



 Nederlandse  
Federatie voor  
Nefrologie

## Von Nachbarn lernen: Die Behandlung Nierenkranker in den Niederlanden

prof.dr. Frans J. van Ittersum, internist-nephrologist

# Potential conflicts of interest declaration



The content of the following speech is the result of efforts to achieve the maximum degree of impartiality and independence.

As a speaker, I wish to point out that there are personal connections to companies whose products are of interest within the context of the following speech. The companies concerned and connections are listed below:

Companies	Connections
Diapriva Buitenveldert	Medical director
Niercentrum aan de Amstel (Vumc / BBraun)	Medical director
Elyse (BBraun Benelux)	€ 200k research grant

# Frans van Ittersum



- Professor of Nephrology VU University Amsterdam
- Head department Nephrology Amsterdam University Medical Center, location De Boelelaan
- Medical director dialysis center Diapriva Buitenveldert, Amsterdam
- Medical director dialysis center Niercentrum aan de Amstel Amstelveen
- Chair Section Registration Nederlandse Federatie voor Nefrologie
- Board Member Nederlandse Federatie voor Nefrologie



# Nephrology in The Netherlands



## Authorisation

- Internal Medicine – Internist: control by government
- Nephrology: control by professional group

## Topics

- Kidney diseases – Glomerular / Tubular disease
- Chronic Kidney Disease stage 4 -5: treatment
- Chronic Kidney Disease stage 1-3: consultation (treatment by GP)
- Renal replacement therapy
- Kidney transplantation: preparation / post surgery care / follow-up
- Living kidney donor: preparation



# Numbers



Internist-nephrologists: ± 350

Dialysis centers

- 8 University Medical Centres
  - Nephrology / Dialysis / Kidney Transplantation
- 107 non-university Nephrology / Dialysis locations
  - Nephrology / Dialysis / Kidney Transplantation Follow-up > 1 year

Associations with hospitals



# What does NFN do ?



- Guidelines
  - Nephrology
    - E.g. dialysis in elderly
  - Multidisciplinary
    - Contrast nephropathy (i.a. radiologists)
    - CKD (GP, internists, pharmacists)
- Registry
  - Dialysis patients
  - Future: eGFR4
- Education, research conferences



# What do we know ?



- Chronic kidney disease (1-5)
  - No registry
  - Observational studies: 6-12 % prevalence
- Glomerular / tubular diseases
  - No registry
- Dialysis
  - Registry: Renine (Nefrovisie Foundation / NFN supervision)
- Kidney transplantation
  - Nederlandse Orgaantransplantatie Registratie (government)
    - Recipients
    - Donors



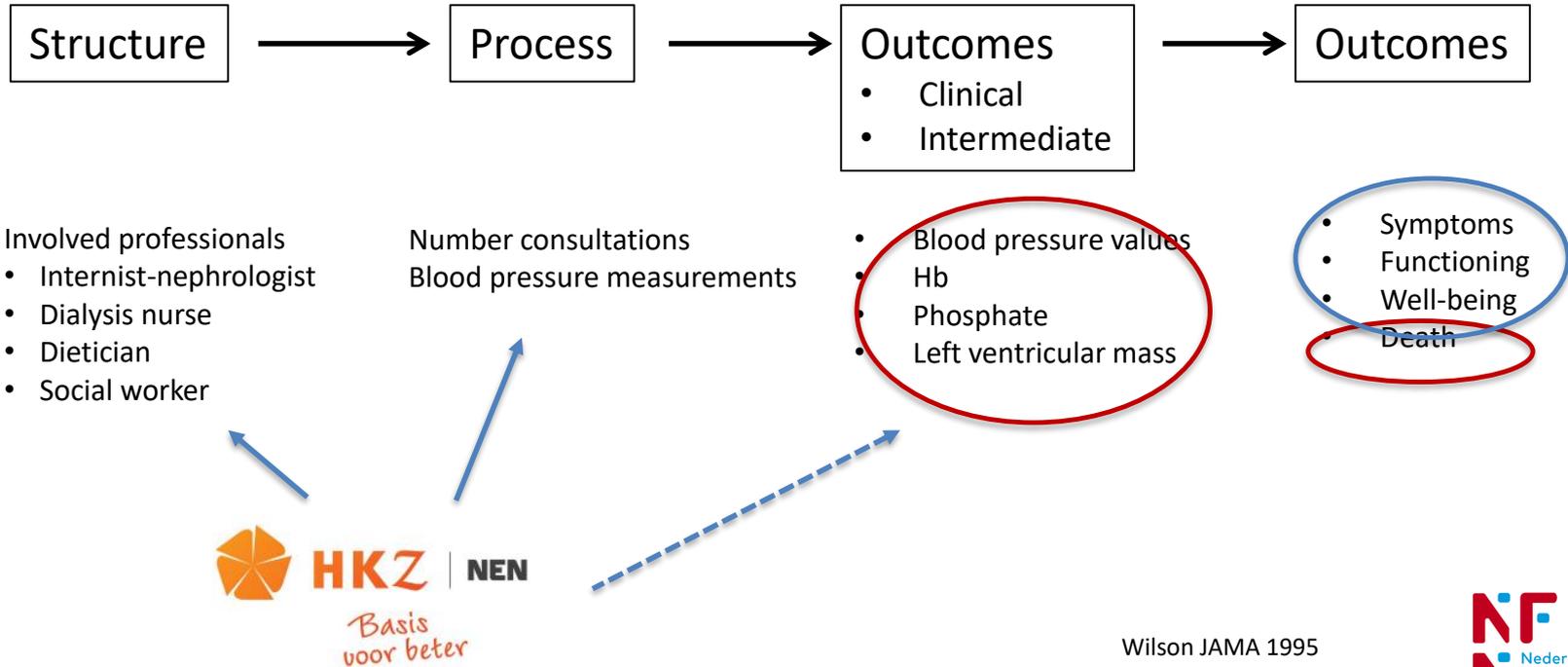
# Quality Control



- HKZ dialysis
  - ISO 9001 external auditor + nephrologist and dialysis nurse
- Transformation
  - Less procedures
  - More outcomes

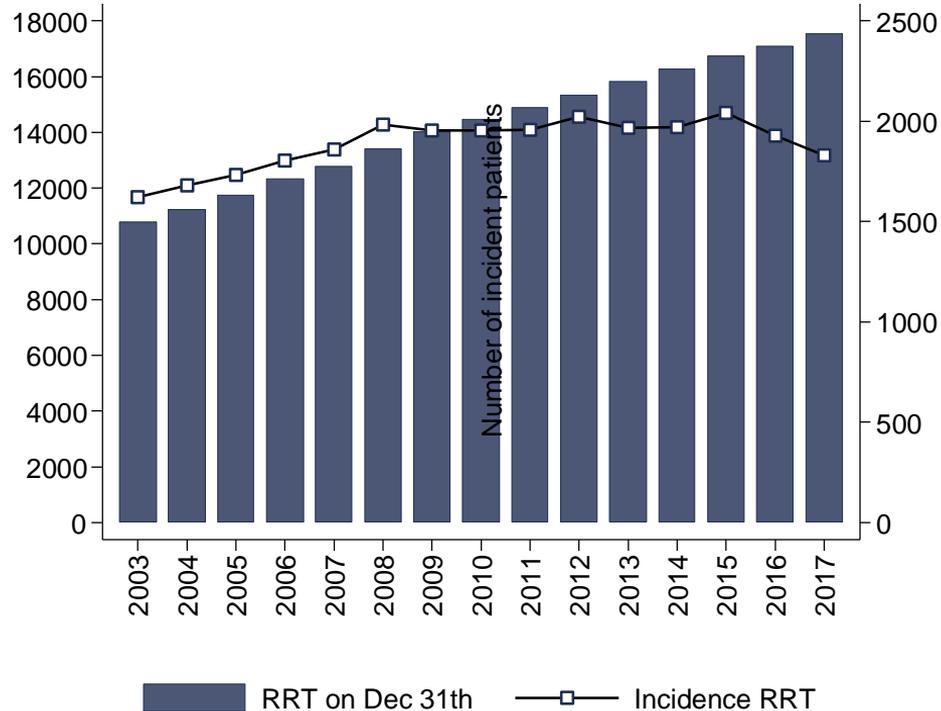


# Quality control dialysis centres



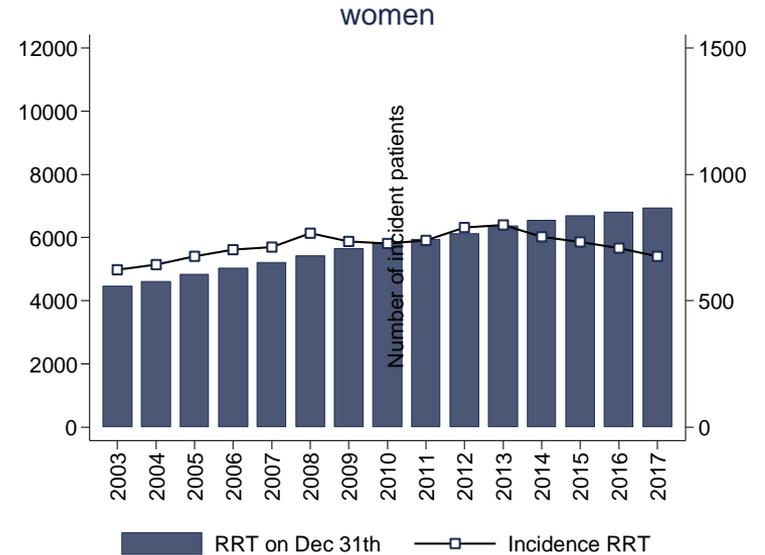
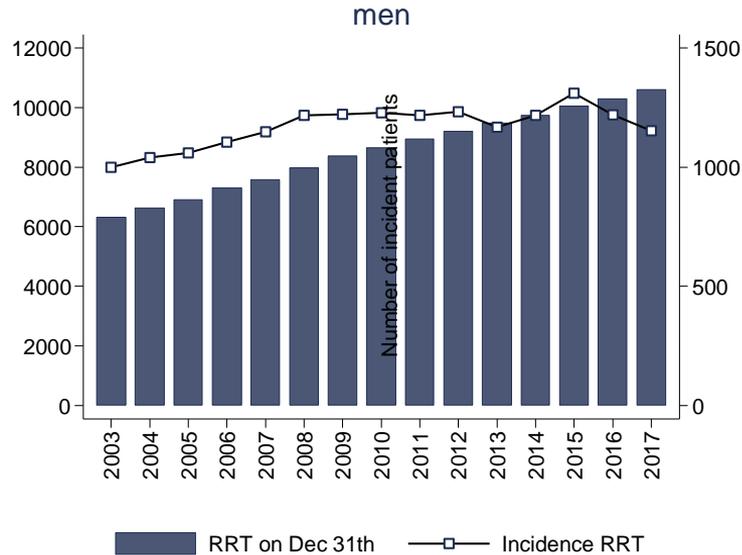
Wilson JAMA 1995  
Van der Veer NDT 2013

# Renal replacement therapy (RRT): prevalence - incidence

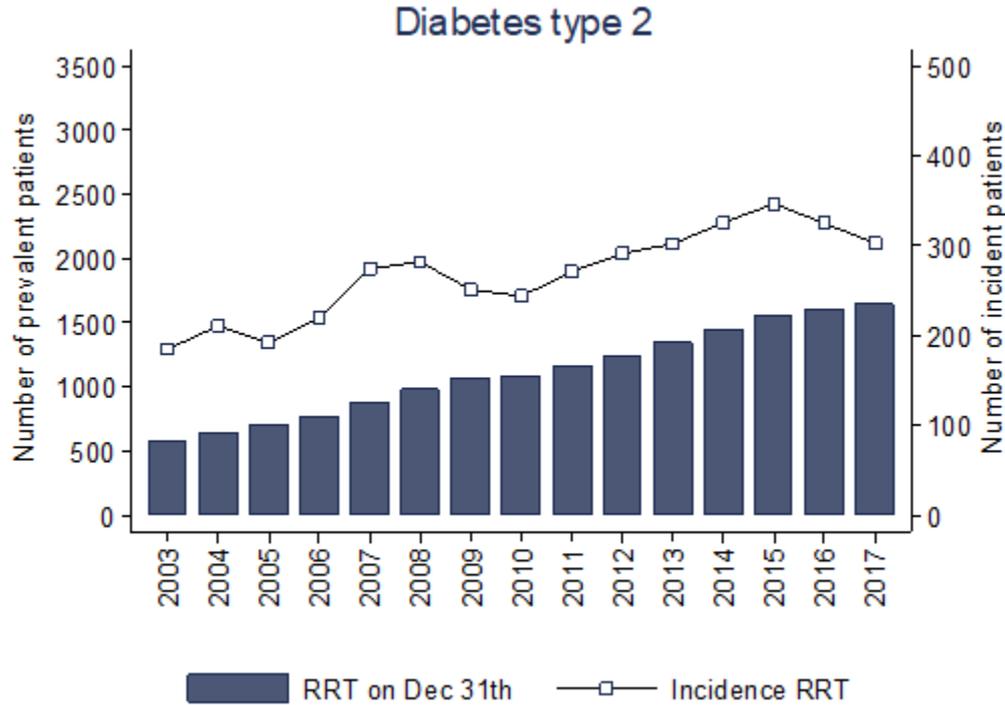


Prevalence 31-12-2017	
RRT total	17531
Dutch population	17181084
RRT total ppm	1020.4

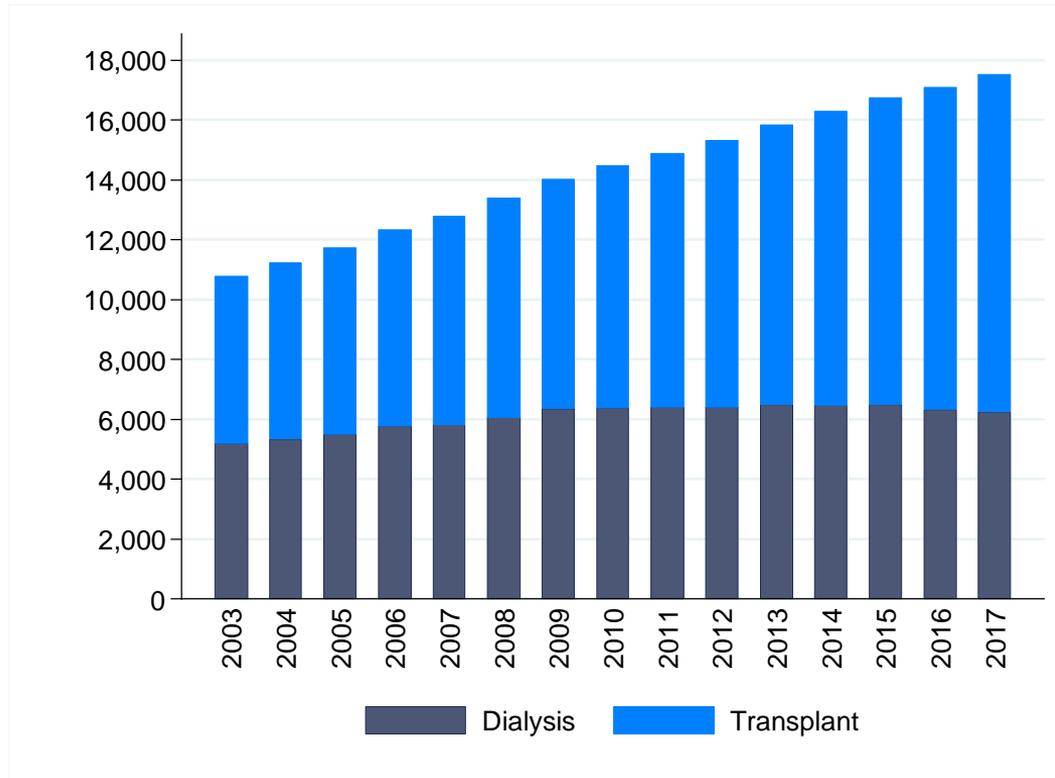
# RRT: sex specific prevalence - incidence



# Diabetes



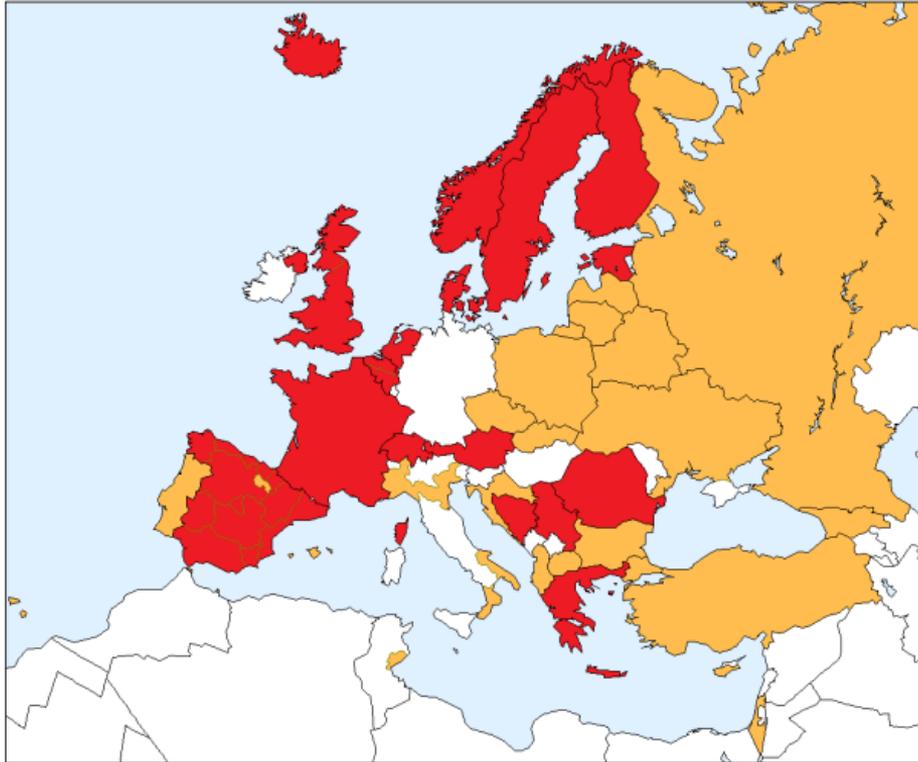
# RRT prevalence: dialysis - transplantation



Prevalence 31-12-2017	
RRT total	17531
Dialysis	6226
Kidney transplant	11305
Dutch population	17181084
RRT total ppm	1020.4

**Nefrovisie**  
Richtlijnen • Registratie • Visitatie

# International comparison: ERA-EDTA

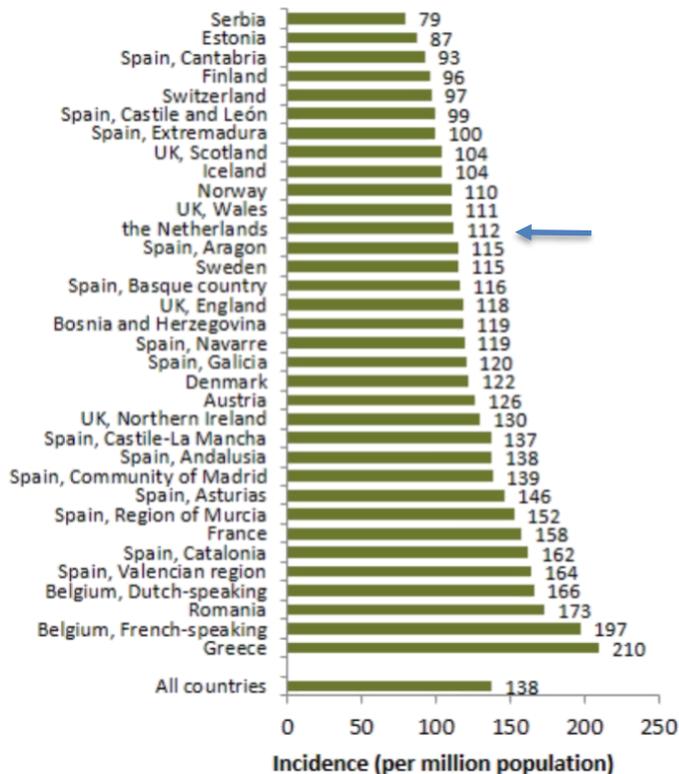


# ERA-EDTA: RRT incidence



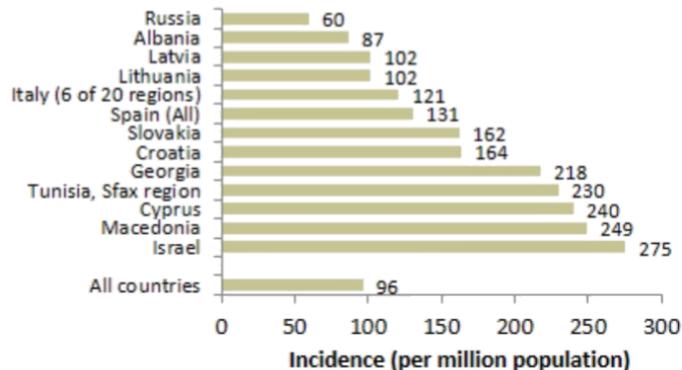
## Adjusted incidence

renal registries providing individual patient data



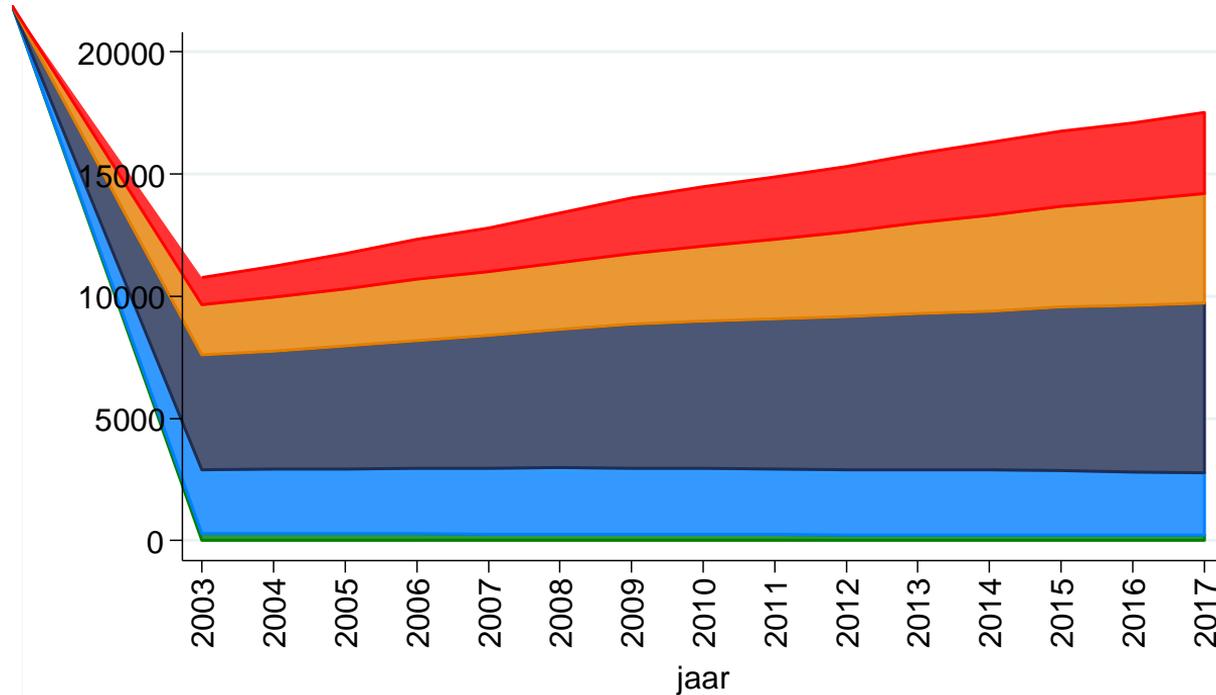
## Adjusted incidence

renal registries providing aggregated data

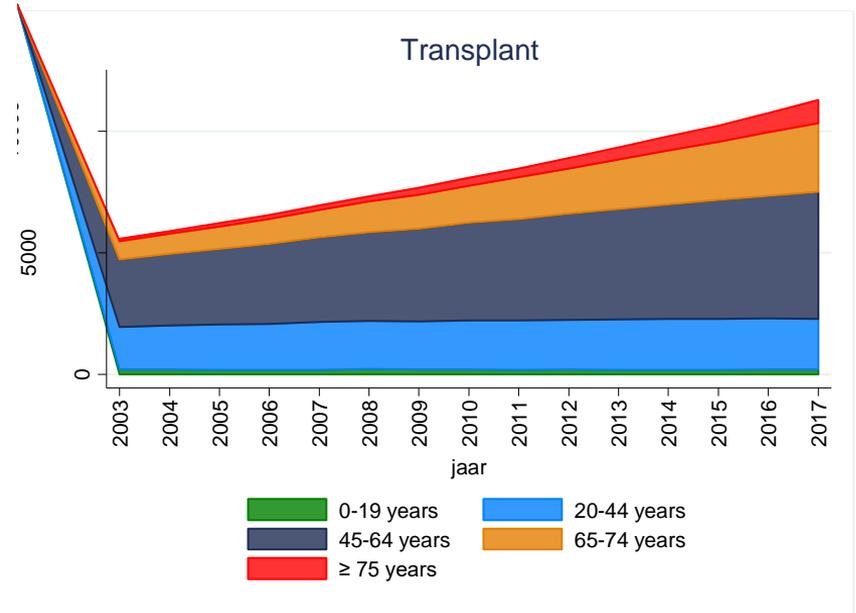
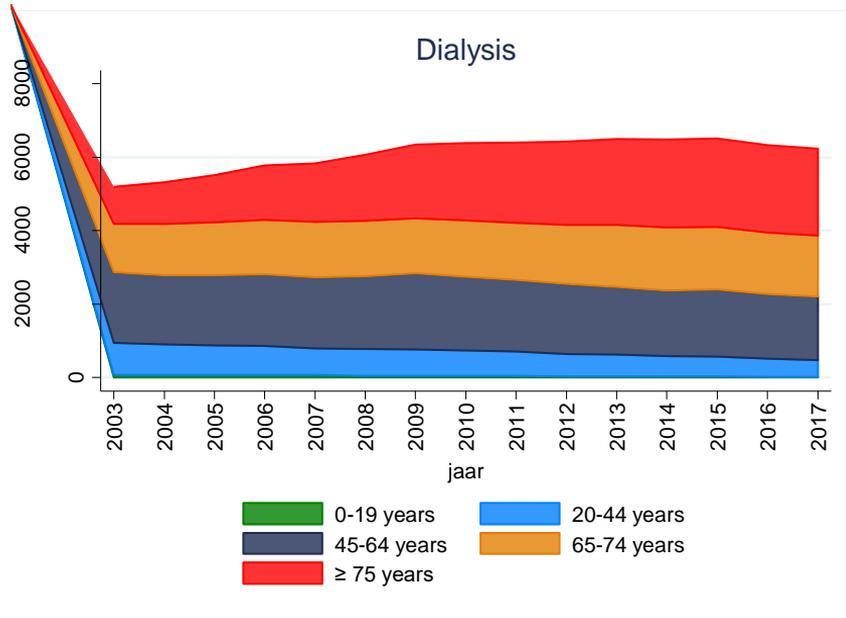


ERA-EDTA 2016

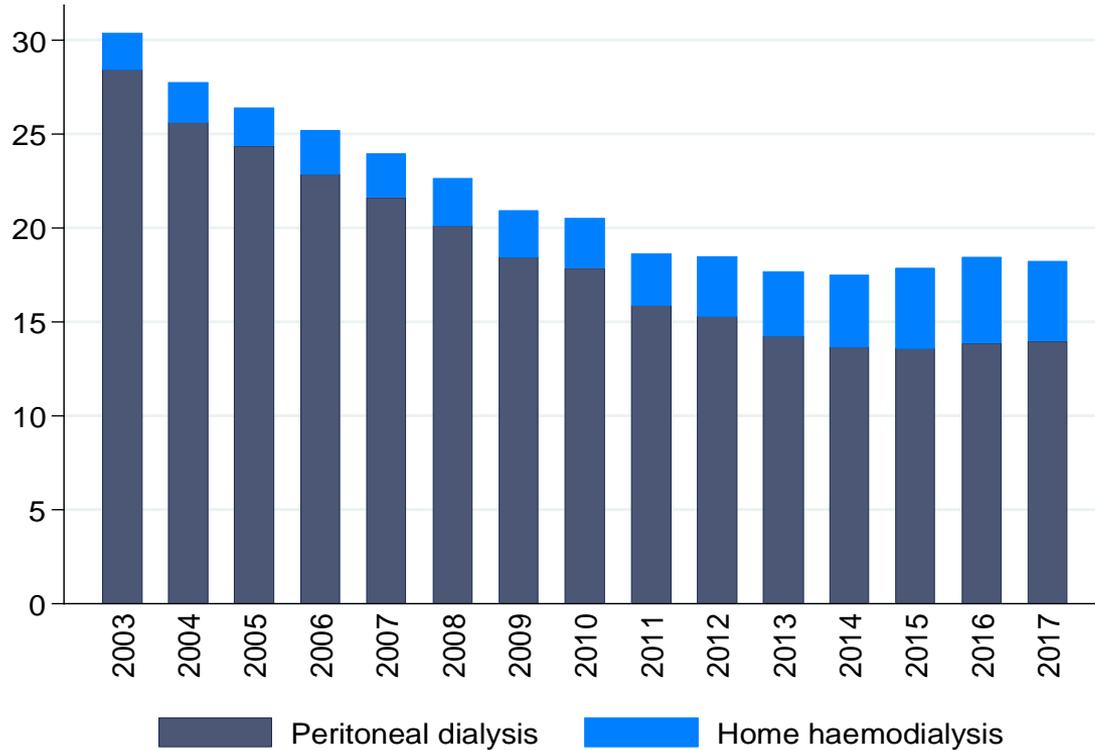
# RRT: Age distribution



# Age distribution per RRT



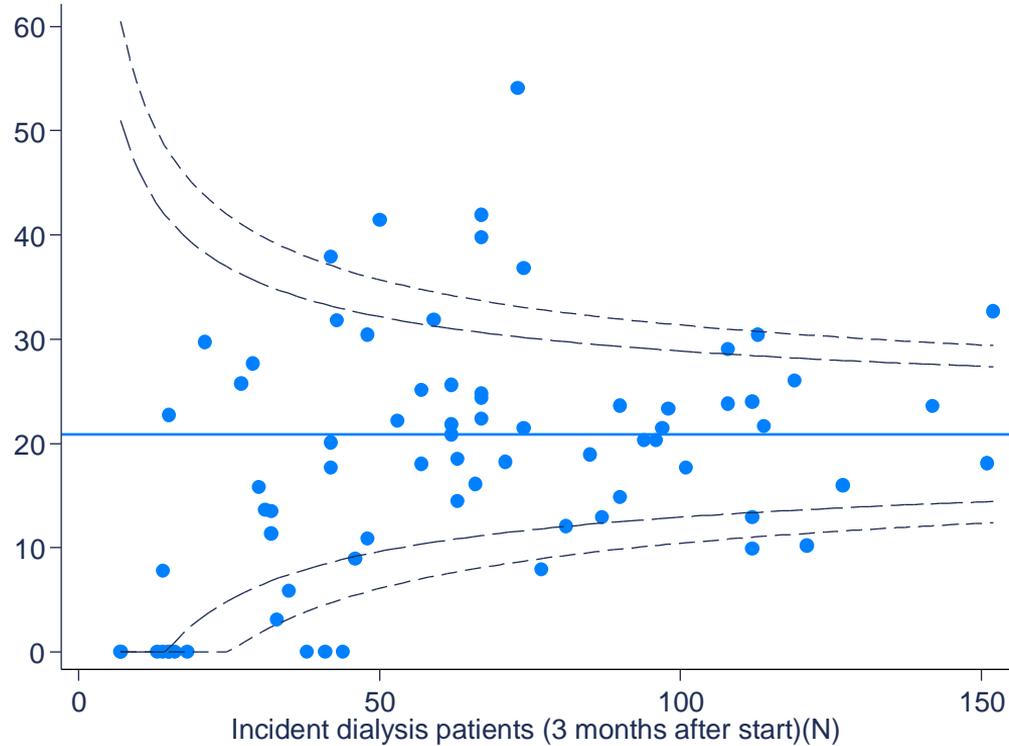
# Home dialysis



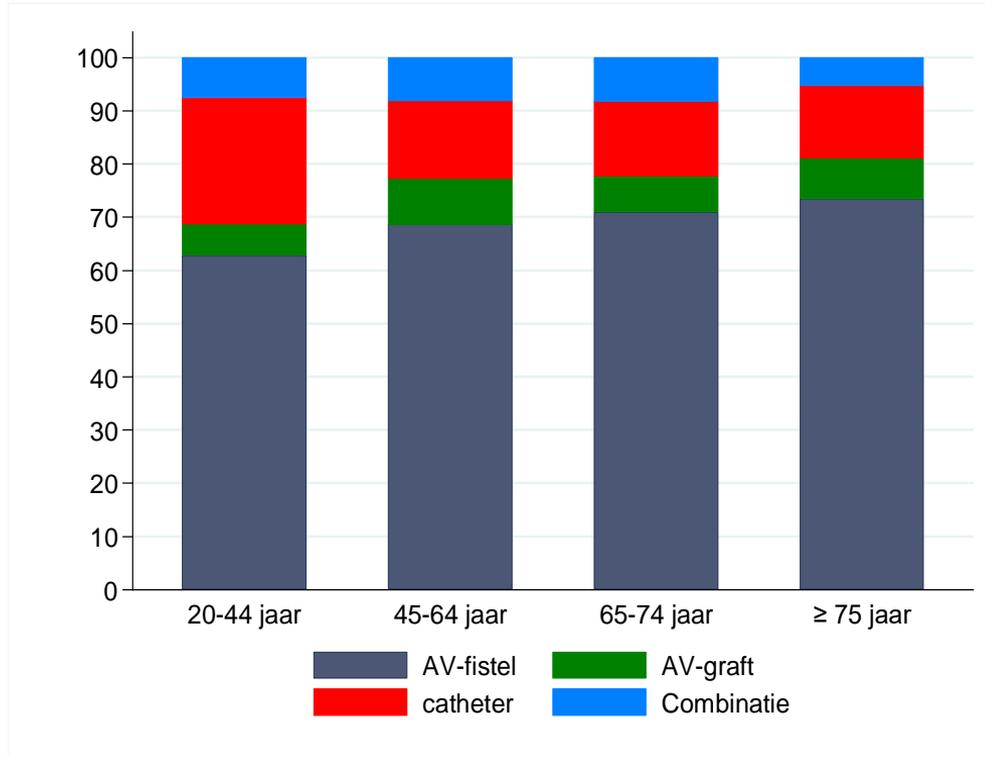
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# Home dialysis: variation among centres



# Intermediate measures: vascular access

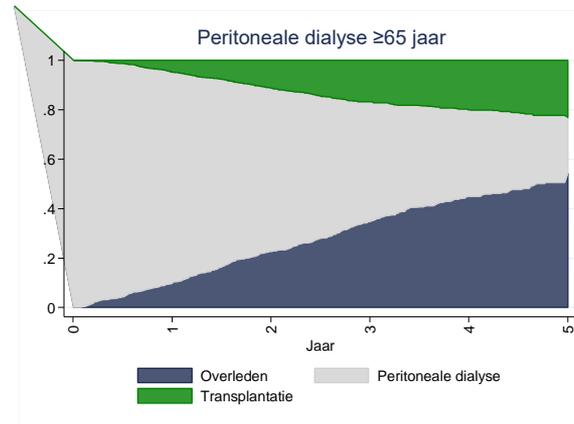
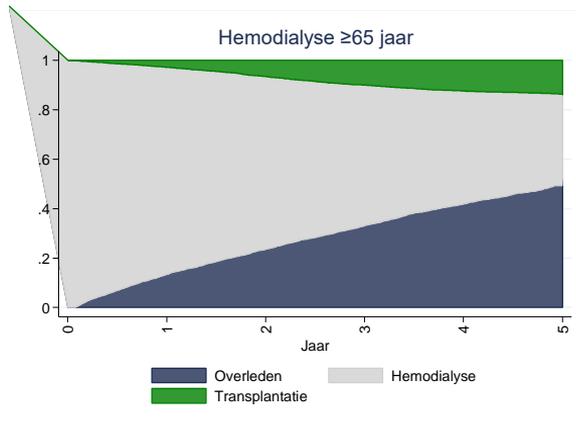
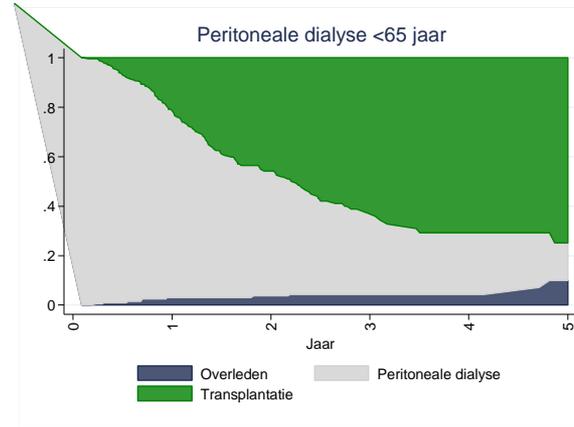
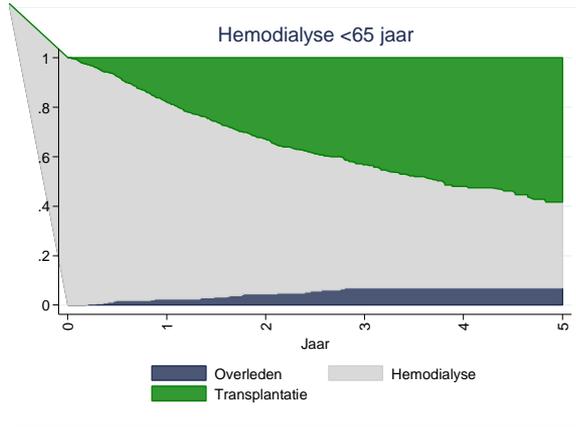


Prevalent dialysis patients

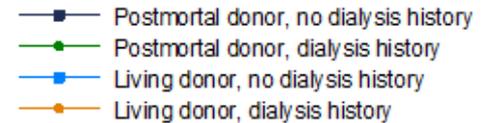
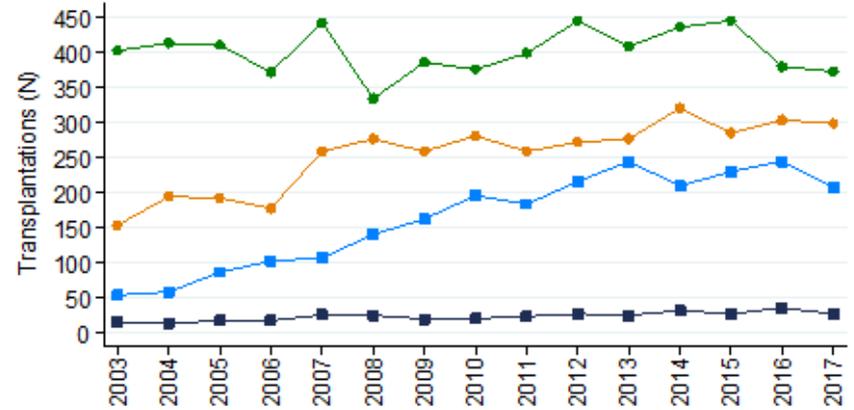
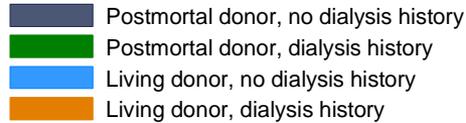
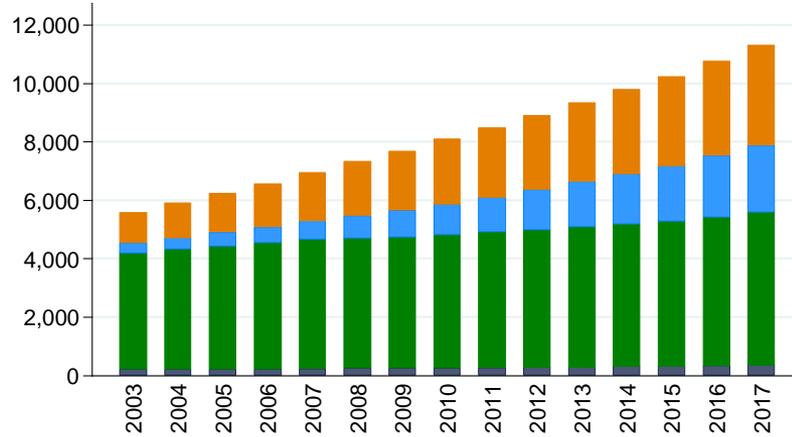
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# Mortality: hemodialysis en peritoneale dialysis

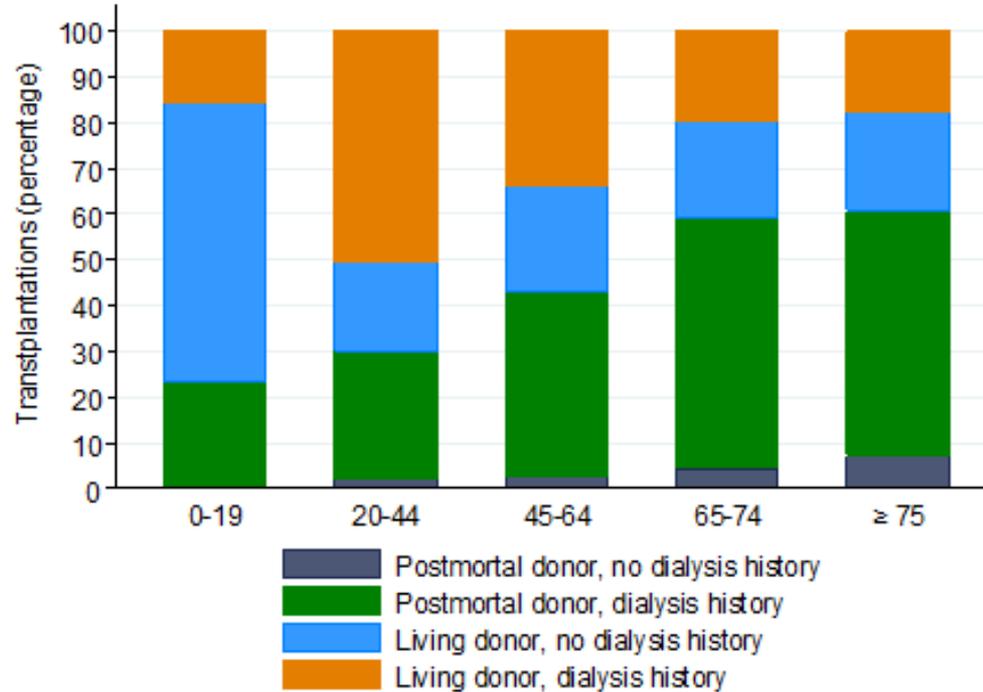


# Kidney transplantation



2017	
Living	551 (56%)
Postmortal	428 (44%)
Total	979 (100%)

# Kidney transplantation



**Nefrovisie**

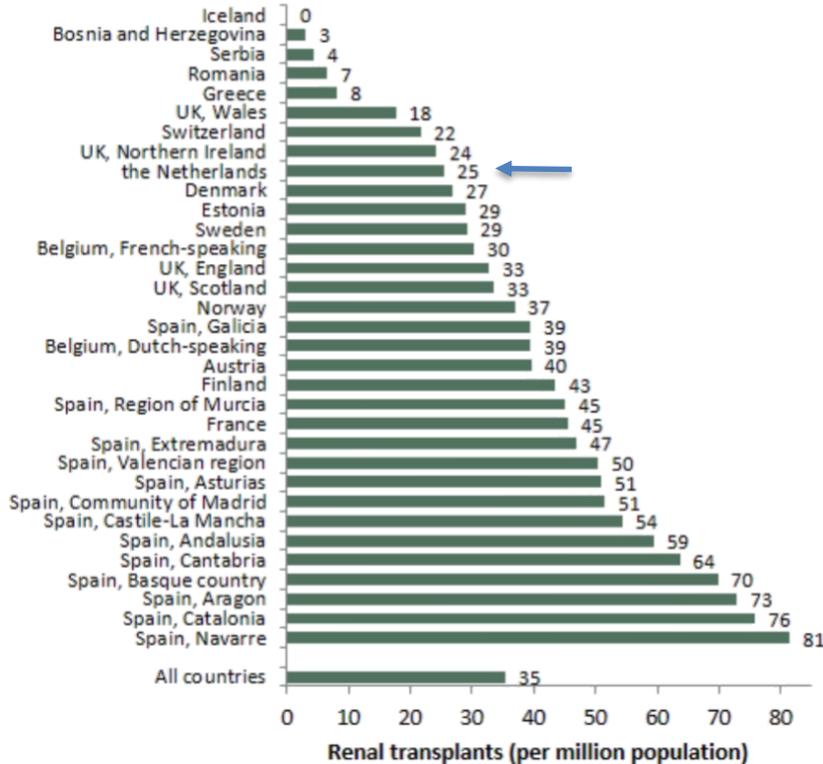
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# ERA-EDTA: deceased donor kidney transplantation



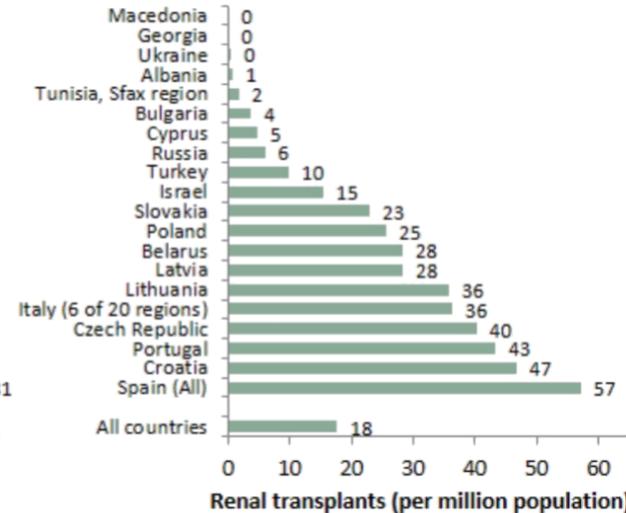
## Deceased donor transplant rate

renal registries providing individual patient data



## Deceased donor transplant rate

renal registries providing aggregated data



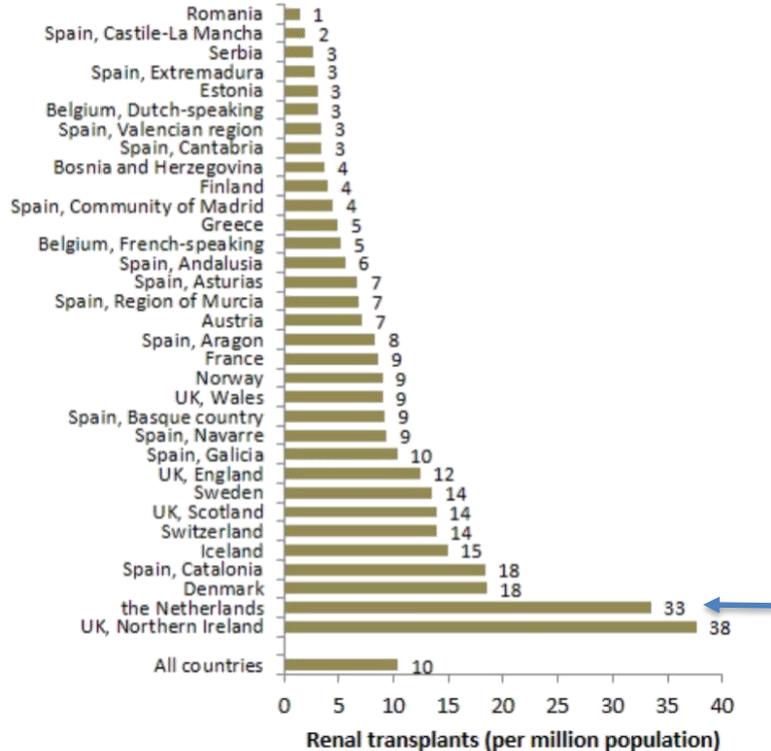
ERA-EDTA 2016

# ERA-EDTA: living donor kidney transplantation



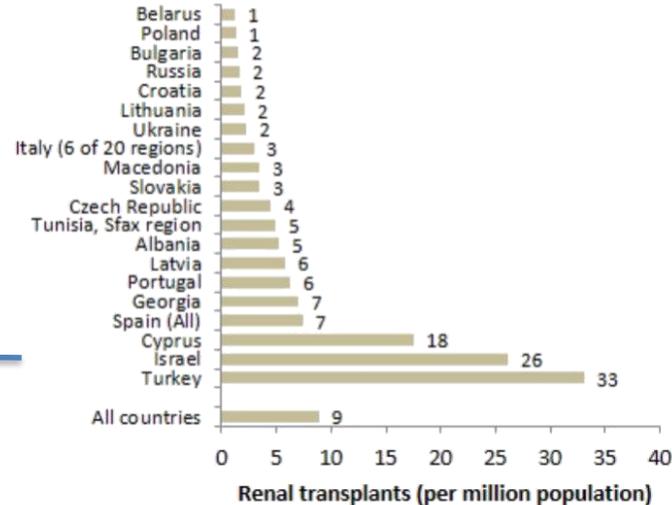
## Living donor transplant rate

renal registries providing individual patient data



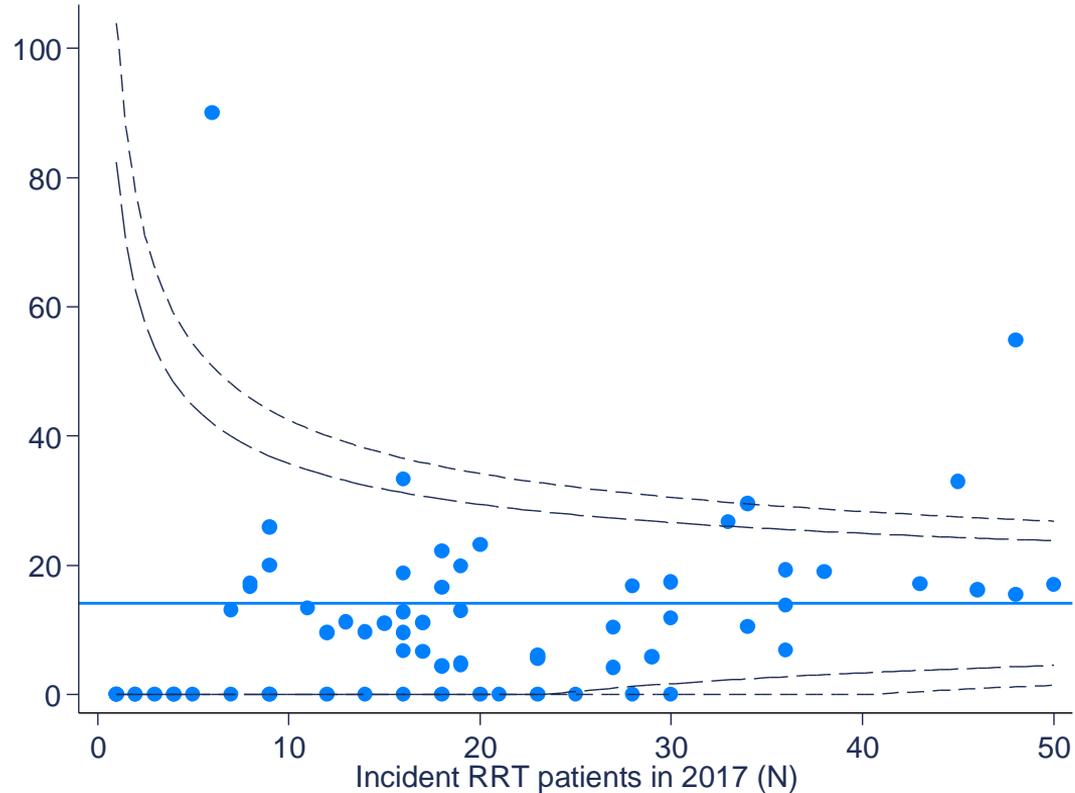
## Living donor transplant rate

renal registries providing aggregated data



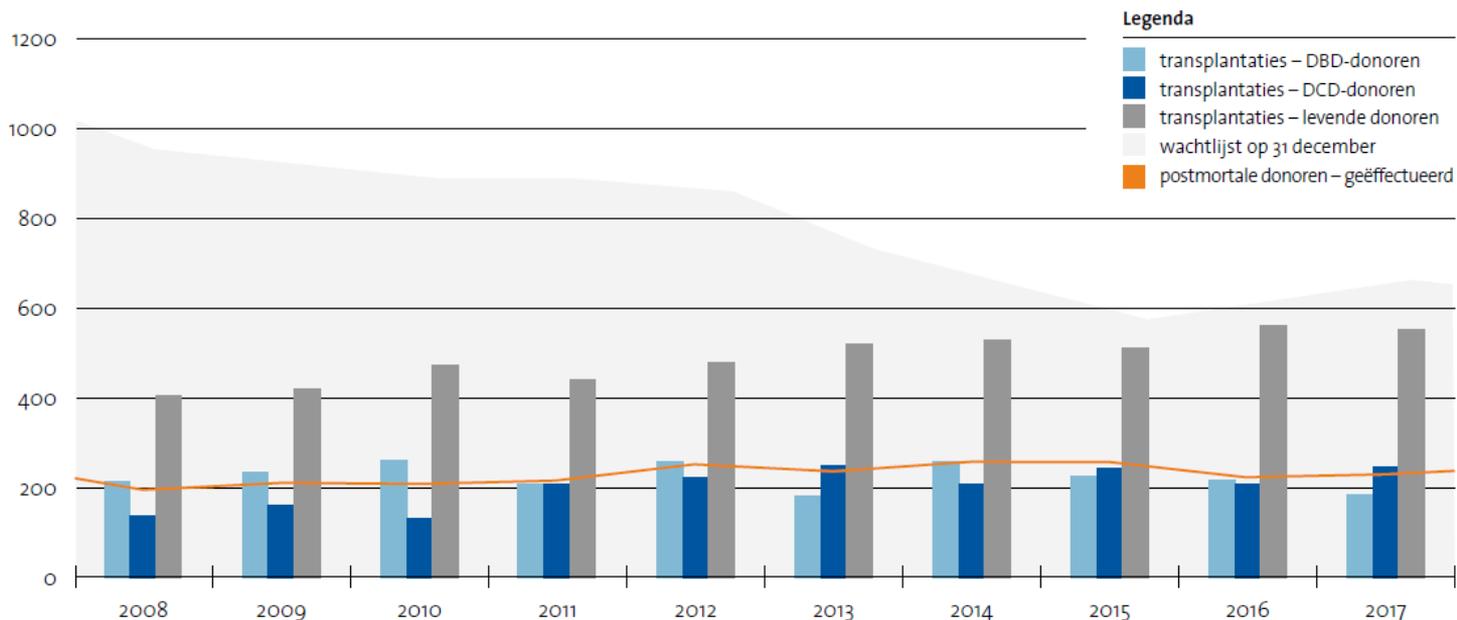
ERA-EDTA 2016

# Start RRT on transplantation: variation among centres



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# Kidney transplantation: DBD, DCD, living

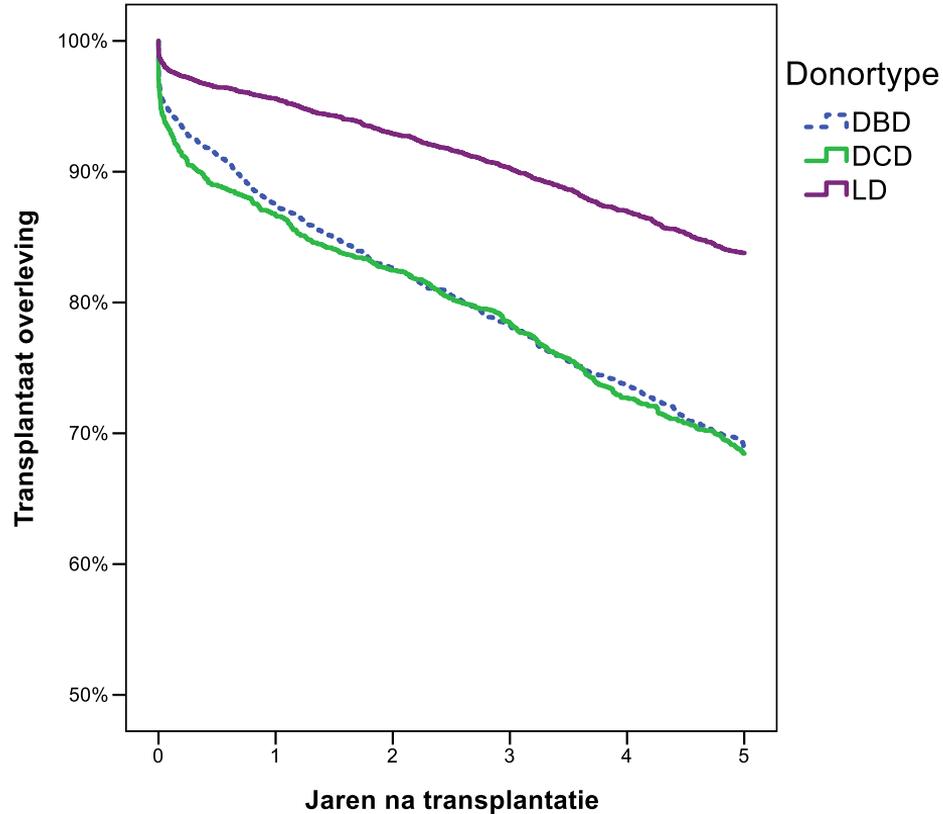


2017	
Living	551 (56%)
DBD	182 (19%)
DCD	246 (25%)
Total	979 (100%)

DCD: mainly DCD-III (Kootstra G *Transplant Proc.* 1995;27(5):2893-4)



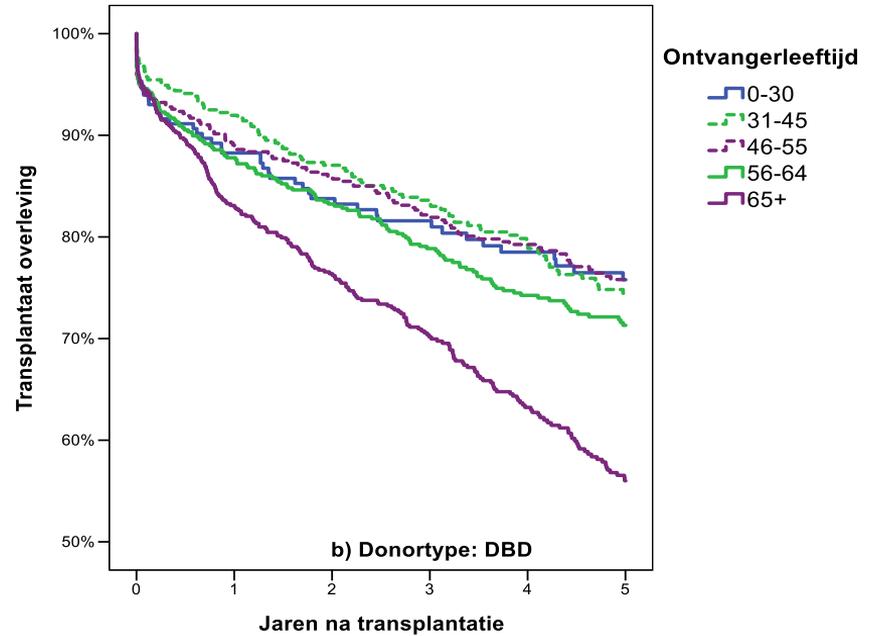
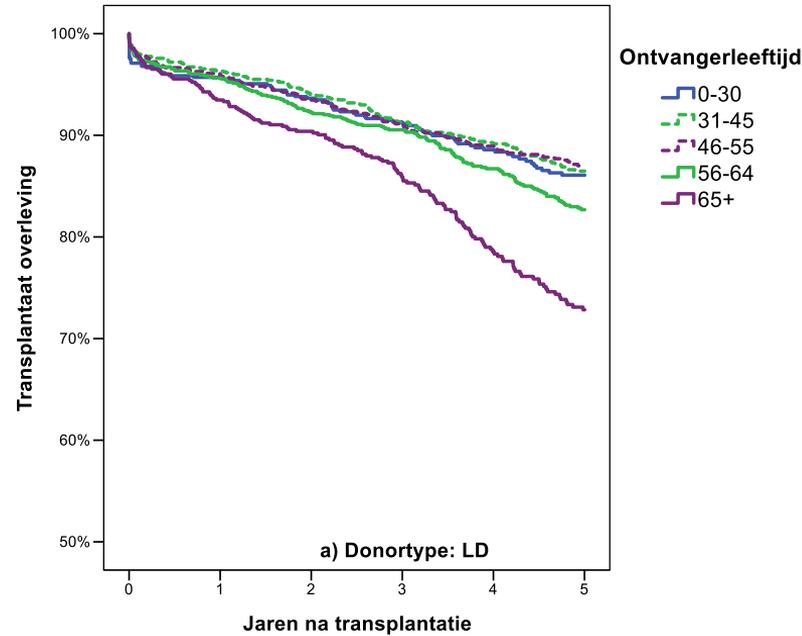
# Patient survival after kidney transplantation



Cohort 2006-2015



# Kidney transplantation: graft survival

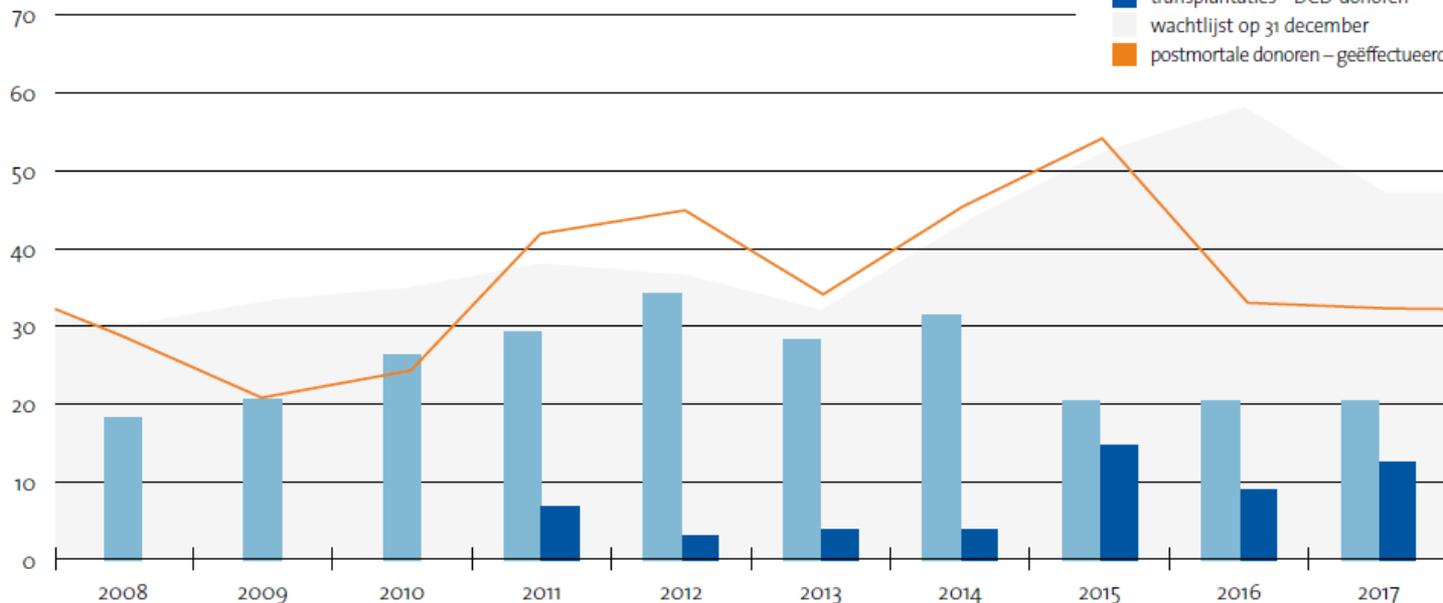


# Kidney + pancreas transplantation



## Legenda

- transplantaties – DBD-donoren
- transplantaties – DCD-donoren
- wachtrijst op 31 december
- postmortale donoren – geëffectueerd



2017	
Kidney + pancreas	22
Pancreas only	11

22 kidney + pancreas  
11 pancreas only

Annual report 2017  
Nederlandse Transplantatie Stichting

# Patient Reported Outcome Measures



- Pilot: 2016
  - Analysis of patient interviews
  - Selection of matching Patient Reported Outcomes
  - Pilot study with SF-12 and DSI
  
- November 2018
  - Available for all dialysis centers / patients
  - SF-12 and Dialysis Symptom Index
  - Individual reports
  - Optional use in nationwide benchmark

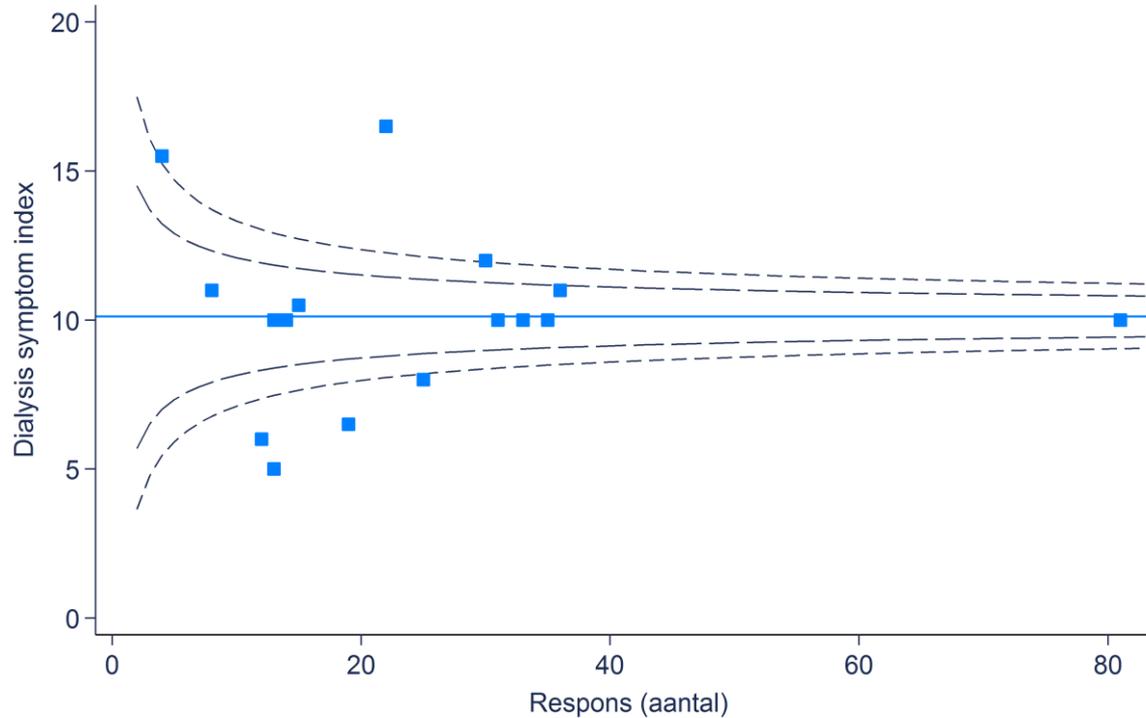


# PROMs pilot



	1 <sup>st</sup> round	2 <sup>nd</sup> round	3 <sup>rd</sup> round
Population	1718	1400	1456
Response	429	280	233
% response	<b>25.0</b>	<b>20.0</b>	<b>16.0</b>

# PROMs pilot: DSI



# Conclusions Nephrology in The Netherlands



- Moderate RRT incidence: declining
- Diabetes 2 RRT incidence: declining
- 64% prevalent RRT: kidney transplantation
  - 56% living donation
  - 44% postmortal, 19.5% DBD, 24.5% DCD
- Quality control system
  - Moving to PROs



## Further reading



Annual reports Renine (dialysis registry)

- <https://www.nefrovisie.nl/nefrodata/>
- [https://www.nefrovisie.nl/wp-content/uploads/2015/12/Jaarrapportage-Renine-2014\\_web.pdf](https://www.nefrovisie.nl/wp-content/uploads/2015/12/Jaarrapportage-Renine-2014_web.pdf)
- <https://www.nefrovisie.nl/jaarrapportage-2015/>
- <https://www.nefrovisie.nl/wp-content/uploads/2018/03/RENINE-year-report2016-web.pdf>

Annual reports Transplantation

- <https://www.transplantatiestichting.nl/bestel-en-download/jaarverslagen>

