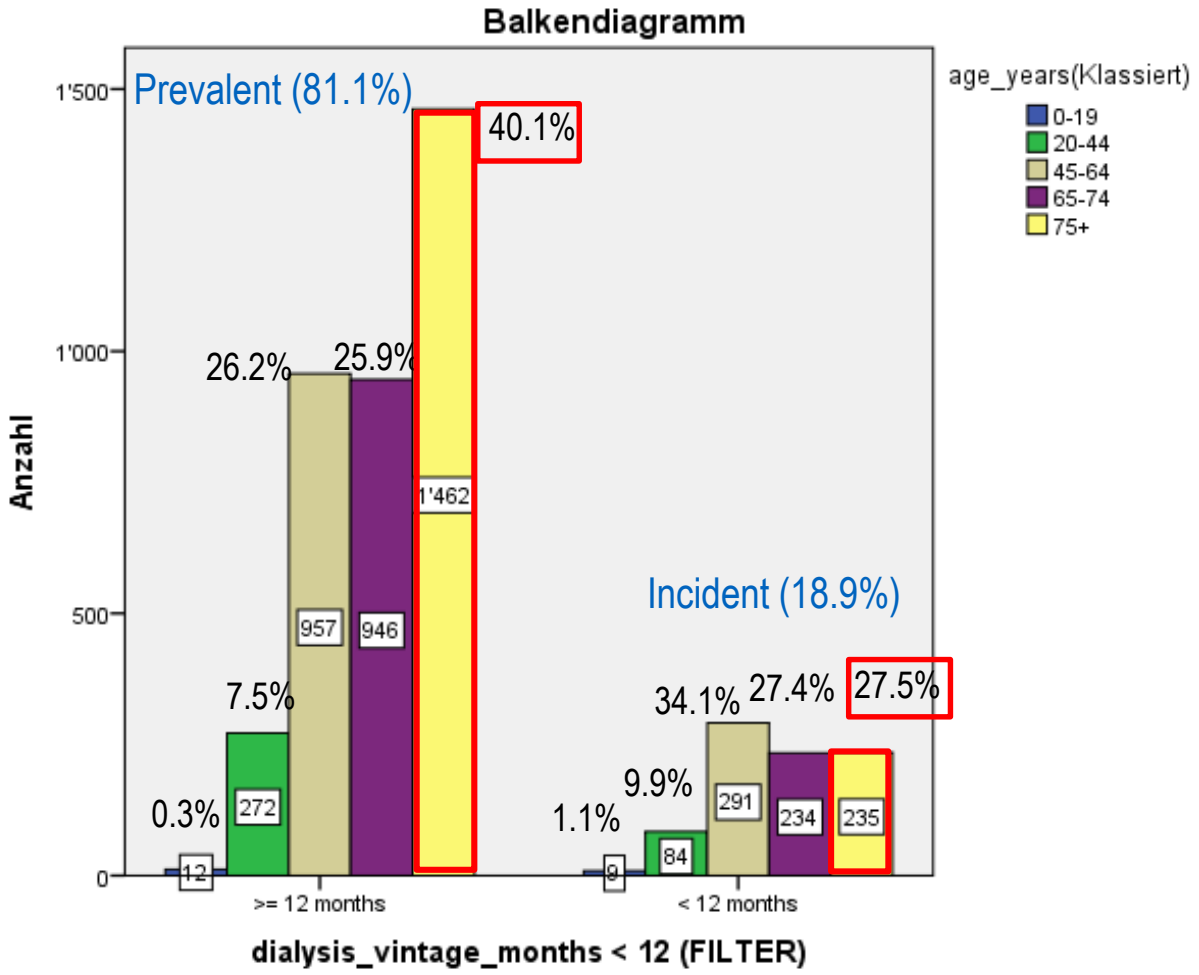


2016

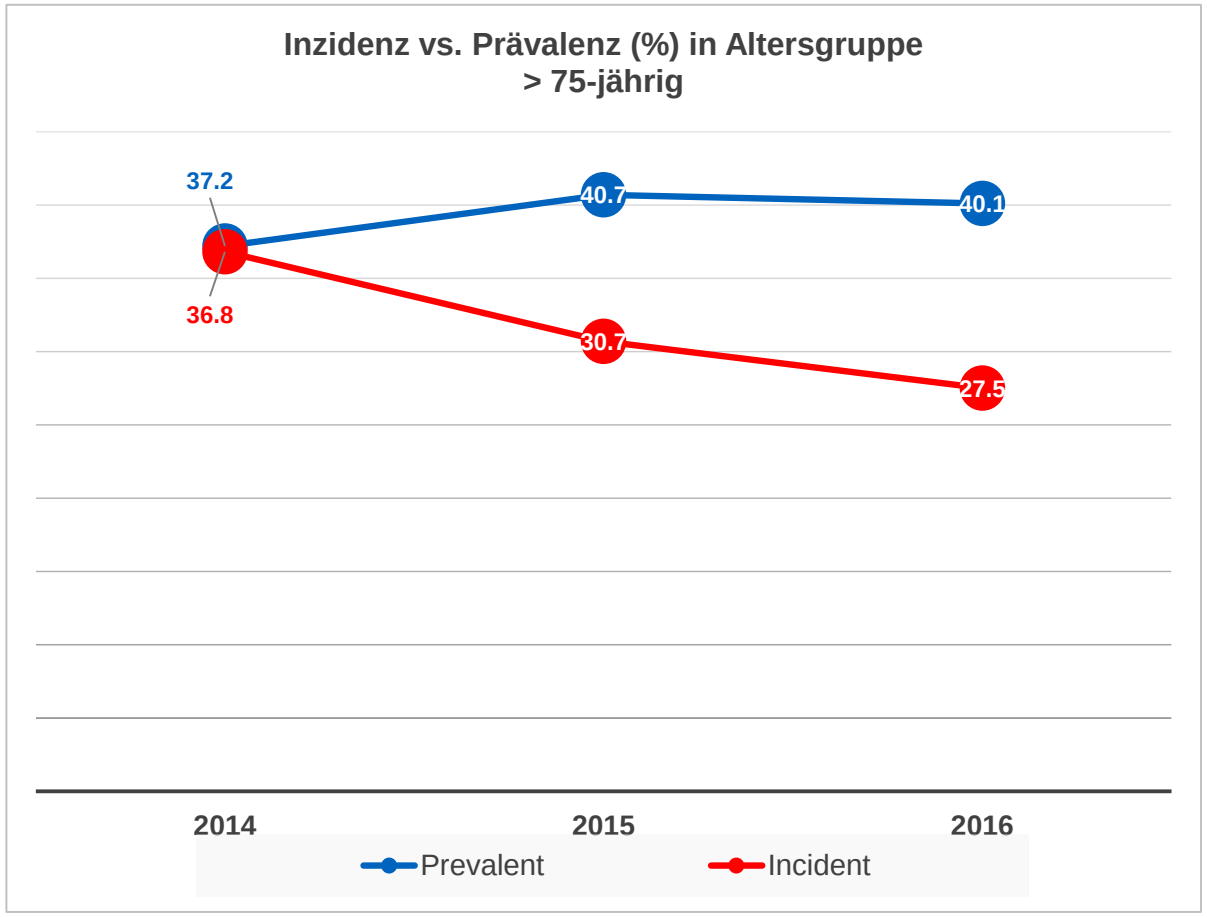


Age distribution prevalent vs. incident (2016)

Incident: Vintage ≤ 12 months
Prevalent: Vintage > 12 months

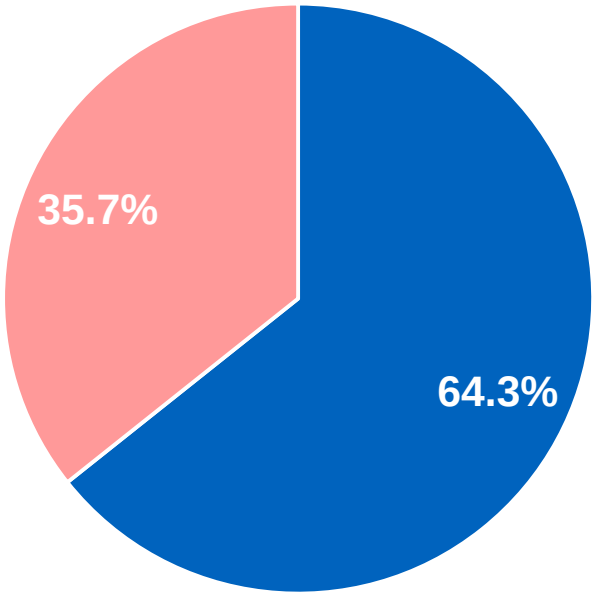


Age distribution prevalent vs. incident (2014 - 2016)

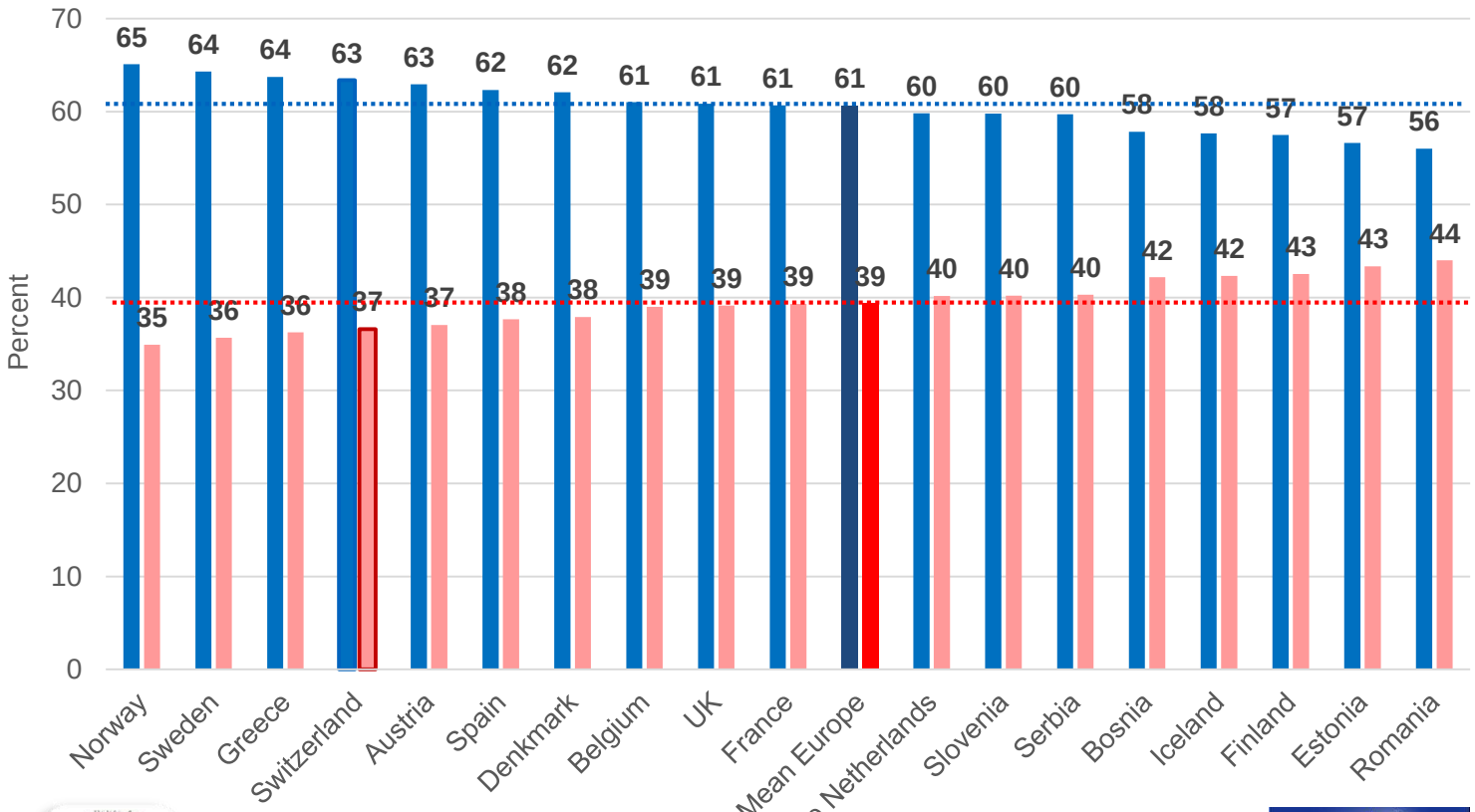


Incident: Vintage ≤ 12 months
Prevalent: Vintage > 12 months

Gender distribution of ESRD population in Switzerland and Europe

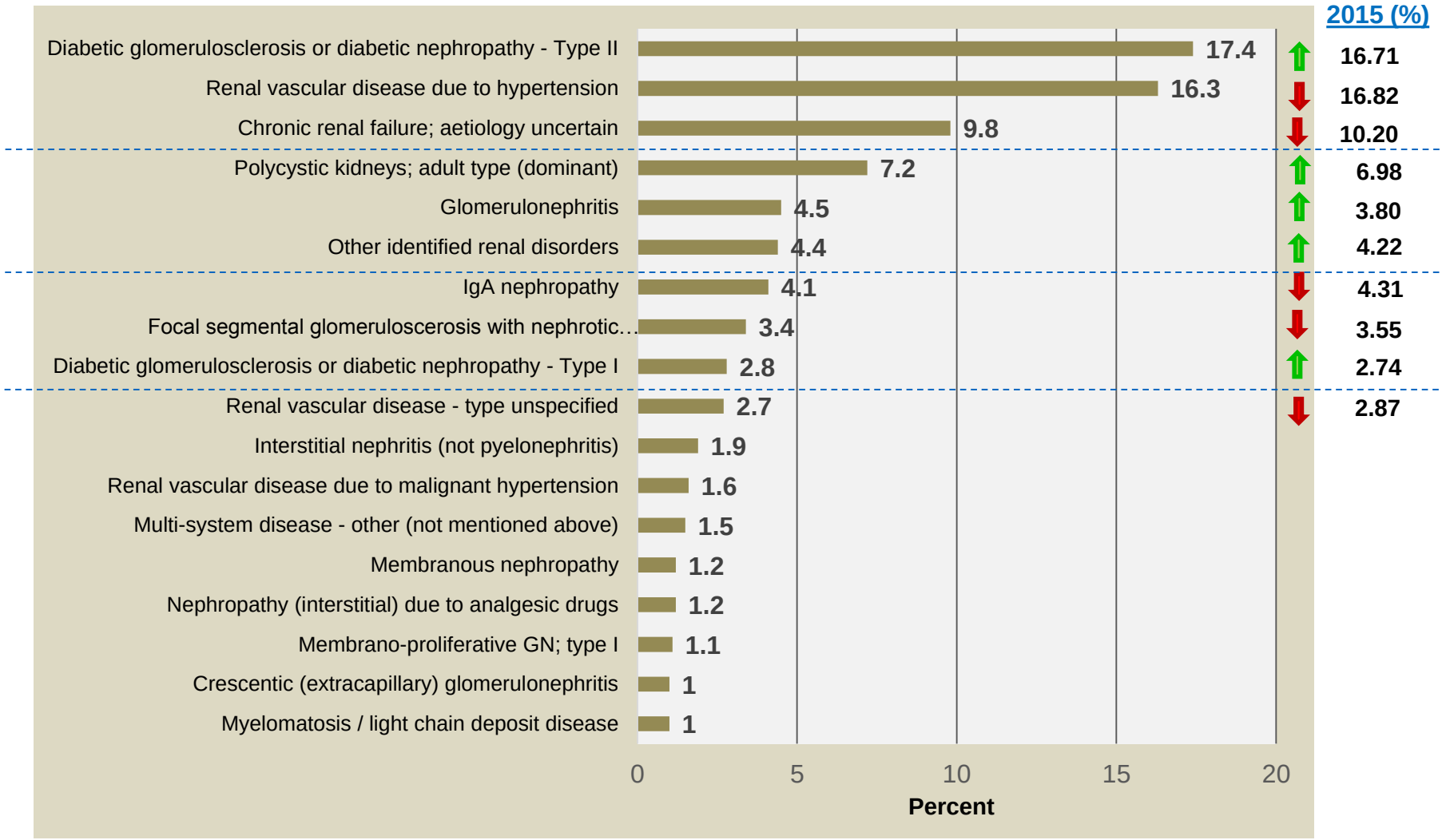


Male Female



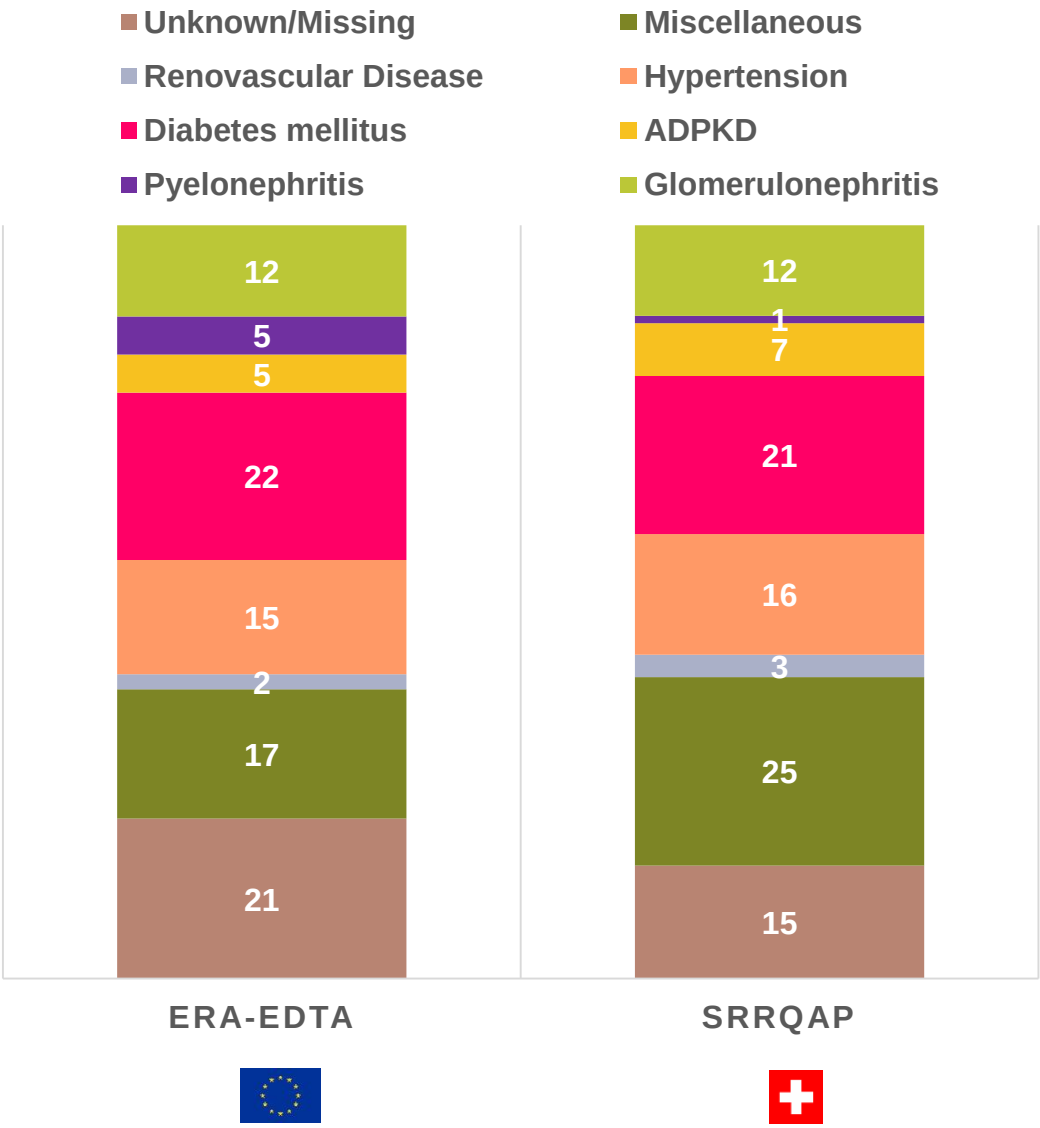
2014

Original disease 2016

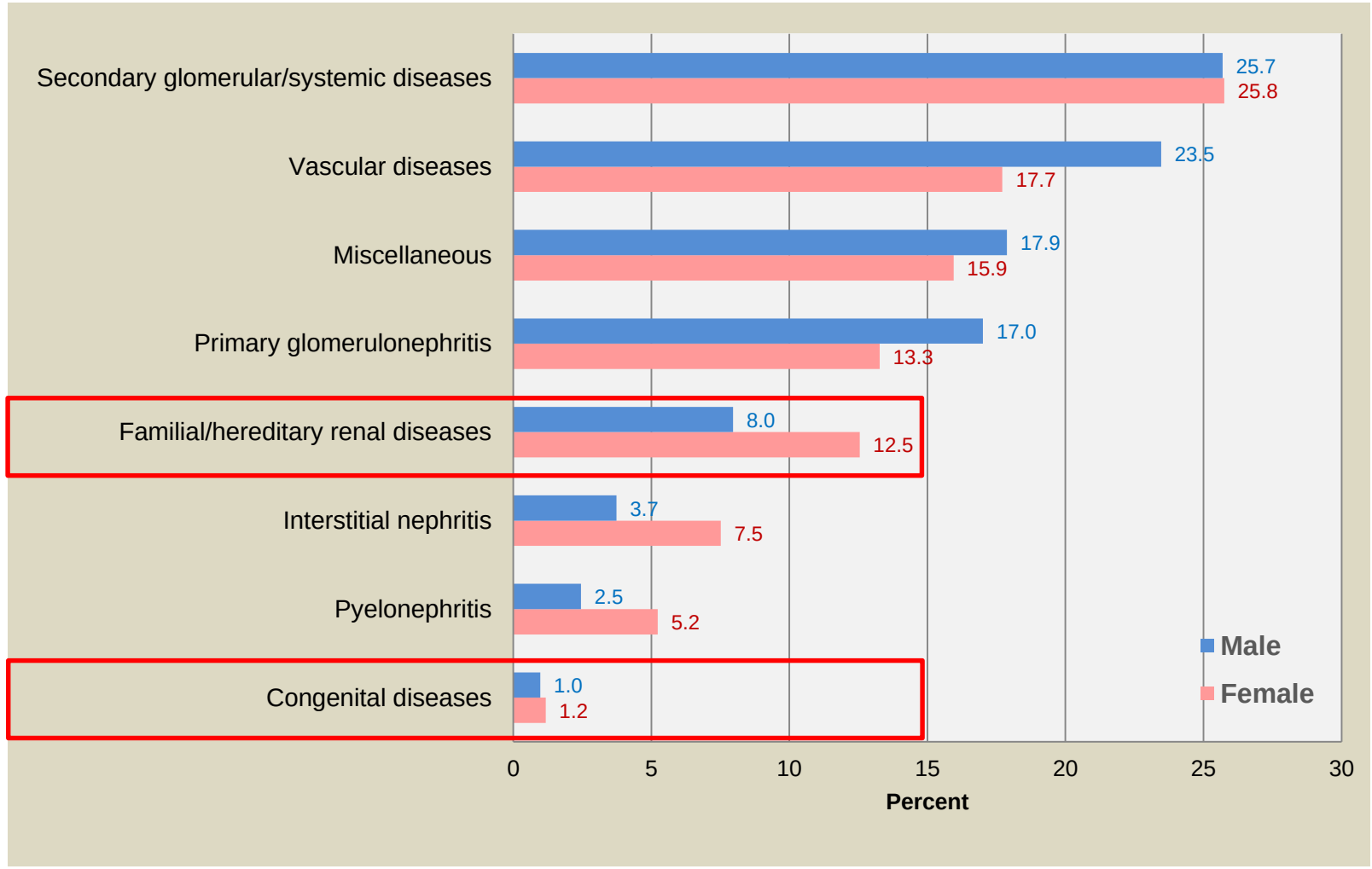


Prevalent patients on RRT in 2015

by primary renal disease

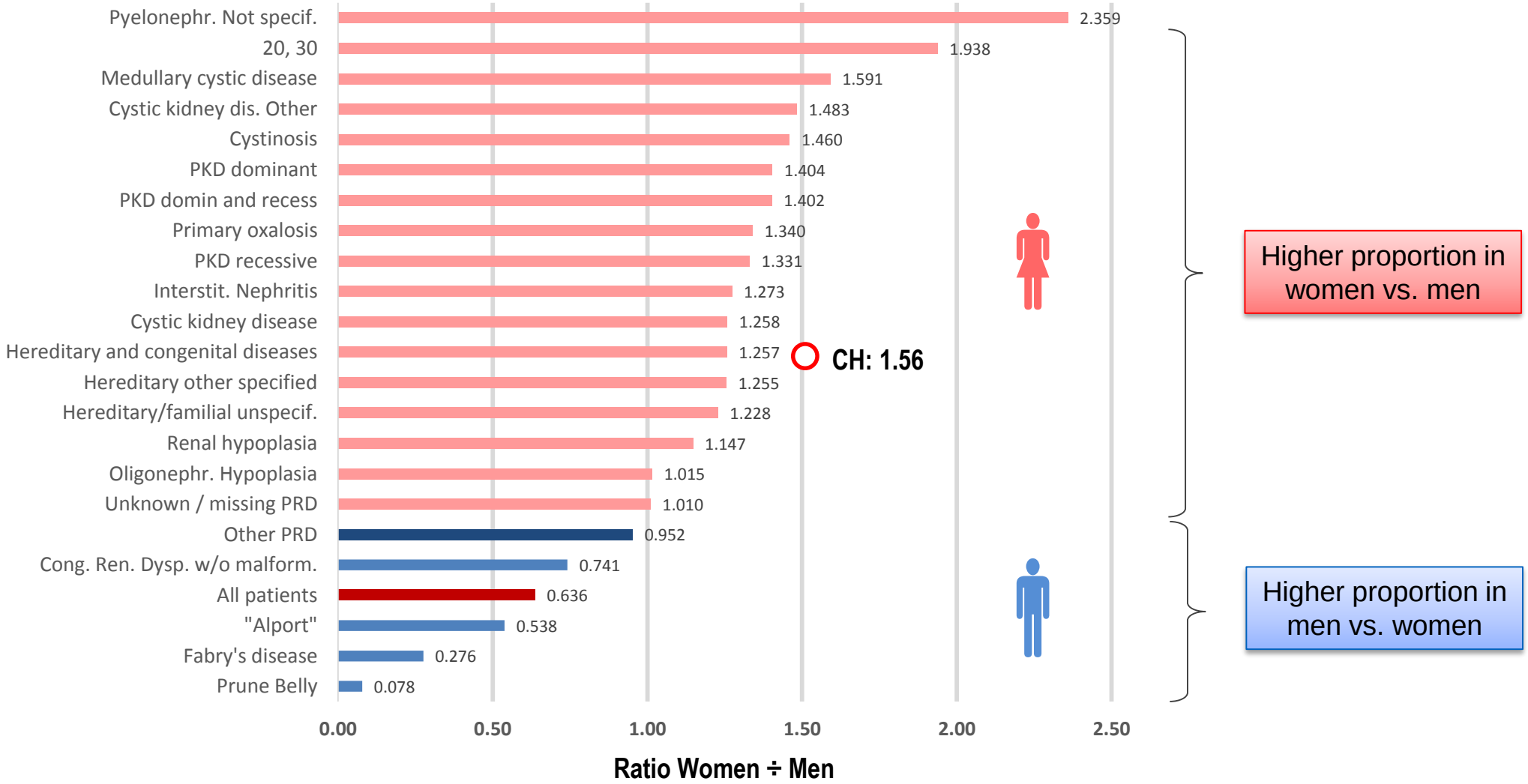


Original renal disease according to gender

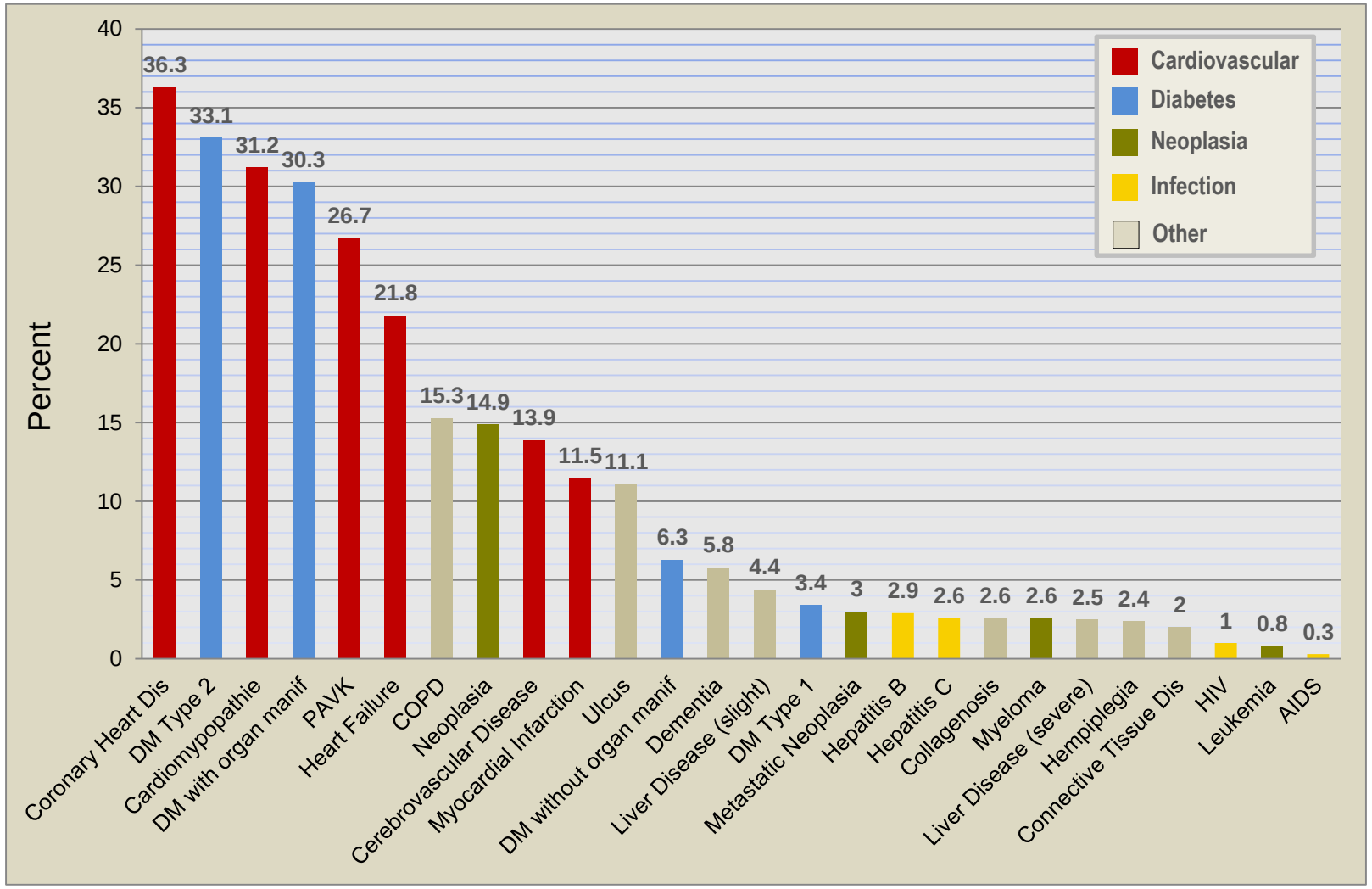


Original renal disease (ERA-EDTA)

Primary renal disease

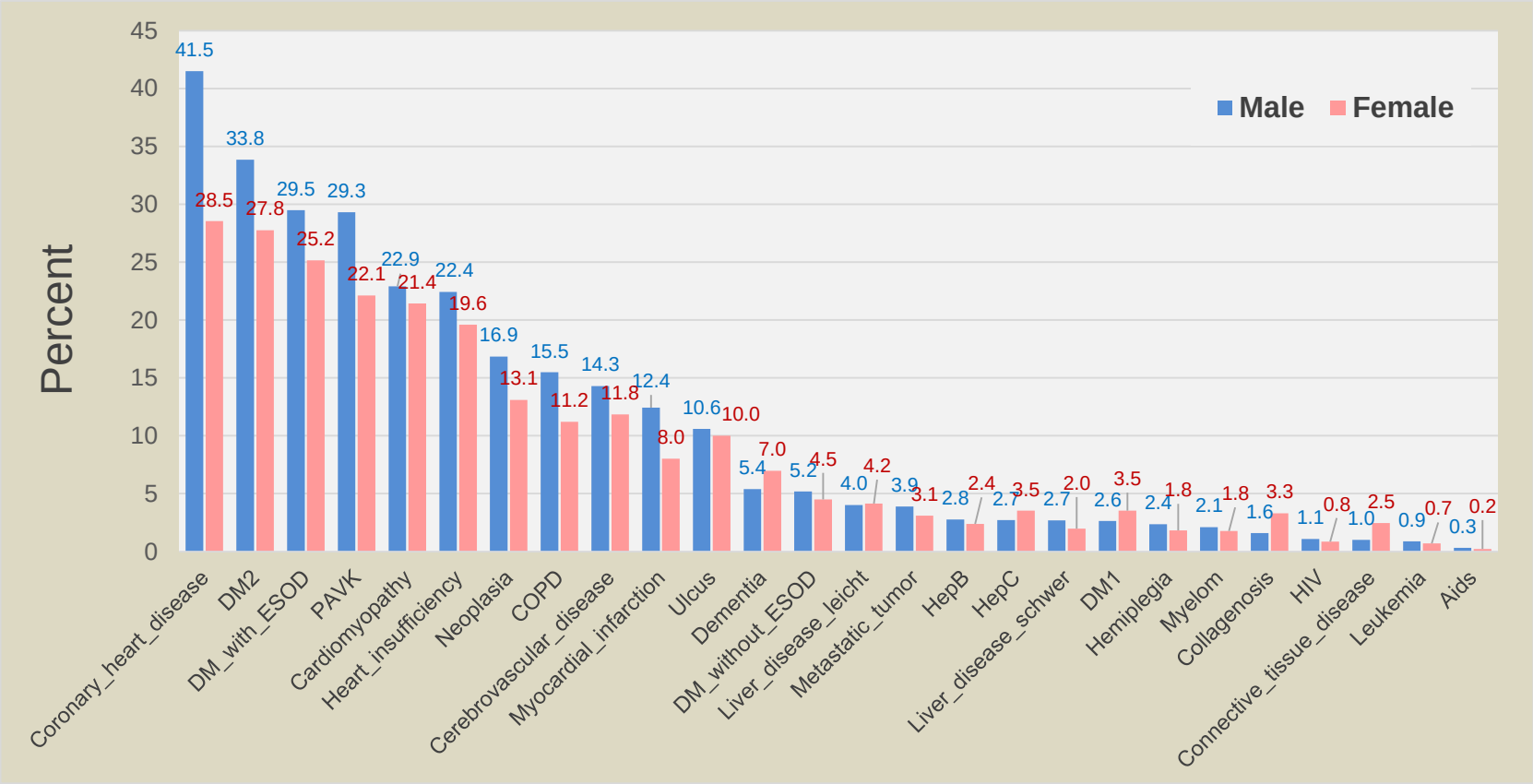


Comorbidity (by December 31 2016)

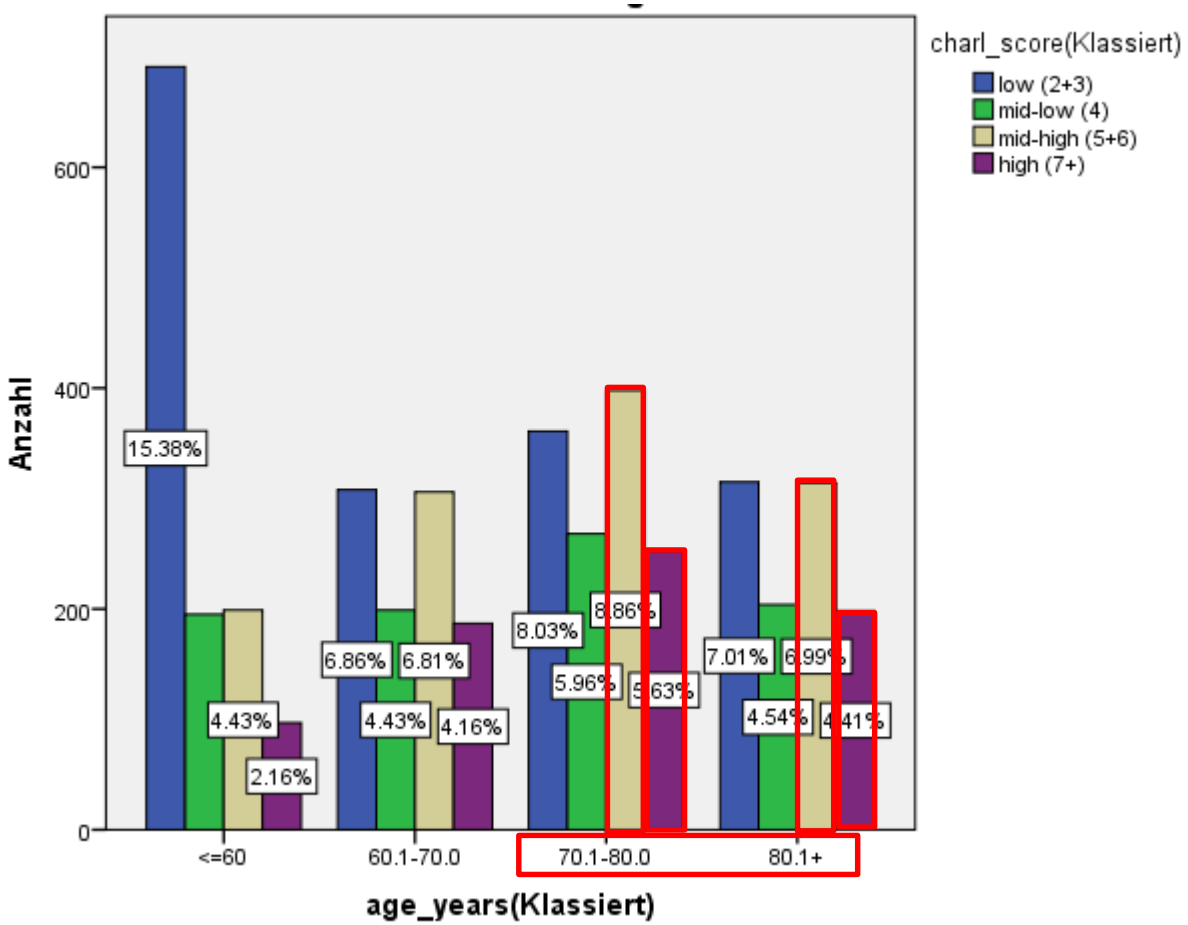


Comorbidity by gender (by December 31 2014)

	All (100%)		Male (63.4%)		Female (36.6%)	
	Mean	Median	Mean	Median	Mean	Median
Charlson Score	4.41	4	4.57	4.0	4.13	4.0

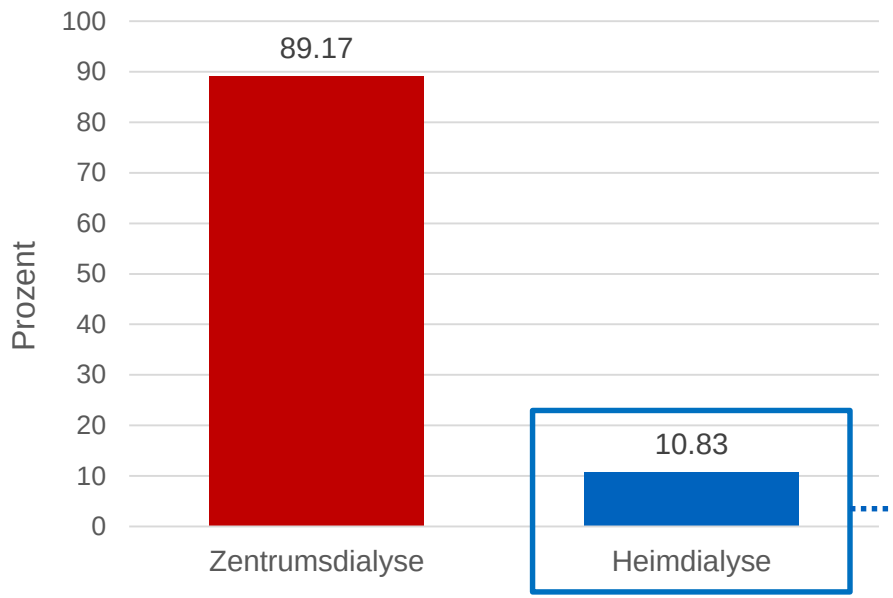


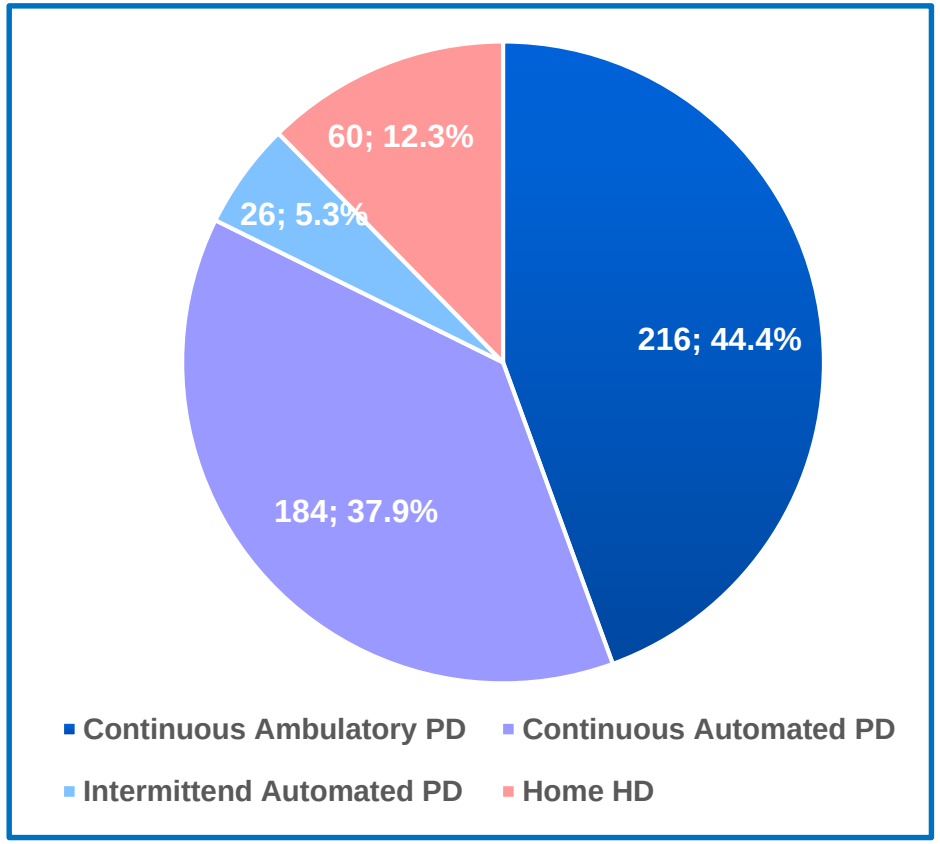
Charlson Score/age (by December 31 2016)



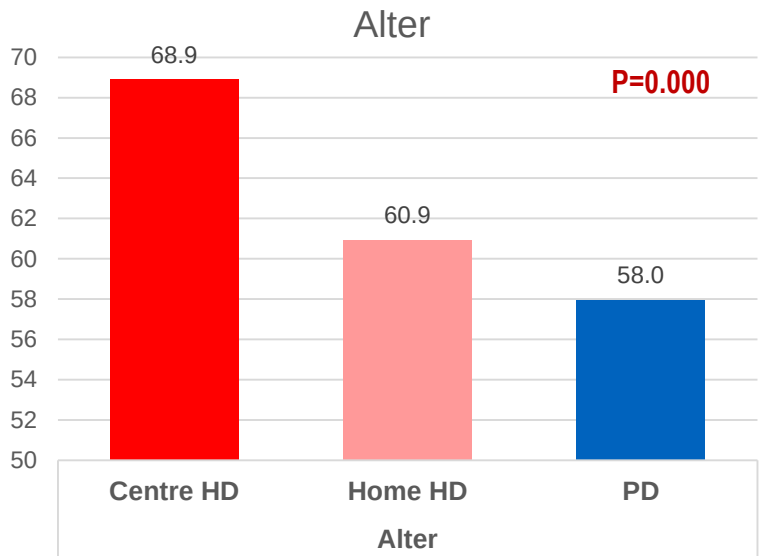
→ Every 4th patient on dialysis is elderly and has relevant comorbidity!

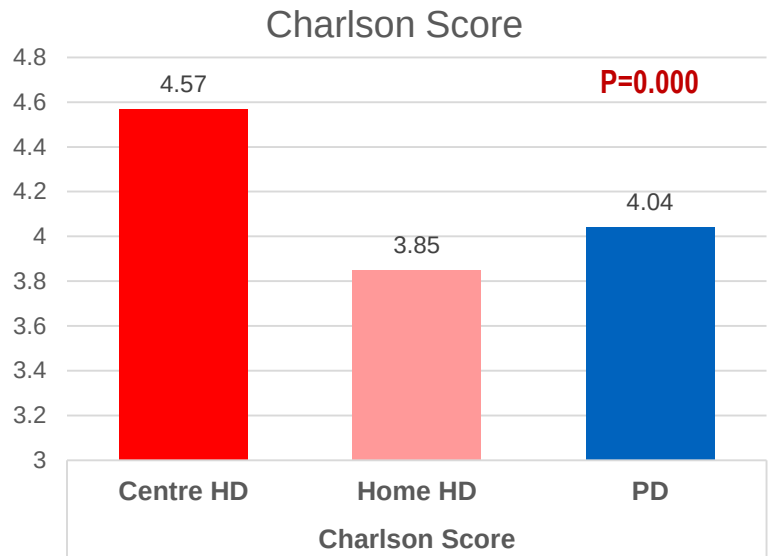
Dialysis modalities 2016

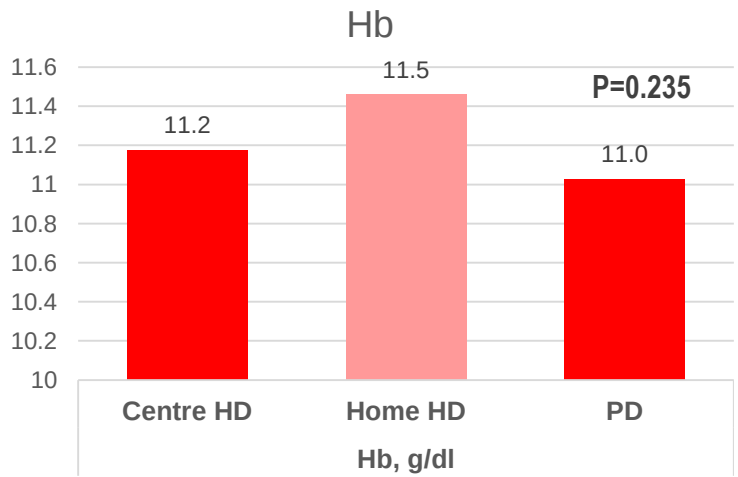


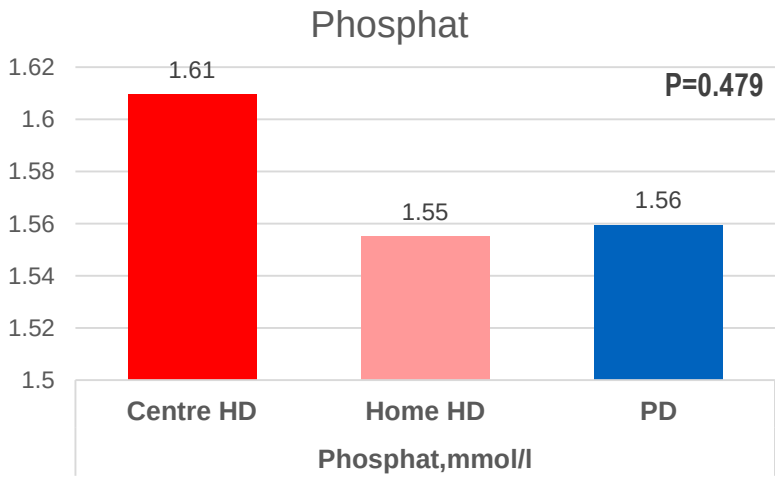


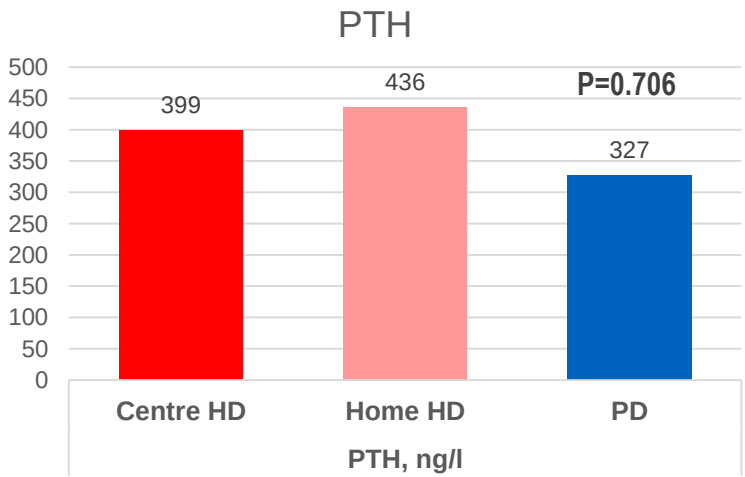
Charakteristika nach Dialysemodalität



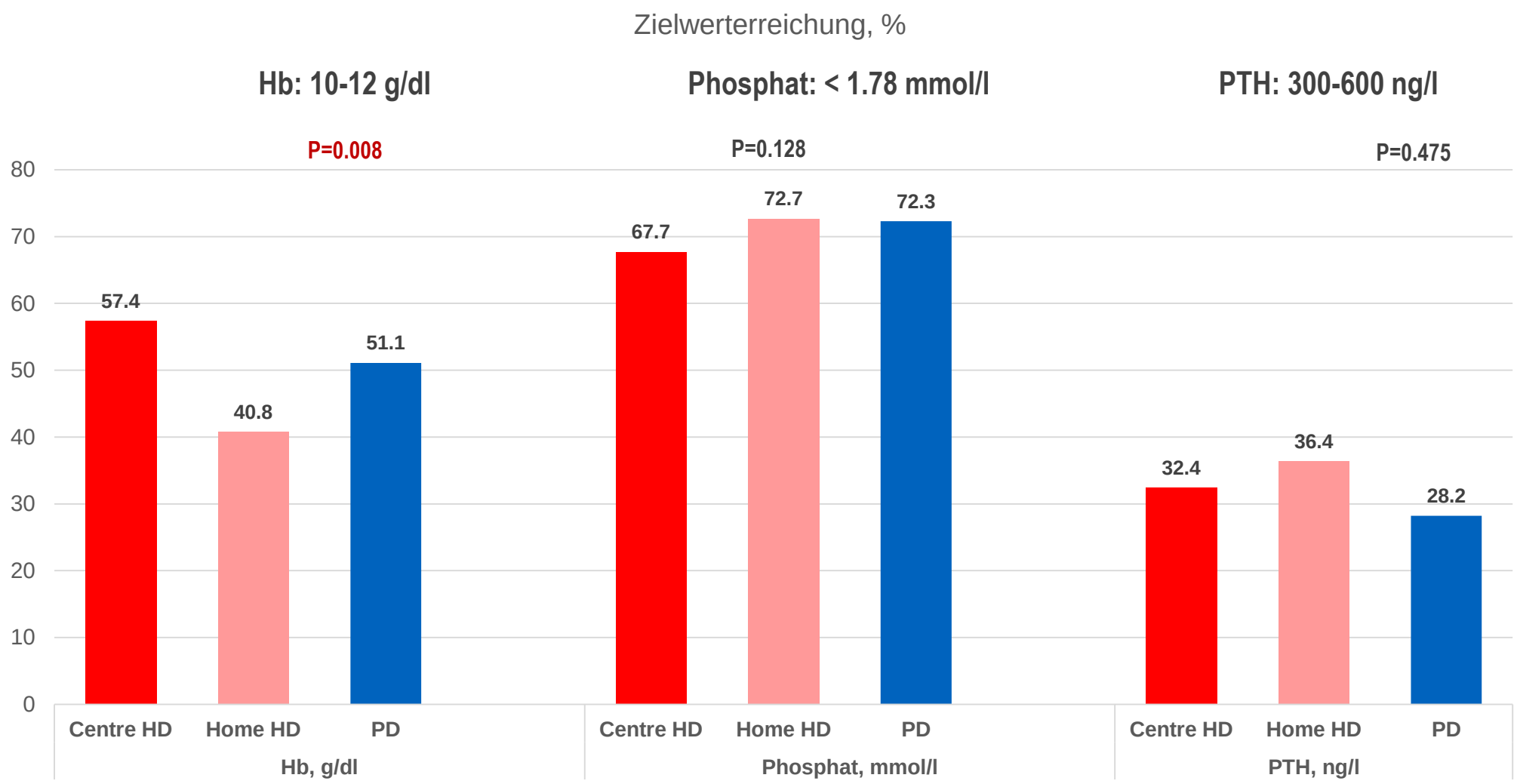








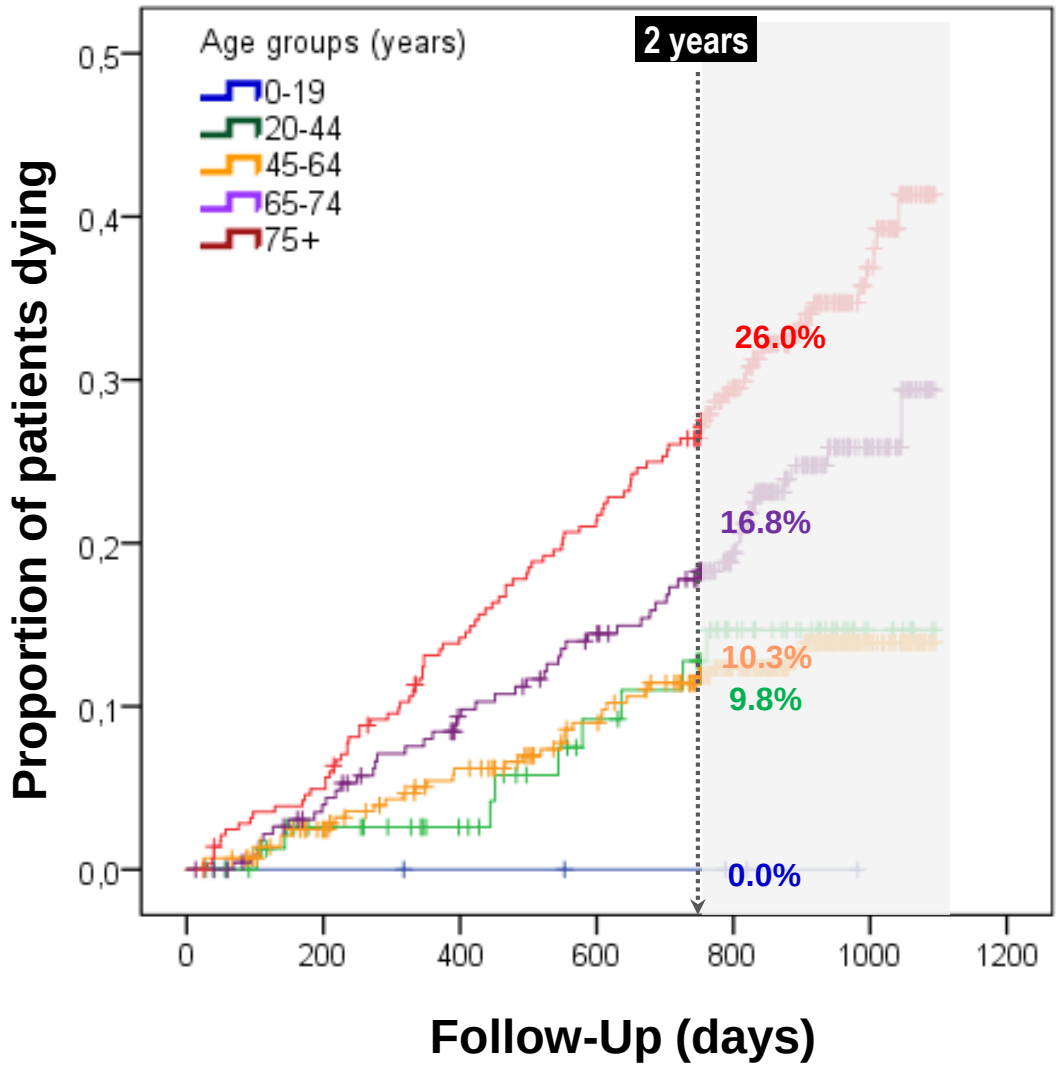
Zielwerterreichung nach Dialysemodalität



Clinical “endpoints” 2013 through 2016

	2014		2015		2016	
	All (100%)		All (100%)		All (100%)	
	N	%	N	%	N	%
Deaths	450	10.7	560	12.6	532	11.8
Transplantations	207	4.9	250	5.6	229	5.1
Recovery of renal function	23	0.5	27	0.6	28	0.6
Stopping treatment (without recovery)	29	0.7	24	0.5	33	0.7
Loss to follow-up	1	0.02	4	0.09	3	0.07

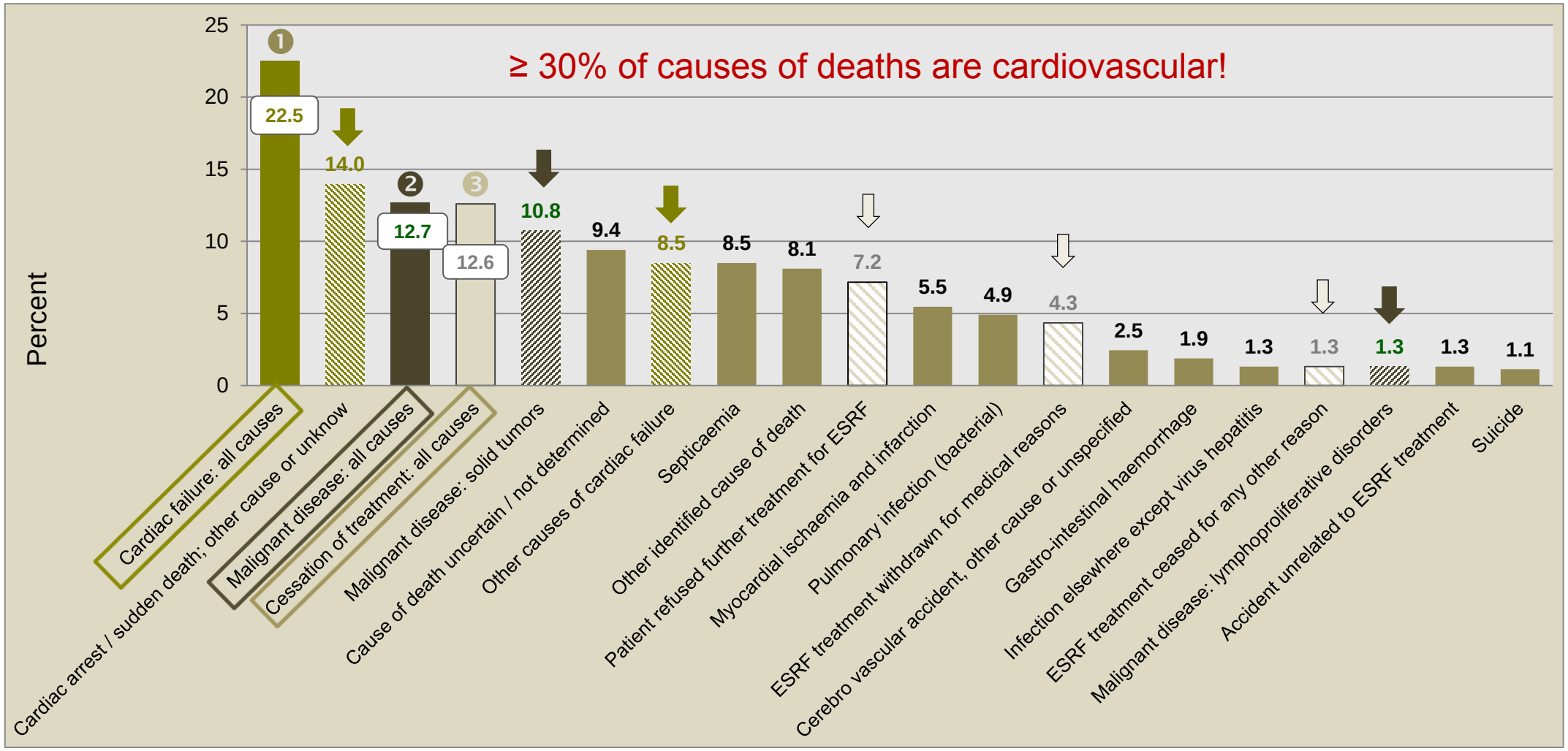
2-Jahres-Mortalität



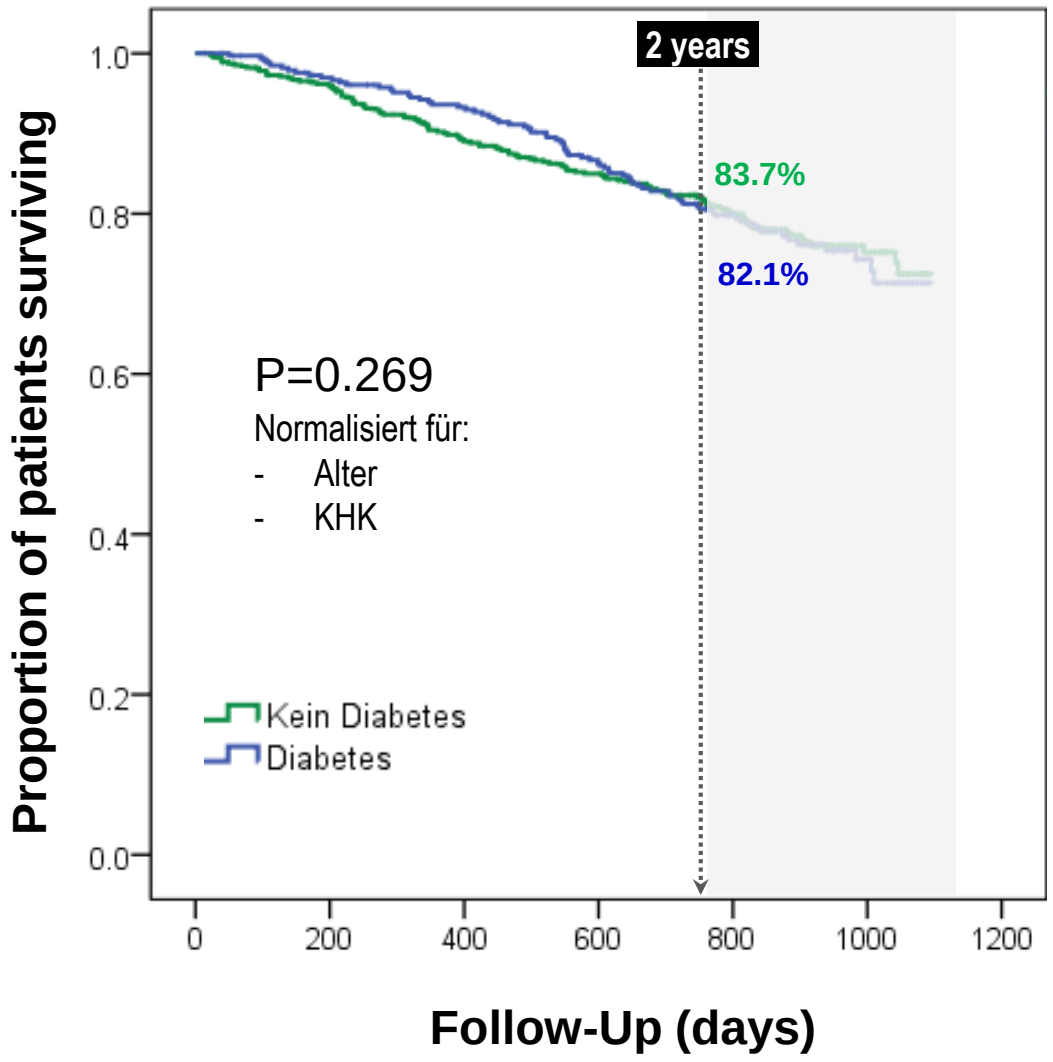
Age category (yrs)	Survival (%)		
	srrqap		EDTA*
	%	N	%
0-19	100	6	93.5
20-44	90.2	82	92.6
45-64	89.7	290	83.0
65-74	83.2	232	71.5
75+ yrs	74.0	285	58.5
Men	85.4	602	74.2
Women	88.0	293	75.8
All	**86.3**	**895**	**74.8**

*) Incident dialysis patients, from day 91, adjusted (age, gender, primary renal disease), cohort 2006-2010

Cause of death 2016



2-Jahres-Überleben nach Diabetes-Status



	With diabetes, n=336; 37.9	Without diabetes, n=550; 62.1%	P
Age, years	68.4 ± 12.4	64.1 ± 16.8	0.000
Male gender, %	69.0	66.2	0.378
Body mass index, kg/m²	27.9 ± 5.7	25.2 ± 5.6	0.068
Dialysis vintage, days	785 ± 253	732 ± 298	0.000
Home dialysis, %	11.3	13.4	0.372
Hemoglobin, g/dL	11.1 ± 1.3	11.2 ± 1.5	0.833
PTH, ng/L	300 ± 229	370 ± 353	0.015
Kt/V	1.6 ± 0.4	1.7 ± 0.4	0.181
CCI*	5.5 ± 1.9	3.7 ± 2.2	0.116
Comorbidity count	3.2 ± 1.8	1.7 ± 1.7	0.144
Coronary heart disease, %	46.7	24.5	0.000

*Charlson Comorbidity Index

	Signifikanz	Exp(B)	95.0% Konfidenzinterv. für Exp(B)	
			Untere	Obere
Diabetes	0.269	0.845	0.628	1.138
KHK	0.001	1.649	1.221	2.226
Alter (Jahre)	0.000	1.033	1.020	1.046

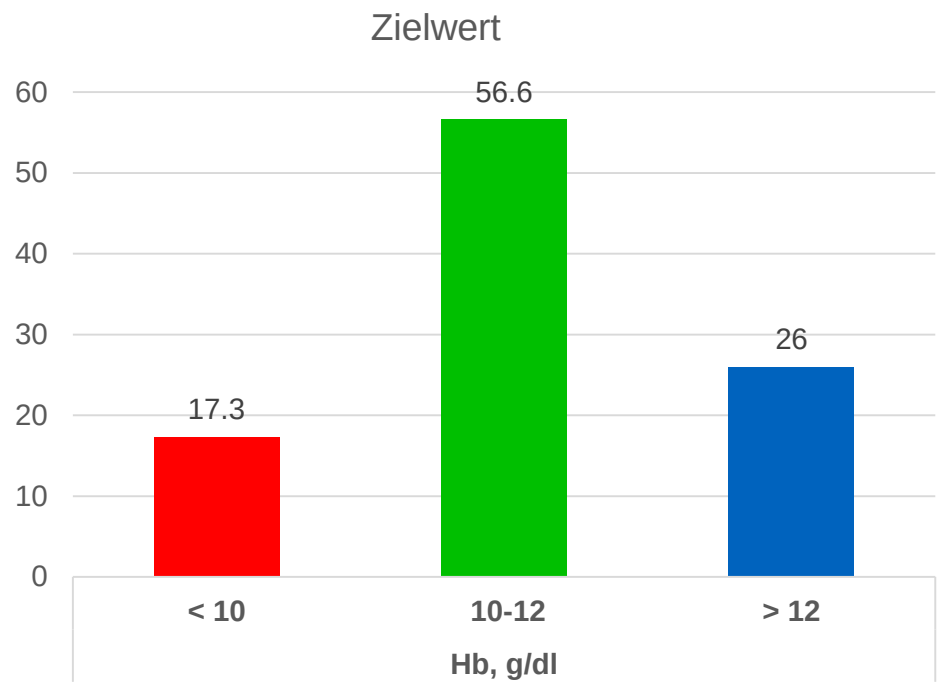
Anämiemanagement

Gefässzugang

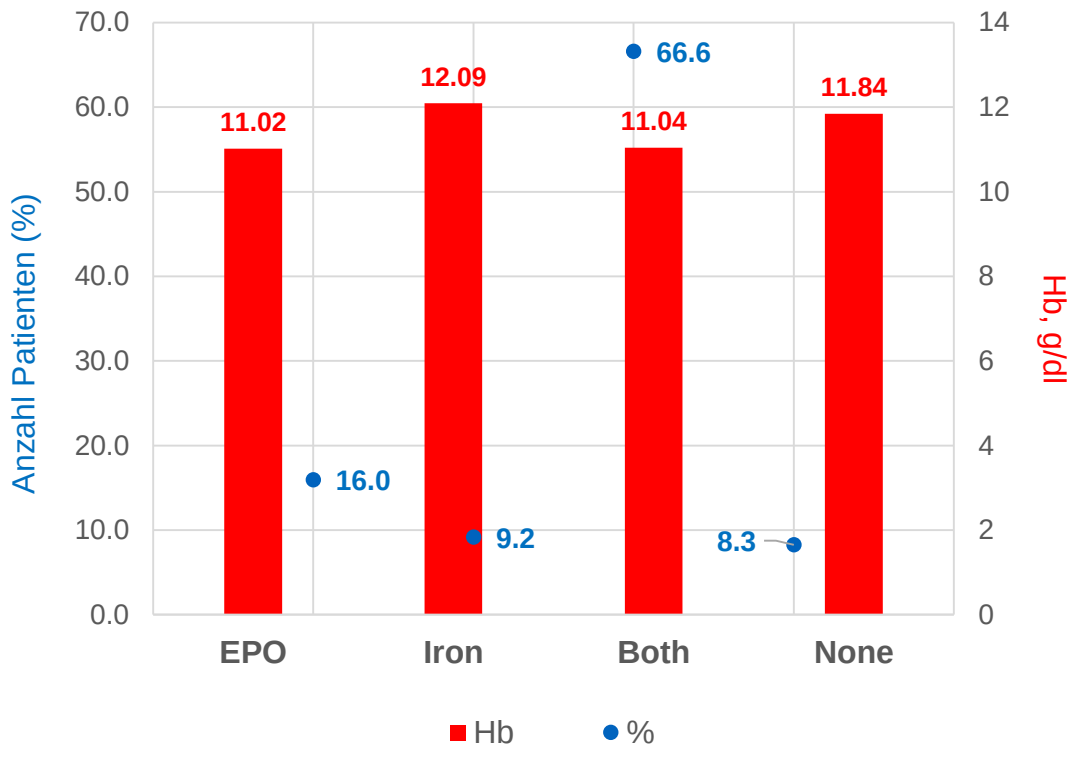
Dialysedauer

BEHANDLUNGSDATEN

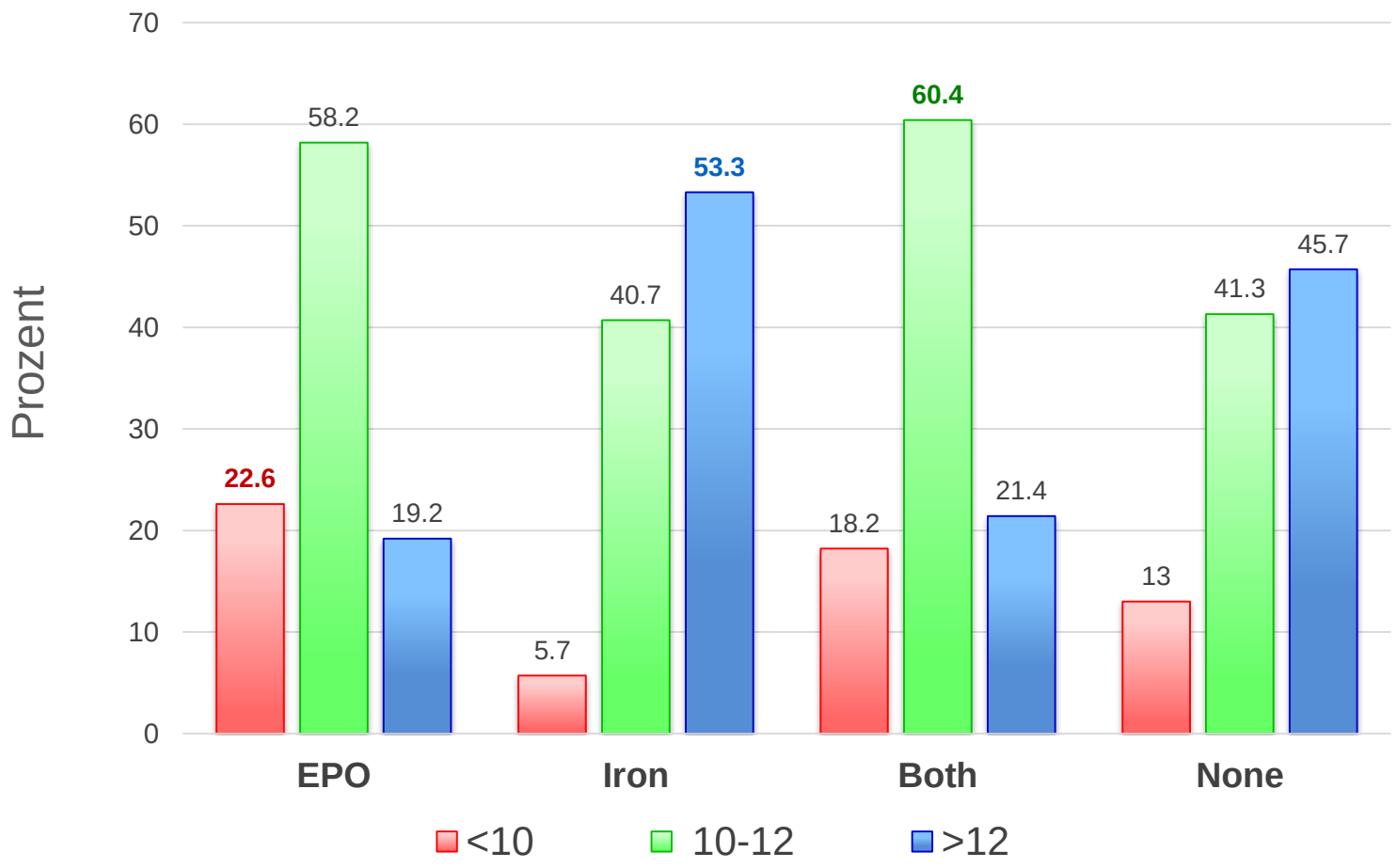
Laboratory data 2016: Anemia/Treatment/Hb



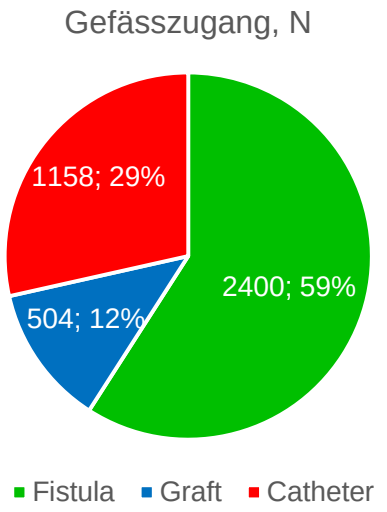
Hb g/dl	<10	10-12	>12
2013	15%	58%	27%
2015	14.6%	60.3%	25.1%

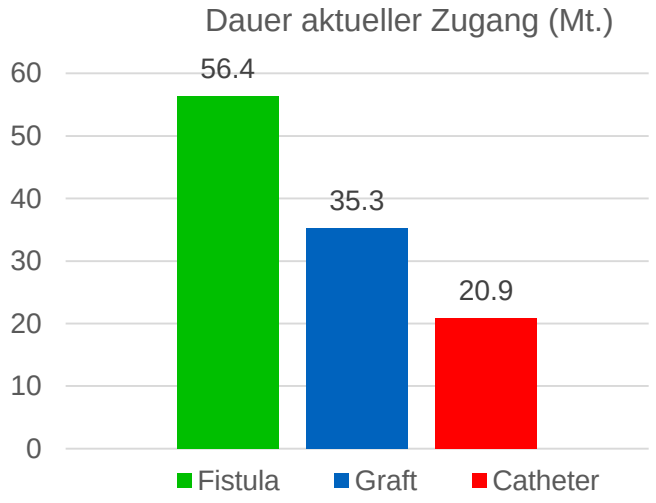


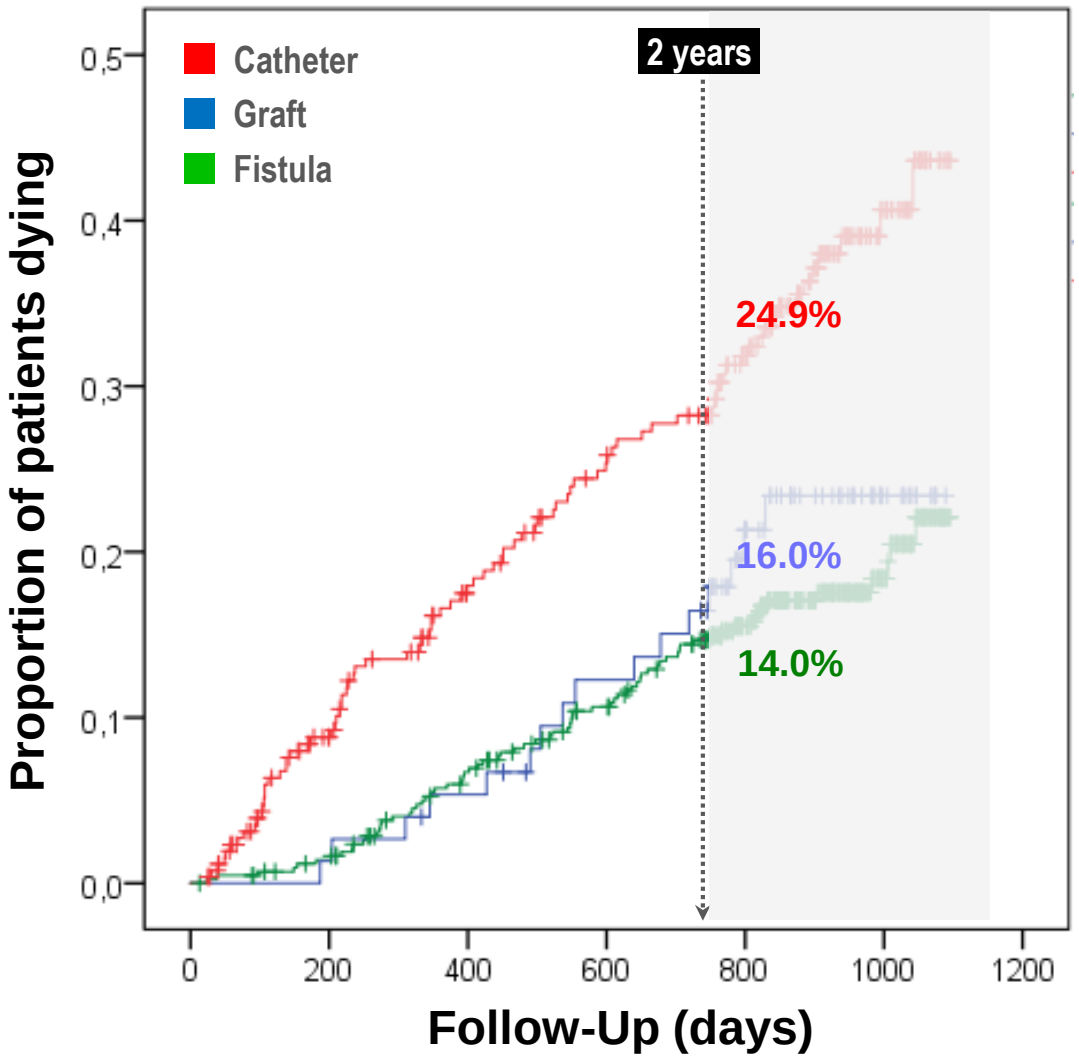
Reaching Hb targets according to anemia treatment



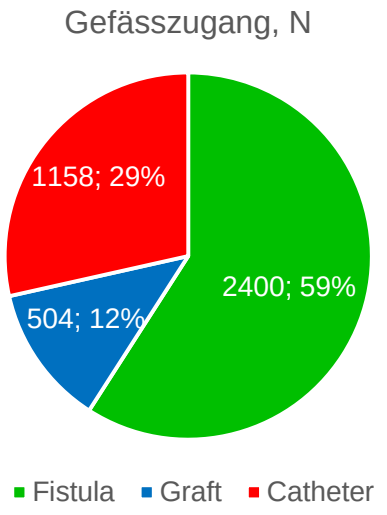
Gefässzugang und 2-Jahres-Mortalität (Stichtag 31.12.16)

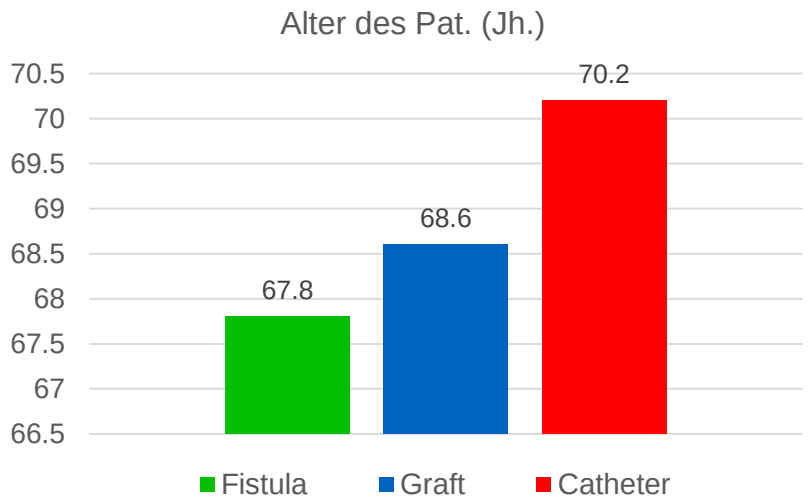


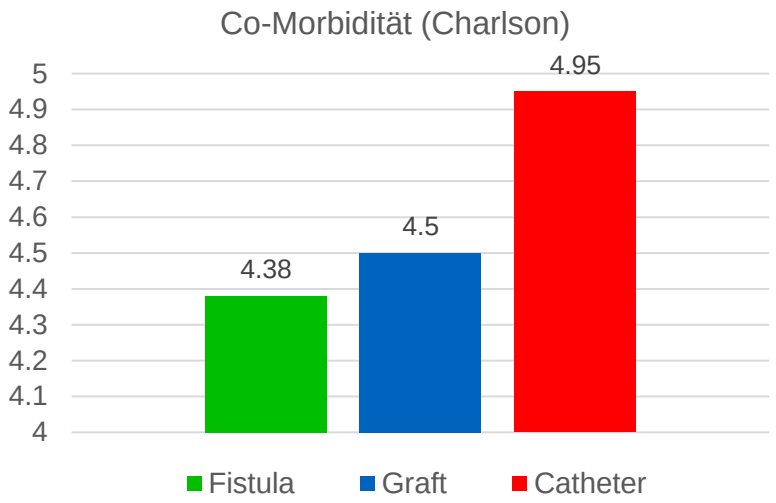


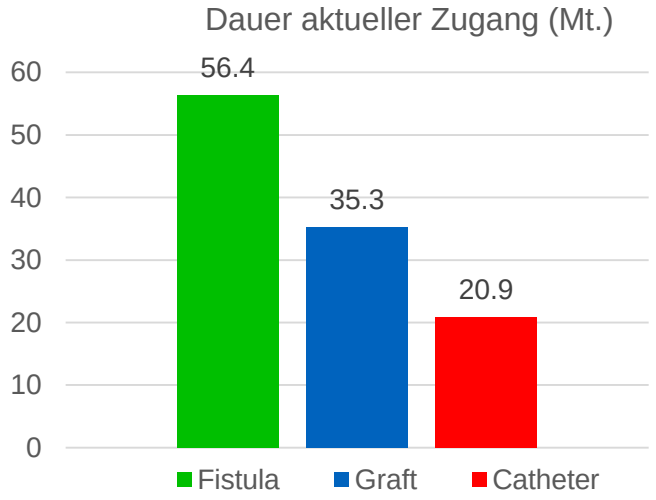


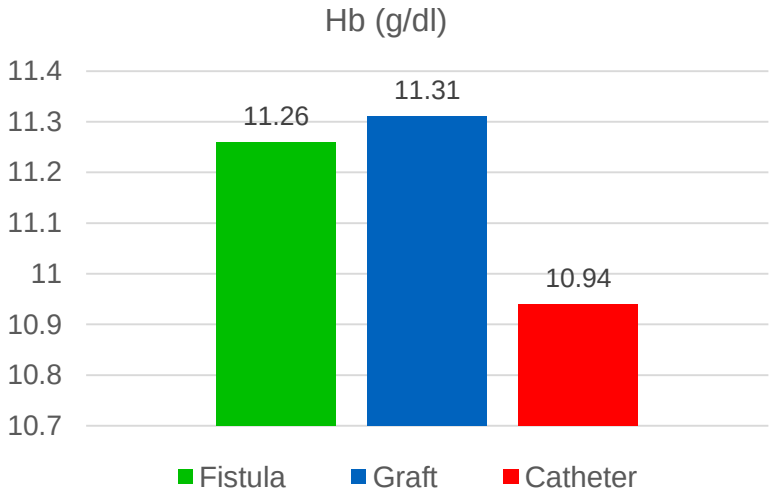
Gefässzugang (Stichtag 31.12.16)

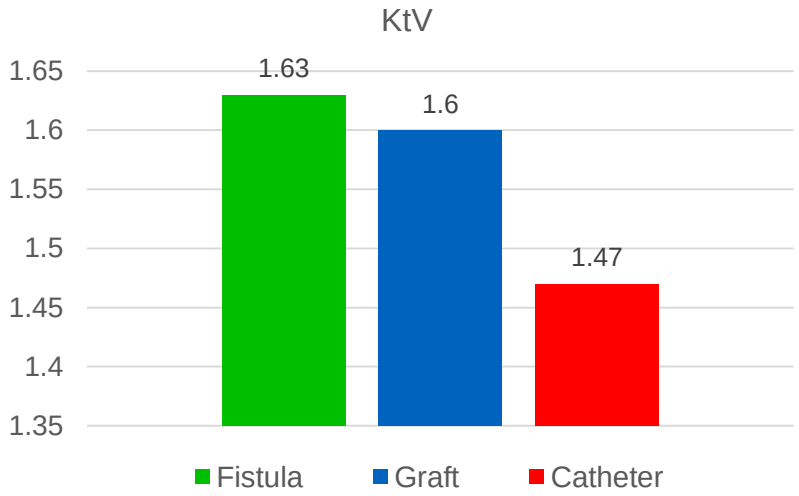




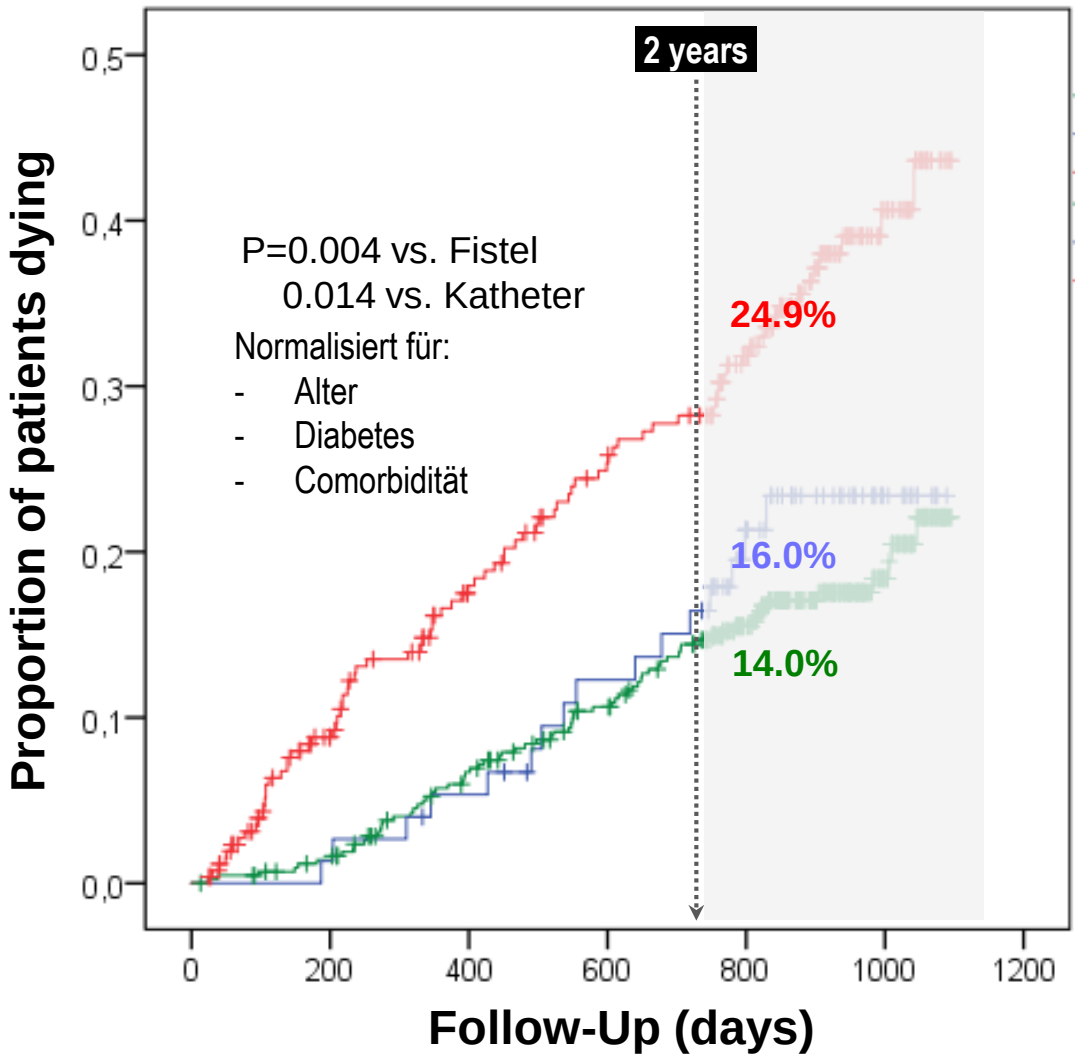








2-Jahres-Mortalität nach Gefässzugang

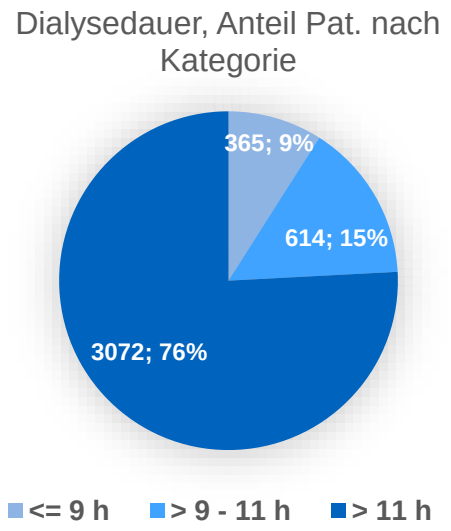


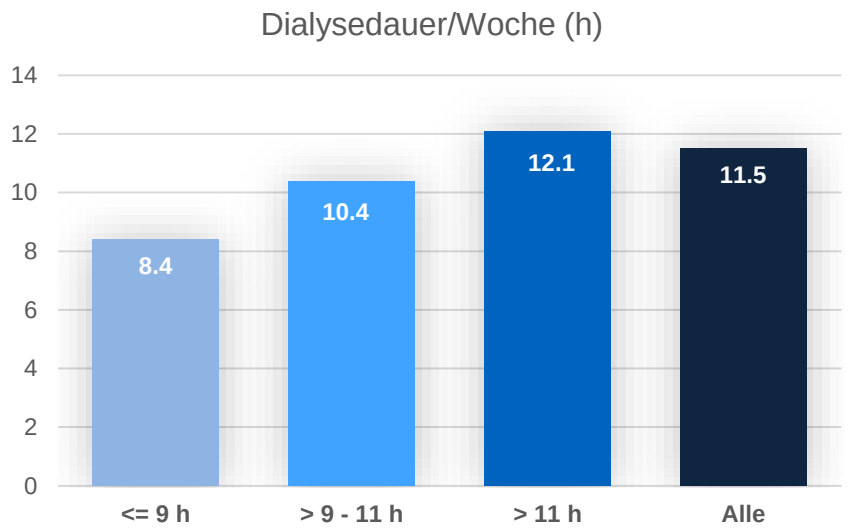
Multivariate Cox-Regression (Mortalität)

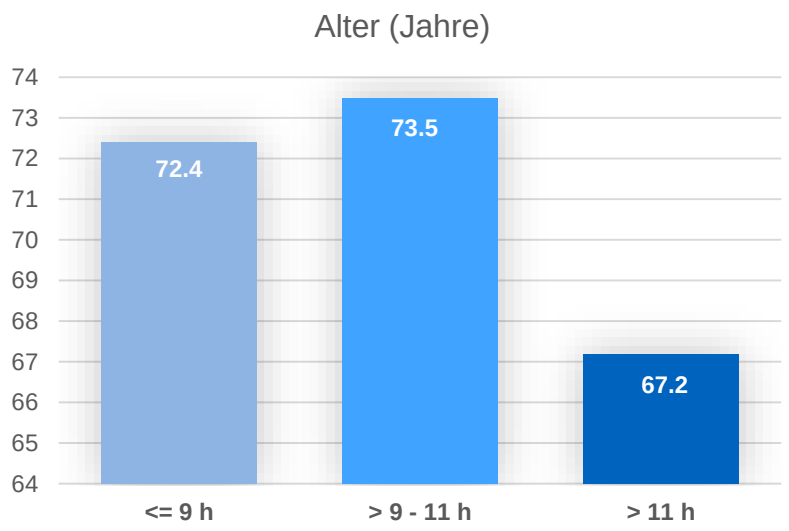
	Signifikanz	Exp(B)	95,0% Konfidenzinterv. für Exp(B)	
			Untere	Obere
Alter; Jahre	**0,026**	1,017	1,002	1,031
Diabetes	0,917	1,018	0,723	1,434
Charl_class low	**0,000**			
Charl_class_mid-low	**0,002**	2,134	1,327	3,432
Charl_class_mid-high	**0,000**	2,596	1,597	4,218
Charl_class_high	**0,000**	4,927	3,071	7,904
Fistel	**0,014**			
Graft	0,795	1,086	0,582	2,029
Katheter	**0,004**	1,693	1,179	2,430

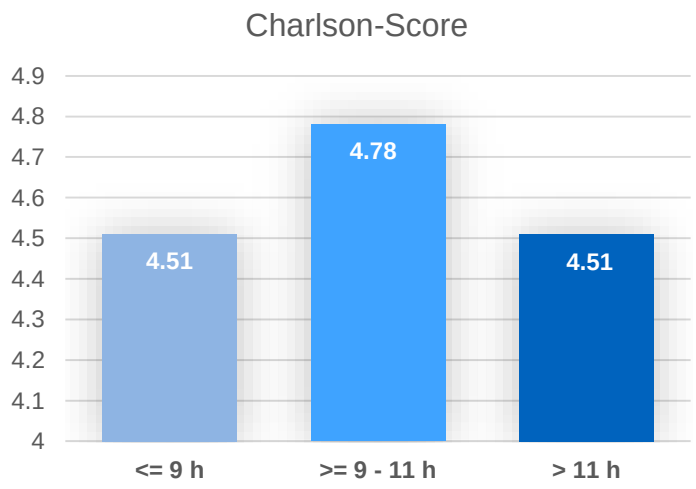
→ Odds ratio zu sterben für Katheterträger:
1.6-fach vs. Patienten mit einer Fistel

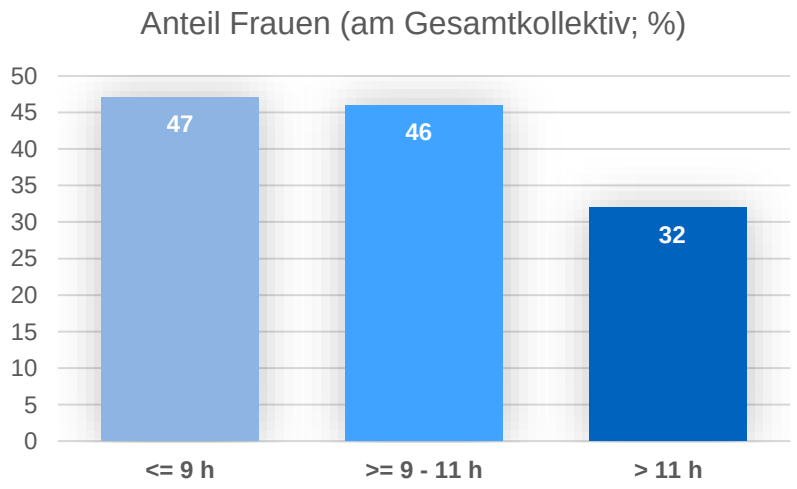
Weekly dialysis time

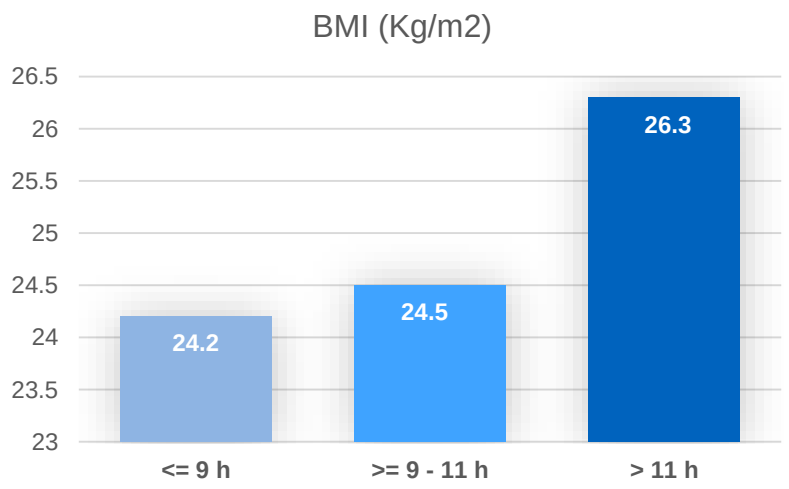




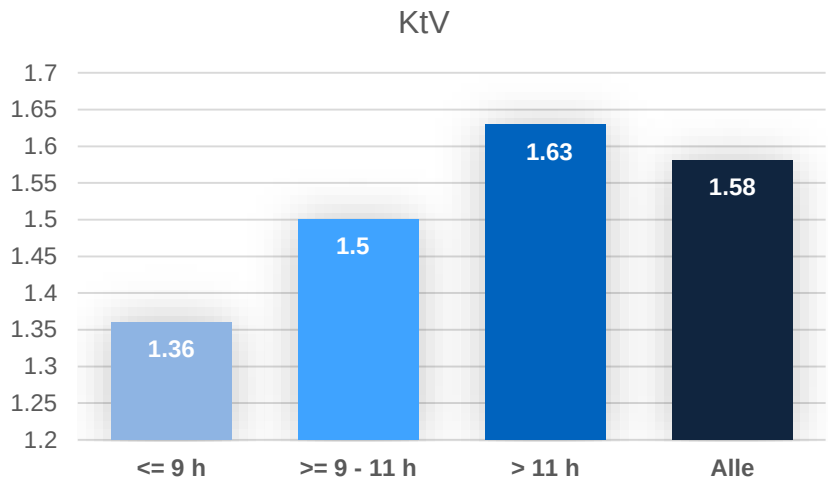


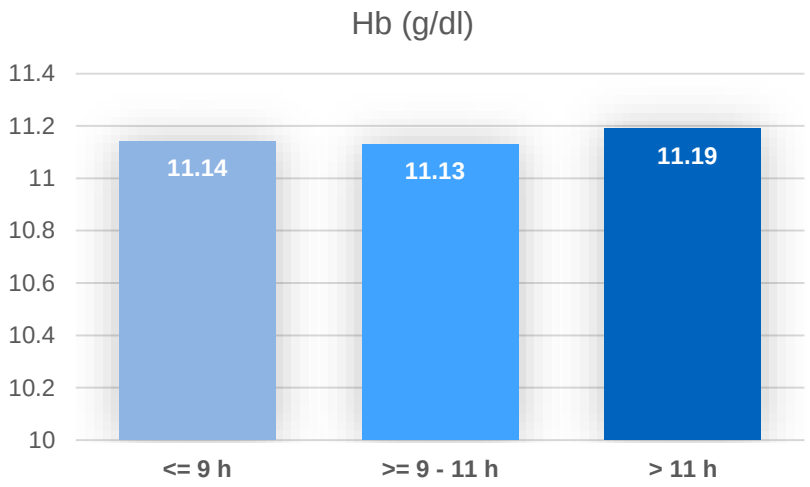


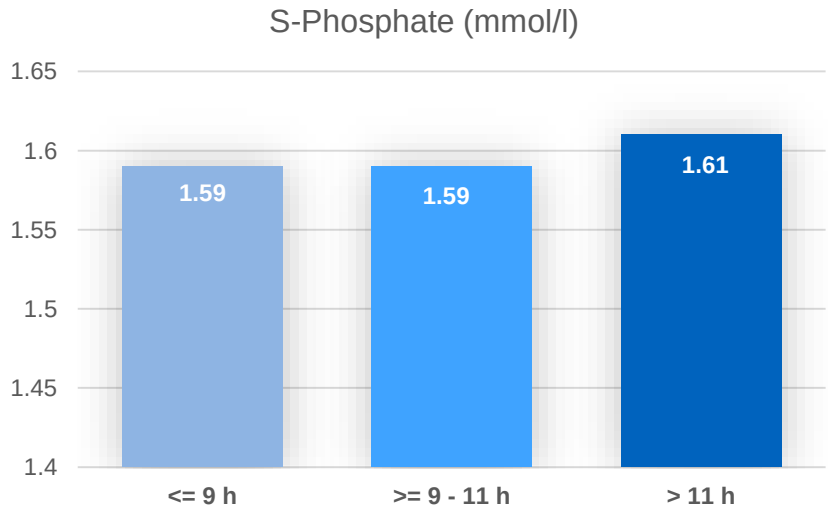


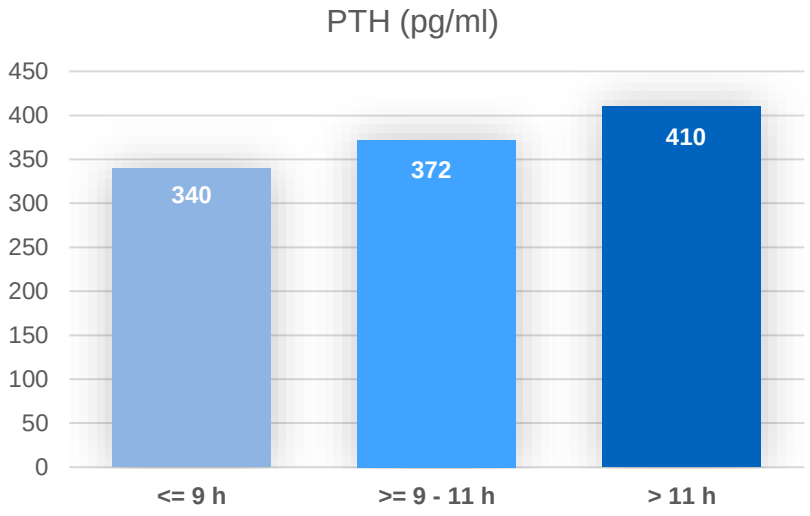


Weekly dialysis time

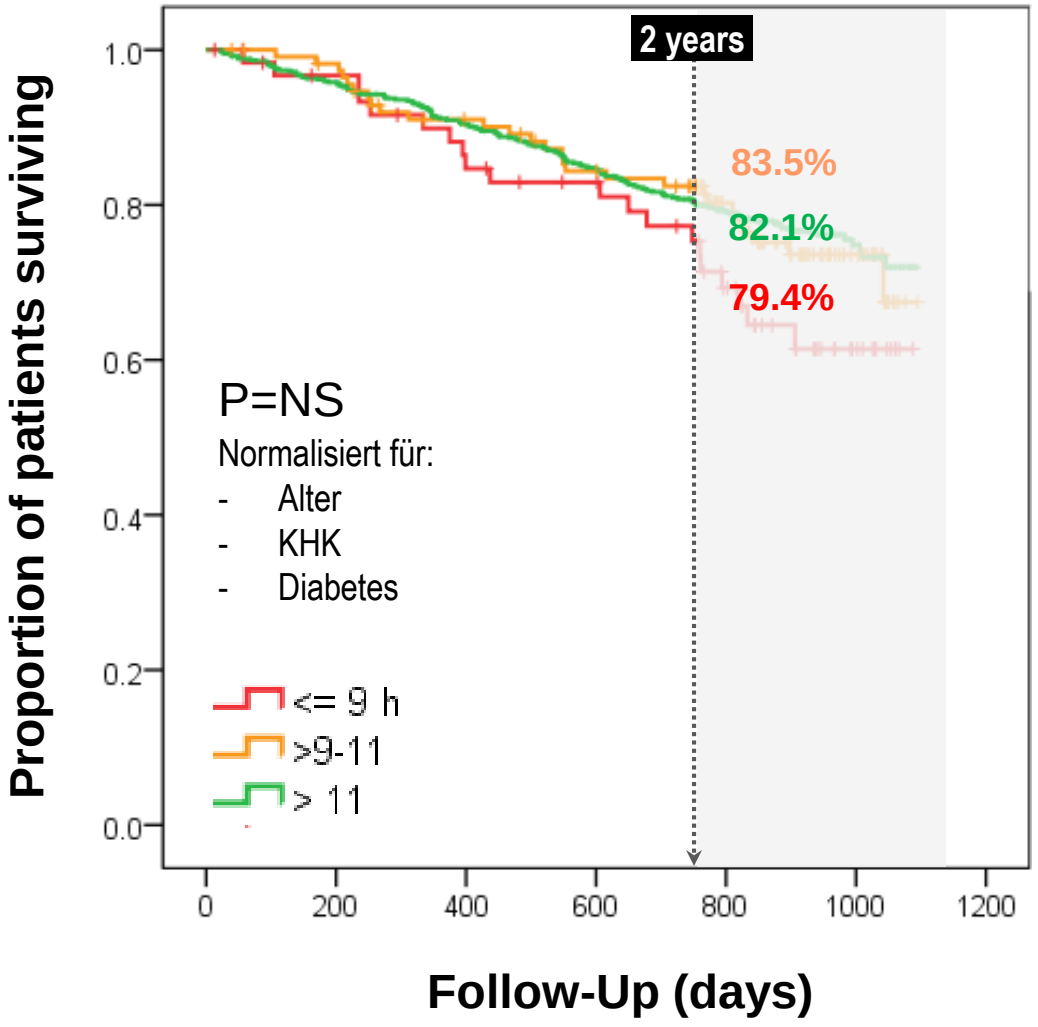








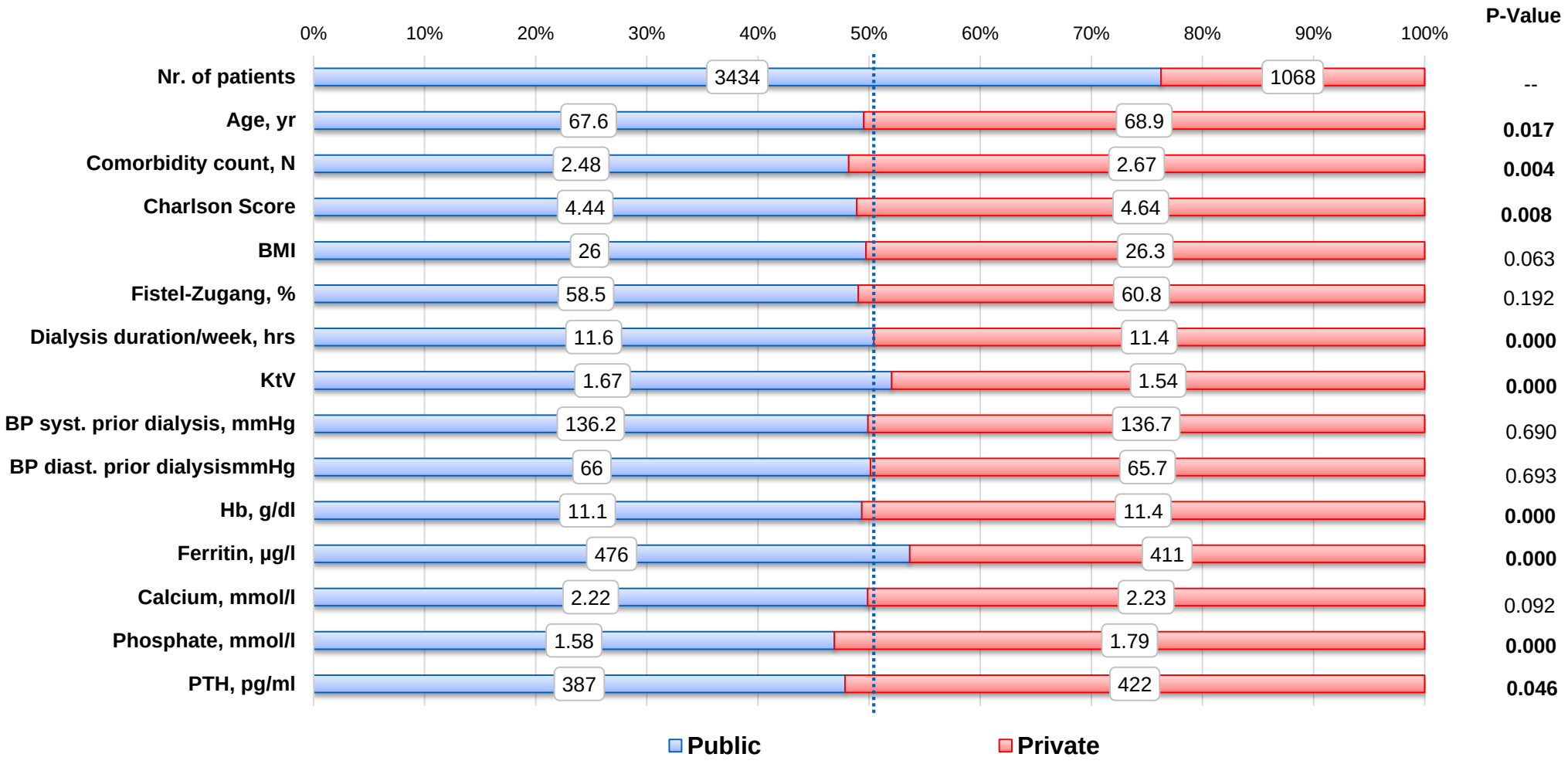
2-Jahres-Überleben nach Dialysedauer



Multivariate Cox-Regression (Mortalität)

	Signifikanz	Exp(B)	95.0% Konfidenzinterv. für Exp(B)	
			Untere	Obere
Alter (Jahre)	0	1.029	1.016	1.043
Koronare Herzkrankheit	0.002	1.615	1.186	2.201
Diabetes	0.42	0.882	0.65	1.197
Dialyse > 11 h/Wo	0.256	Ref.	Ref.	Ref.
Dialyse 9-11 h/Wo	0.368	0.824	0.54	1.256
Dialyse <= 9 h/Wo	0.228	1.341	0.832	2.161

Characteristics according to type of institution (“public” vs. “private”)



Zusammenfassung

- Die Schweiz weist im europäischen Vergleich eine tiefe Prävalenz an Dialysepatienten auf (845 Pat./Mio. Einwohner)
- Der Anteil der über 80-Jährigen beträgt > 20%
- Jeder 4. Patient ist alt (> 70 Jh.) und weist eine relevante Co-Morbidität auf (> 5)
- Das (2-Jahres-)Überleben liegt über dem europäischen Durchschnitt
- Heimdialyseverfahren werden nur begrenzt angewandt (11% der Pat.)
- Dialysedauer (∅ = 11.5 h/Woche) und Dialyseeffektivität (KtV ∅ = 1.58) erreichen (knapp) die empfohlenen Standards
- Die Verbreitung von Fisteln als Gefässzugang (59%) ist verbesserungsbedürftig