# ‘routine’ onderzoeken bij dialyse patiënten

*zinvolle* investigatie of *futiele* inquisitie?

Orpadt meeting 23 november 2017
De Montil, Affligem

**W Lemahieu, nefroloog & afficionado**

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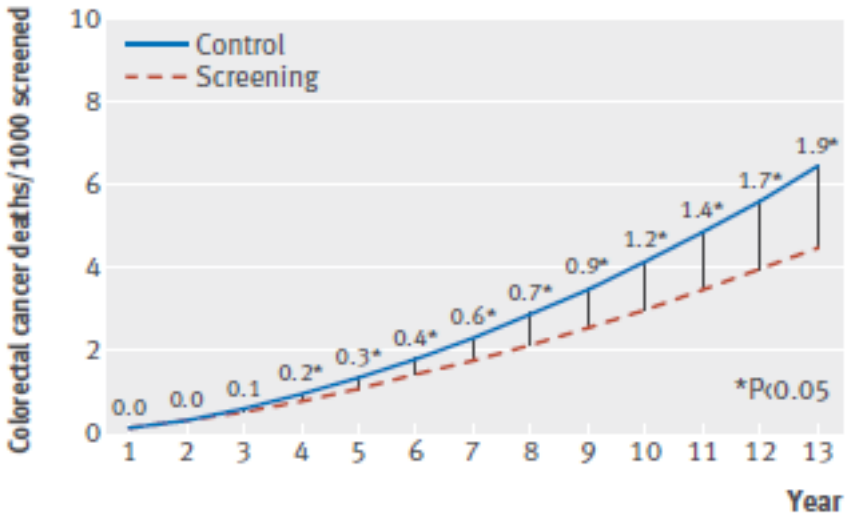
## *zinvolle* investigatie of *futiele* inquisitie?




Pooled mortality curves for colorectal cancer. Values are number of deaths from colorectal cancer prevented per 1000 people screened (absolute risk reduction). *P<0.05.

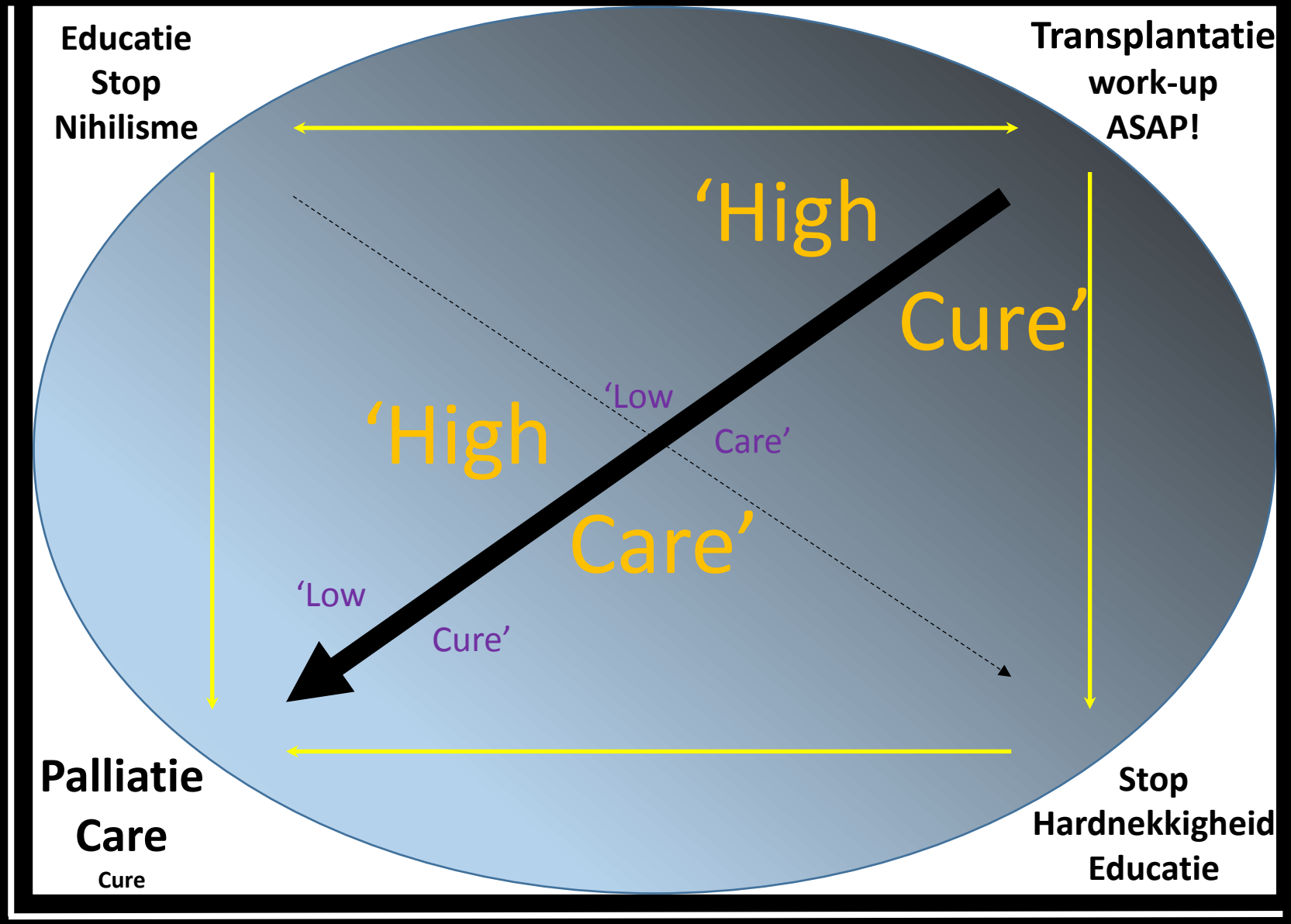
Tang et al. BMJ 2015, 350: h1662

**W Lemahieu, nefroloog & afficionado**

P Doubel, Kortrijk, 2017, persoonlijke comm.

# ‘routine’ onderzoeken bij wie?

levens expectantie




‘onderzoek/therapie’ dosis

# ‘routine’ onderzoeken - waarom?

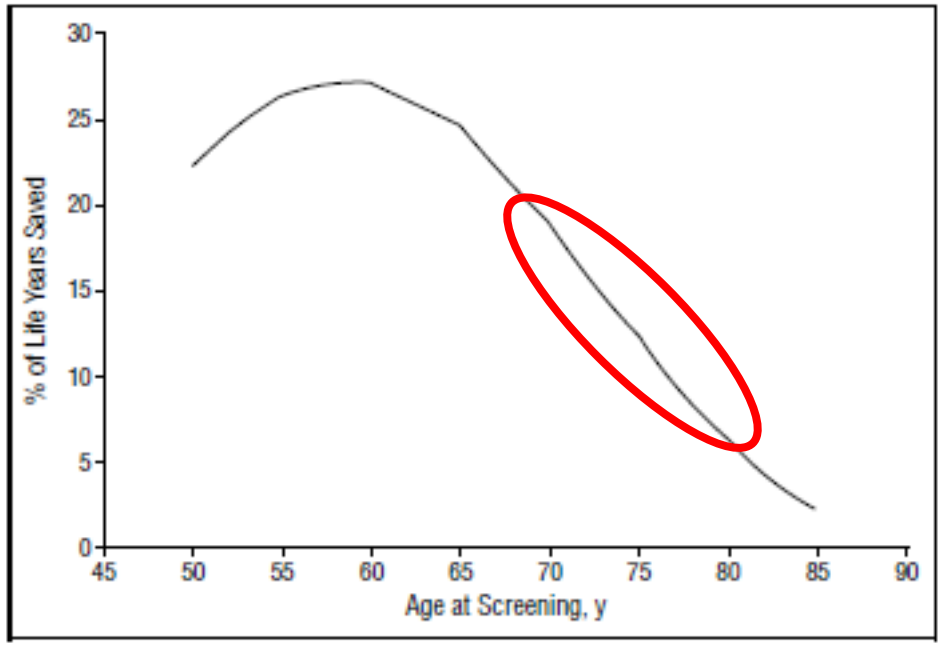
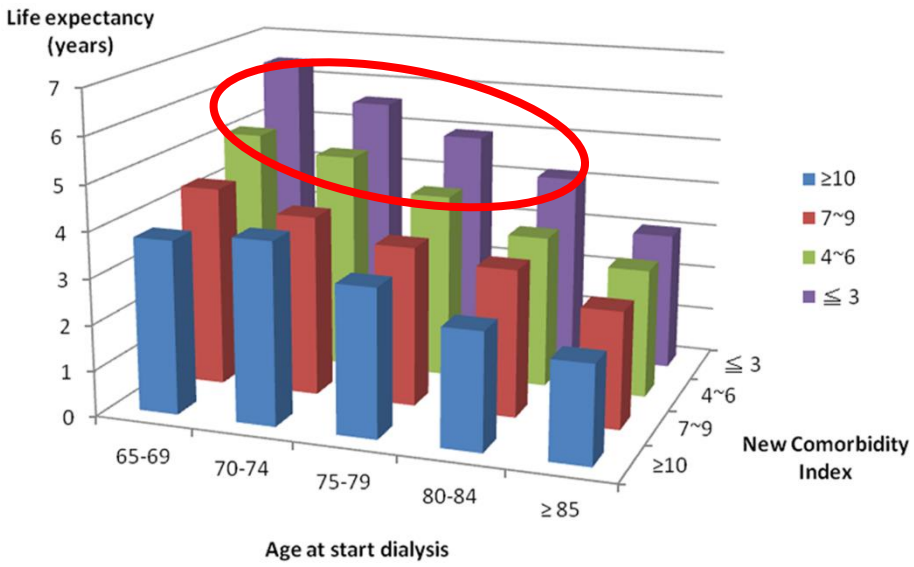


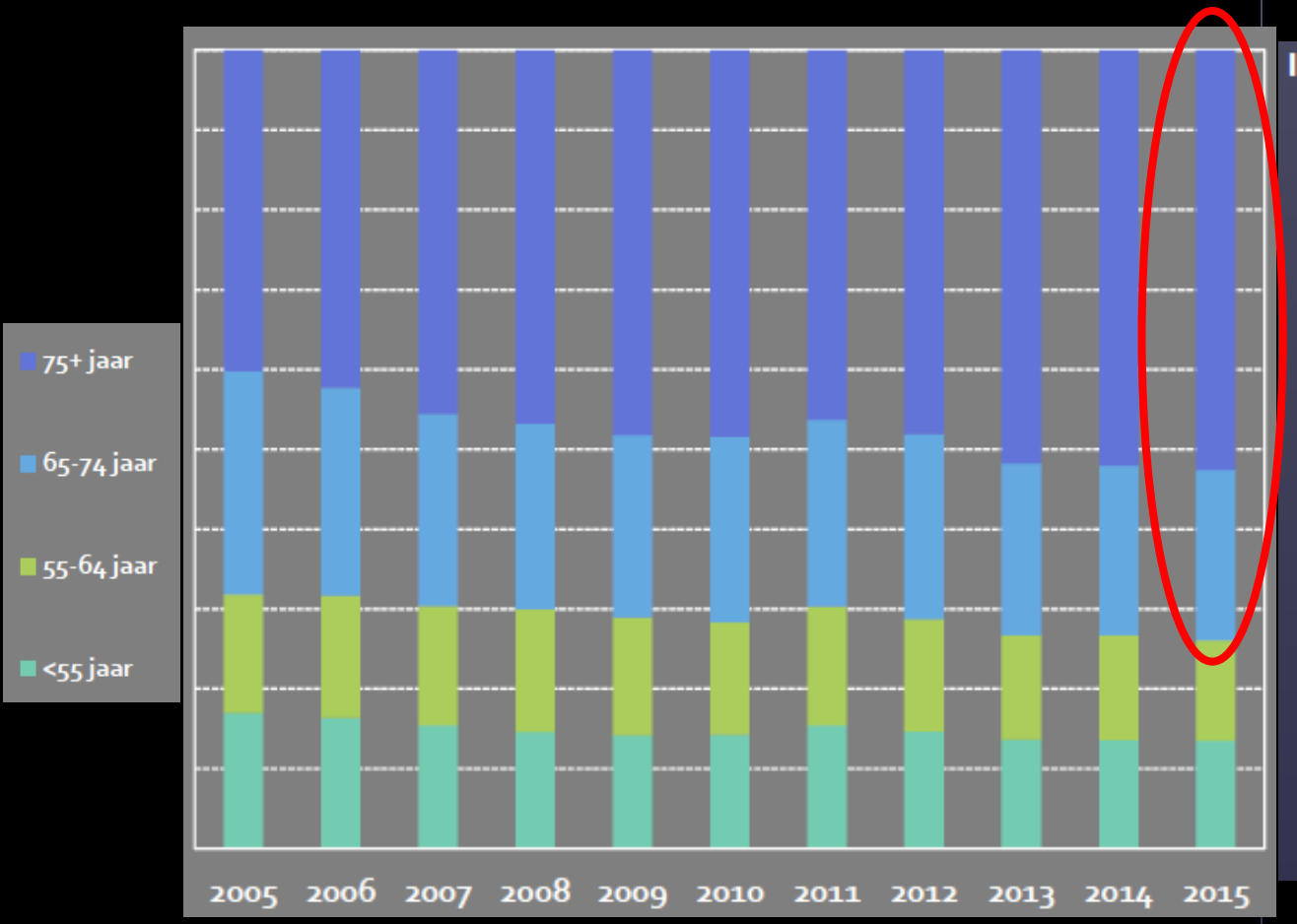

**Figure 2.** Influence of age at the single colonoscopy on the percentage of life years saved.

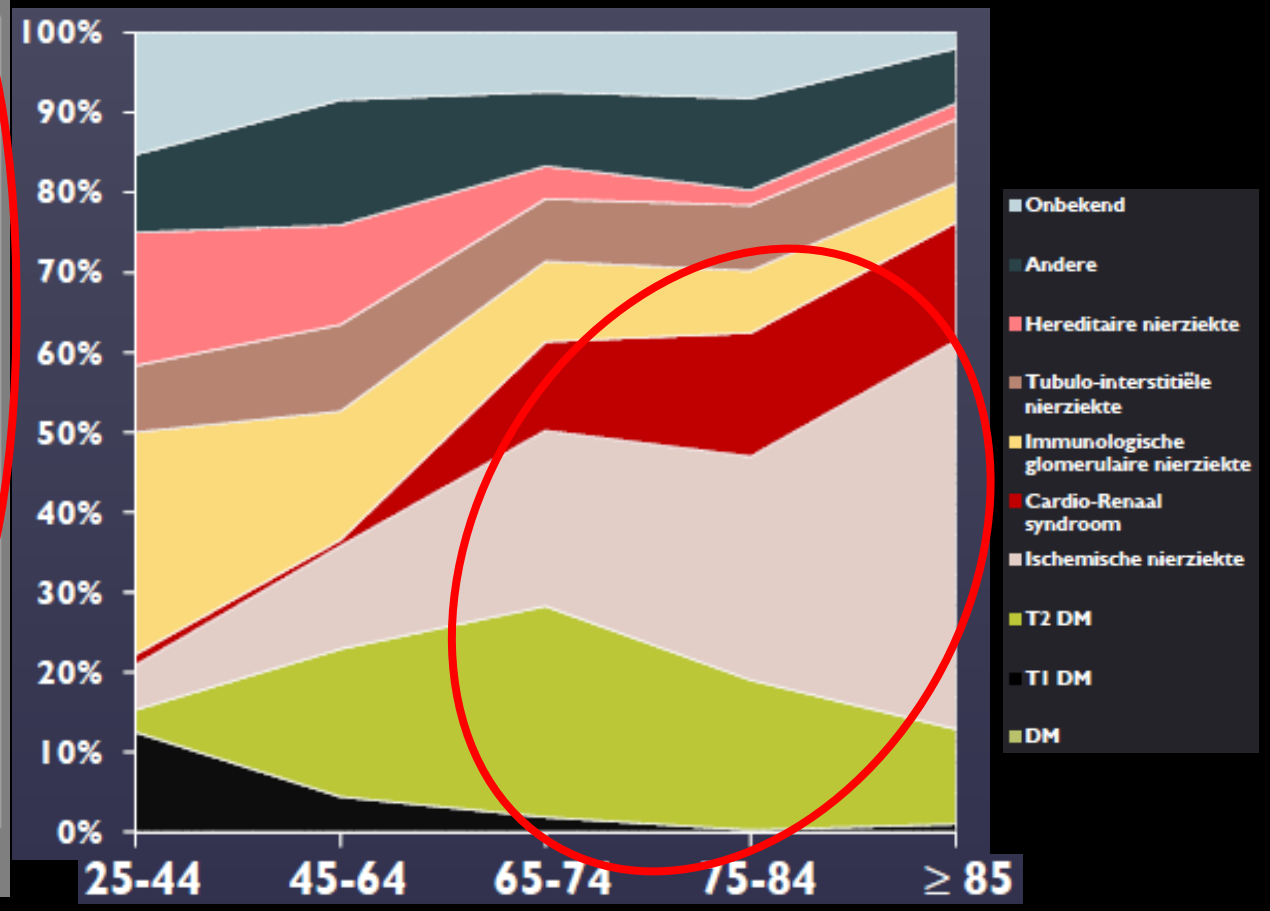
Sonnenberg A et al. Arch Intern Med 2002, 162: 163-168




Kan WC et al. Plos One 2013, 8: e68748

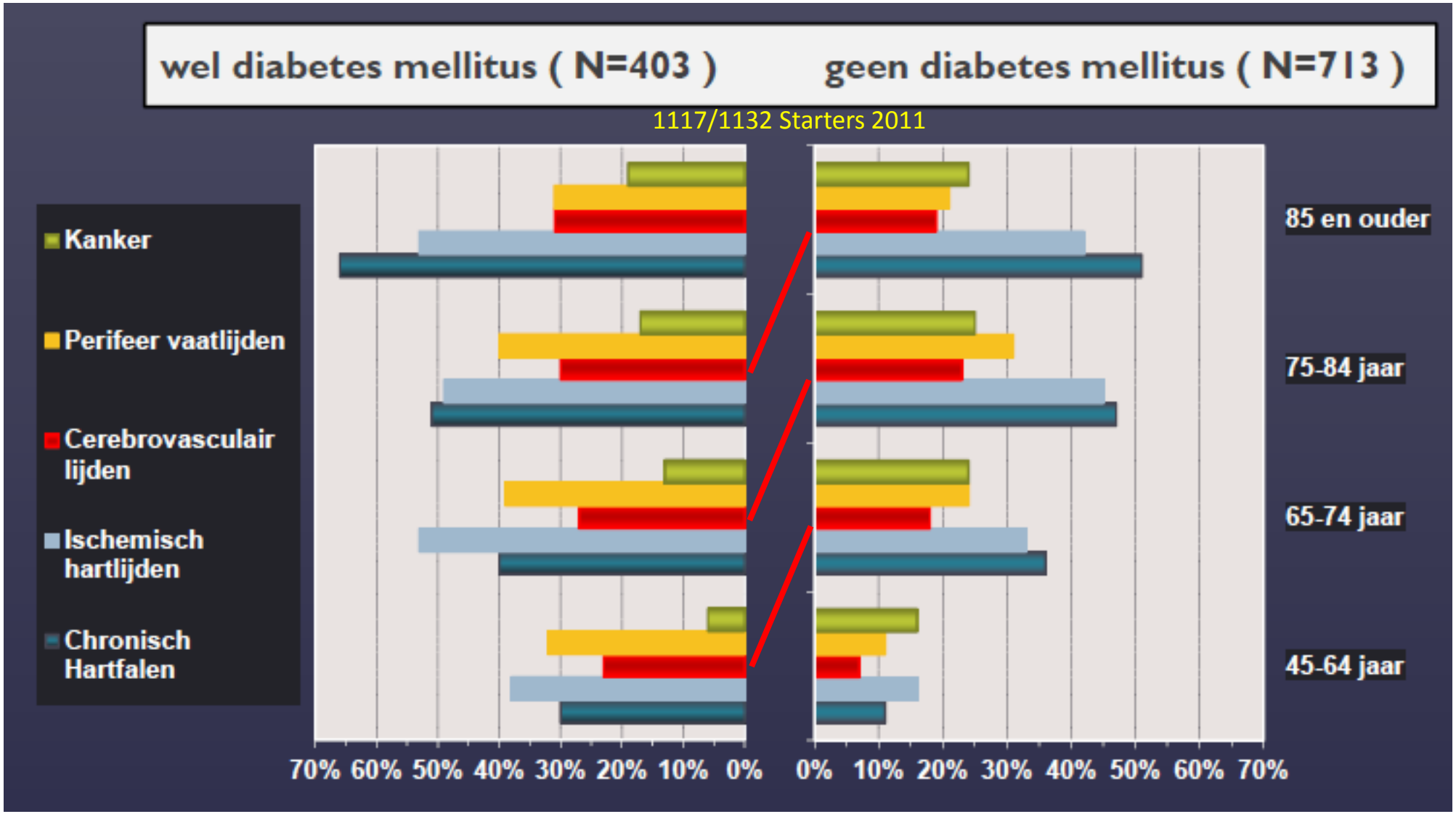
# Wie zijn onze patiënten & …



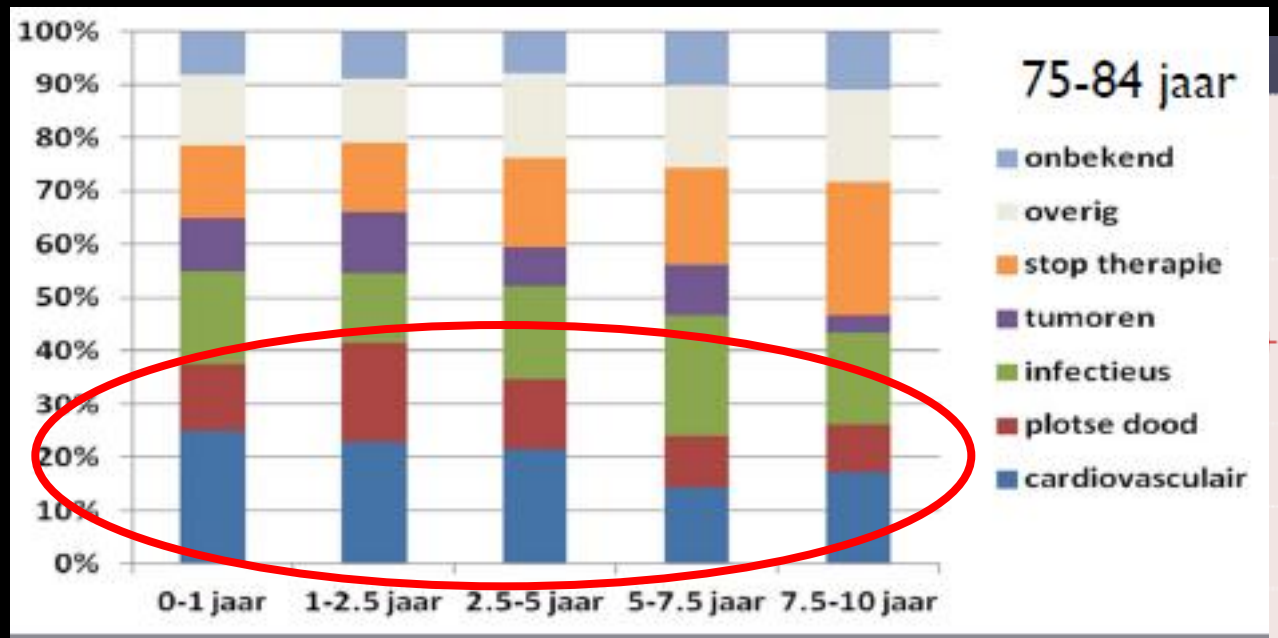

J Demeester, NBVN jaarverslag 2016 & Orpadt meeting 2013

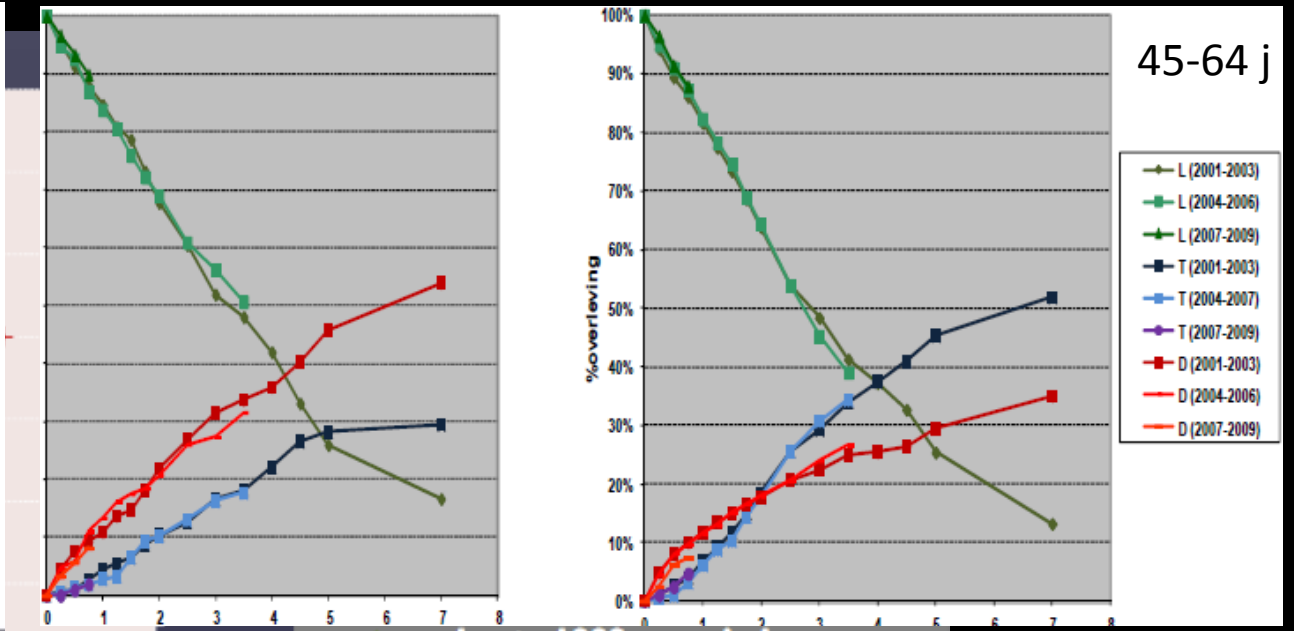
# … wat hebben ze …

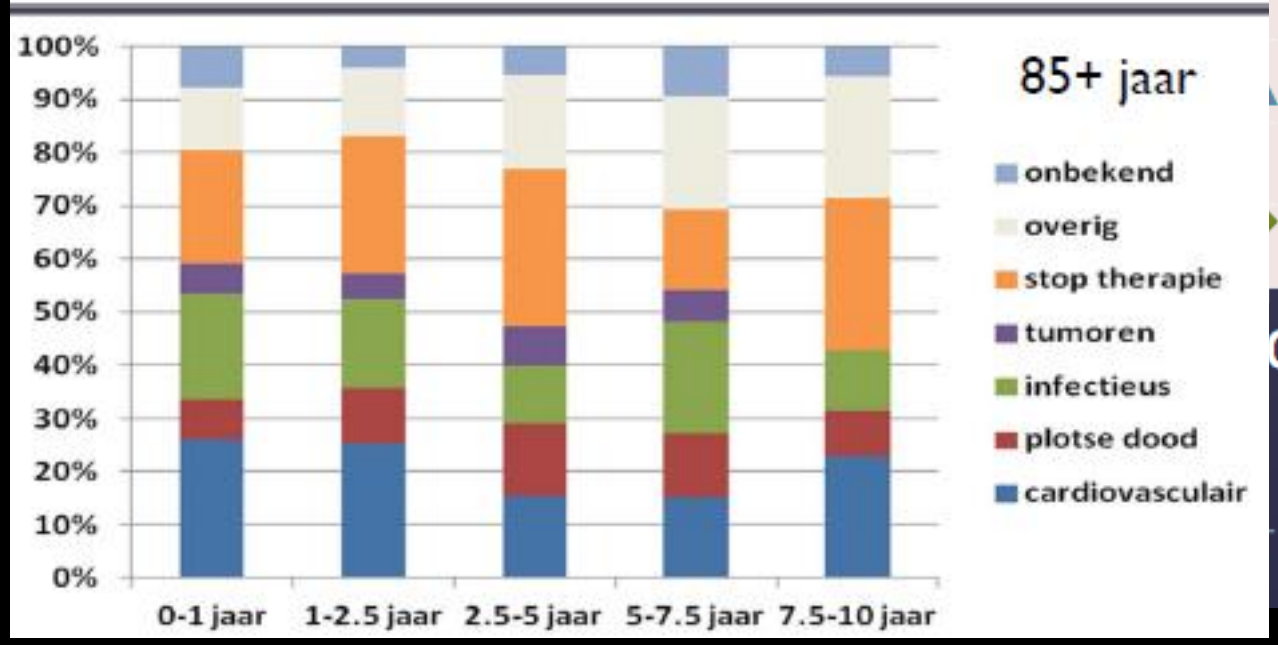


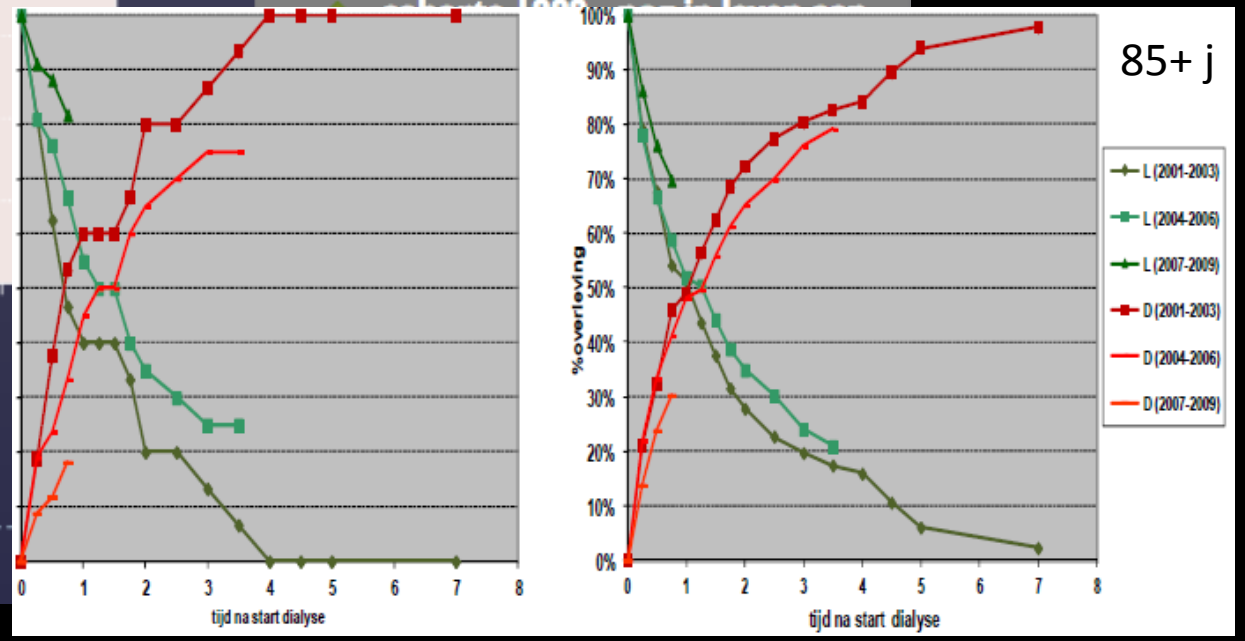

J Demeester, Orpadt meeting 2013

# … hoe snel overlijden ze … & wanneer waaraan?



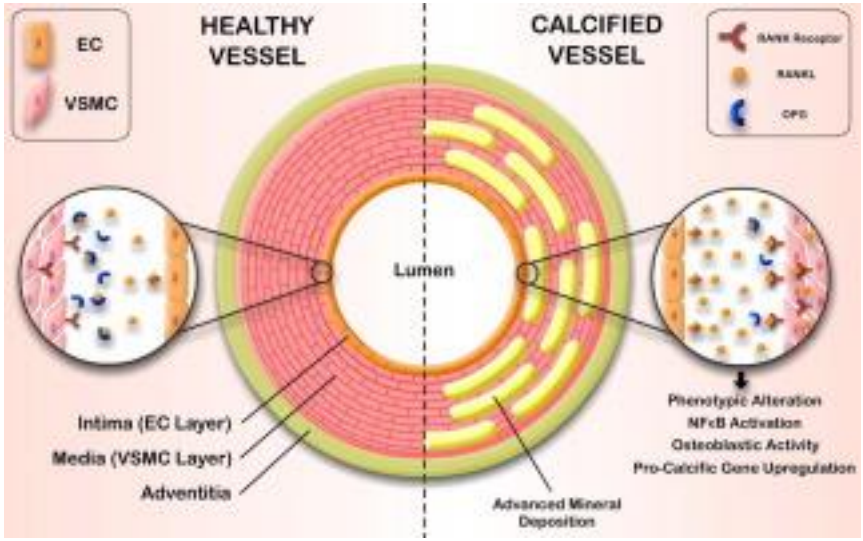

J Demeester, Orpadt meeting 2013 – idem trend in data uit jaarraport 2016

# Cardiovasculair – plotse dood

## Renalism – is it really that common?

**Publications Documenting Renalism**

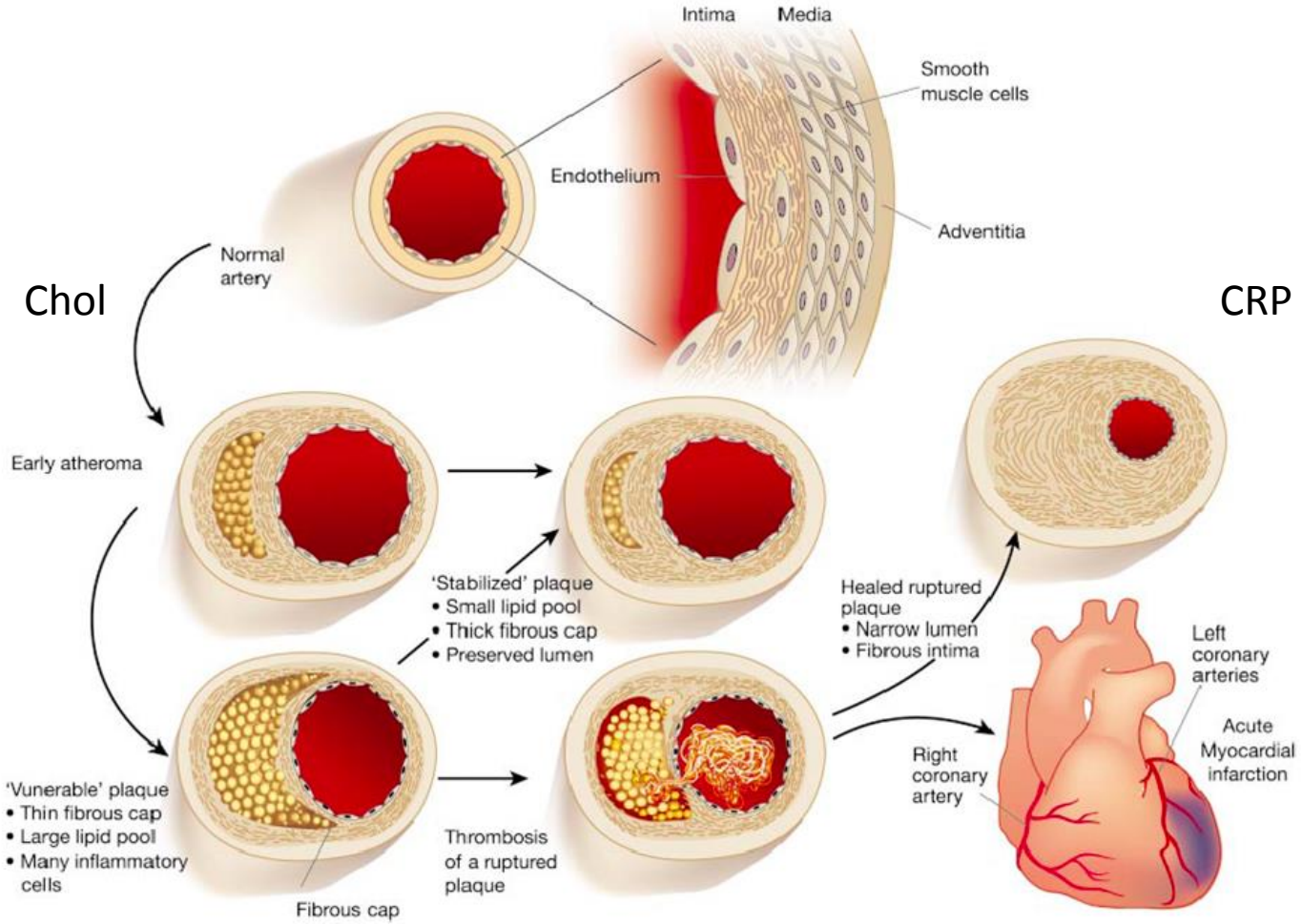
| Authors | Journal | Published | Country | # pts | Presentation | Angio CKD | Angio non-CKD |
|---|---|---|---|---|---|---|---|
| Freeman et al. | JACC | 2003 | US | 889 | ACS | 27% | 43% |
| Chertow et al. | JASN | 2004 | US | 57,284 | MI | 25.2% | 46.8% |
| Goldenberg et al. | Arch Int Med. | 2010 | Europe | 13,141 | ACS | 49.9% | 67.8% |
| Han et al. | Am. J Med. | 2006 | US | 45,343 | NTEMI | 47.6% | 73.8% |

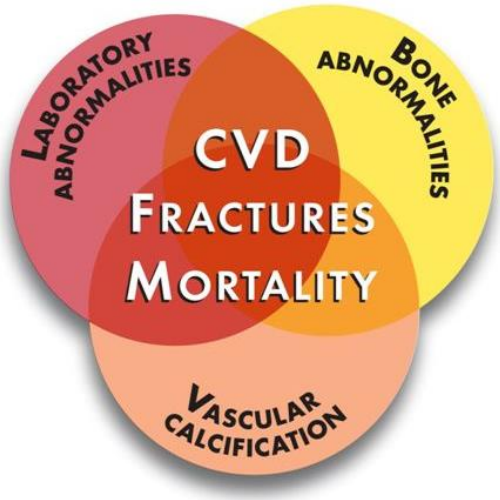



Chol

CRP

Ca/P



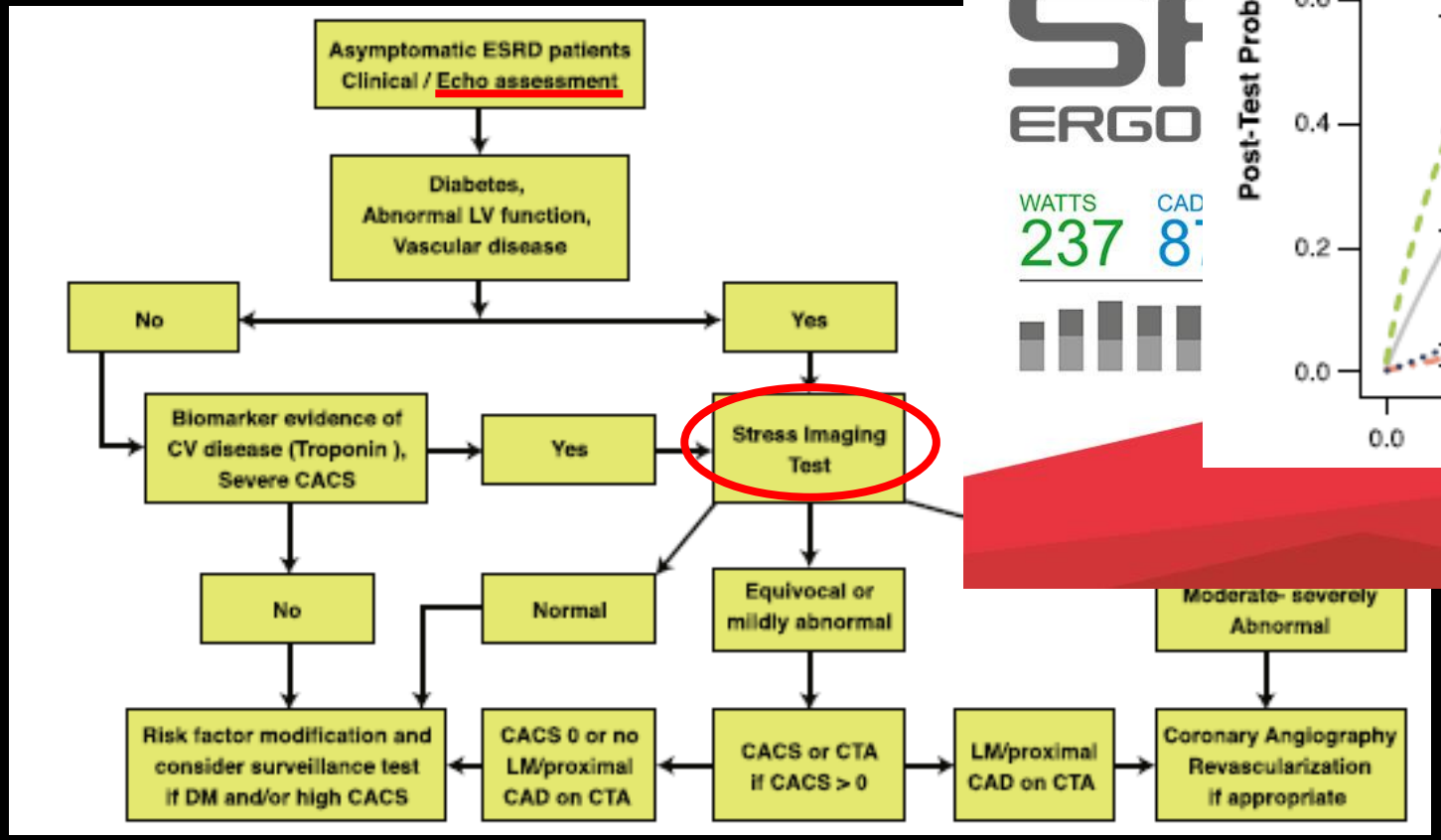




**CKD-MBD**

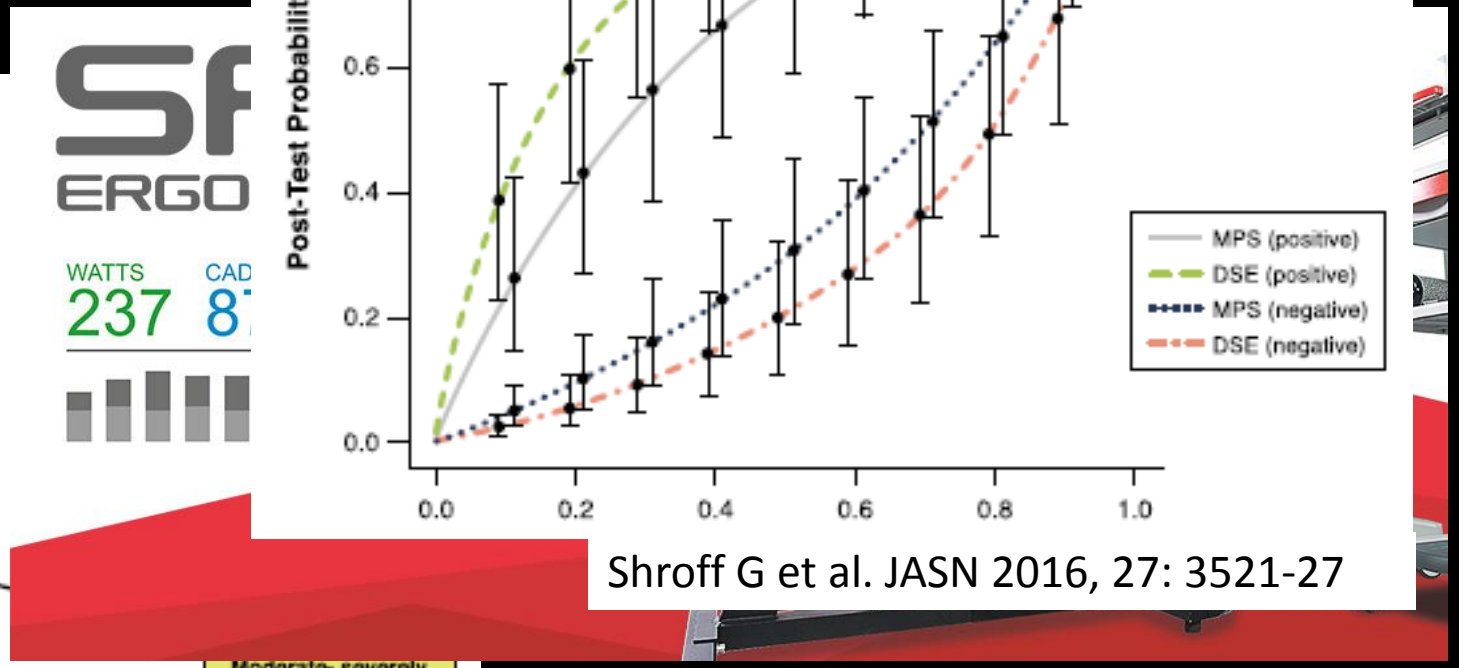
- CKD-MBD: systemic disorder
  - Trinity: bone abnormalities, laboratory abnormalities, & vascular calcification
  - Hard outcomes: fractures, cardiovascular morbidity, & mortality.

# ‘banale’ atherosclerose/cardiovasculair

‘…Left ventricular hypertrophy and systolic dysfunction cannot be accurately assessed solely by history, physical examination, or chest X-ray. Left ventricular systolic performance, however, can be accurately measured by echocardiography …’ - KDOQI




Hakeem A et al. JACC Cardiovac Img 2014, 7: 715-28







Shroff G et al. JASN 2016, 27: 3521-27

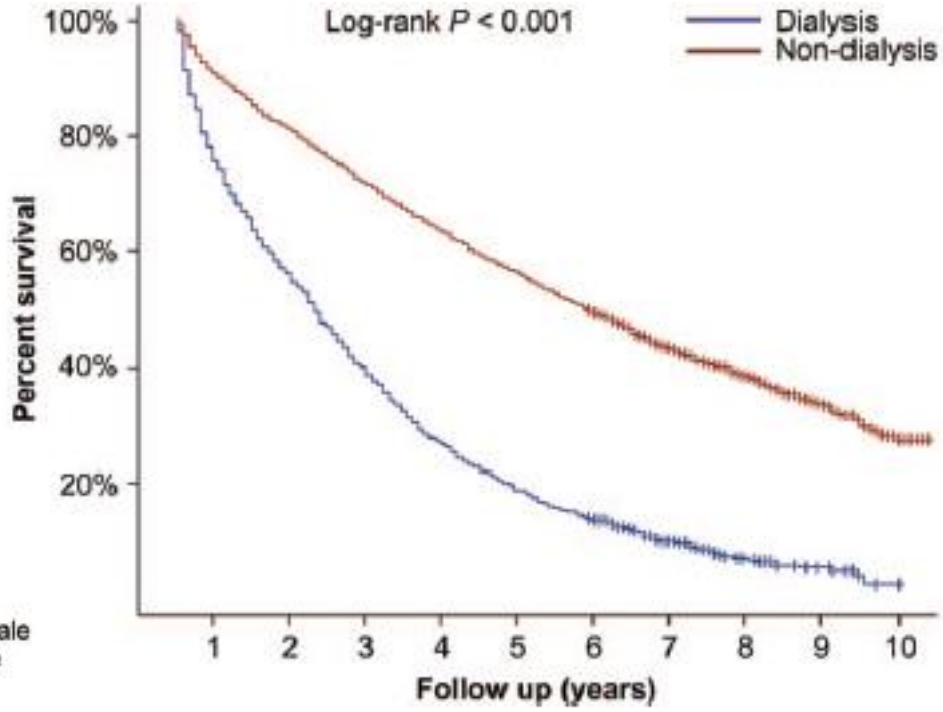
**DSE**

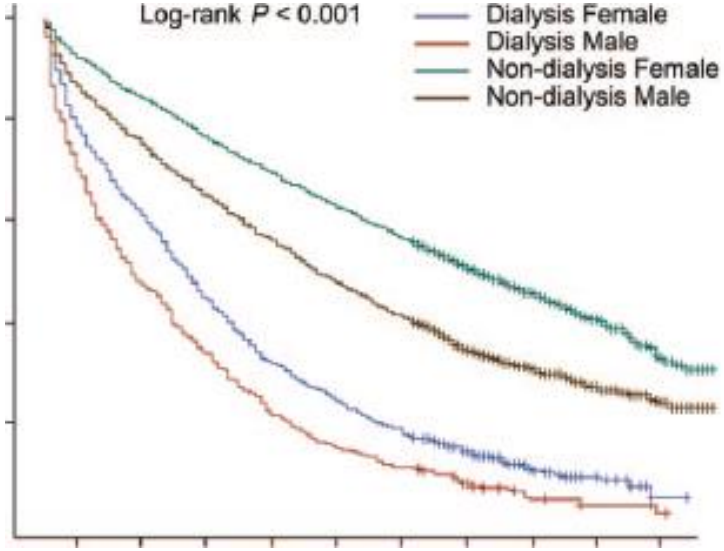
**=**

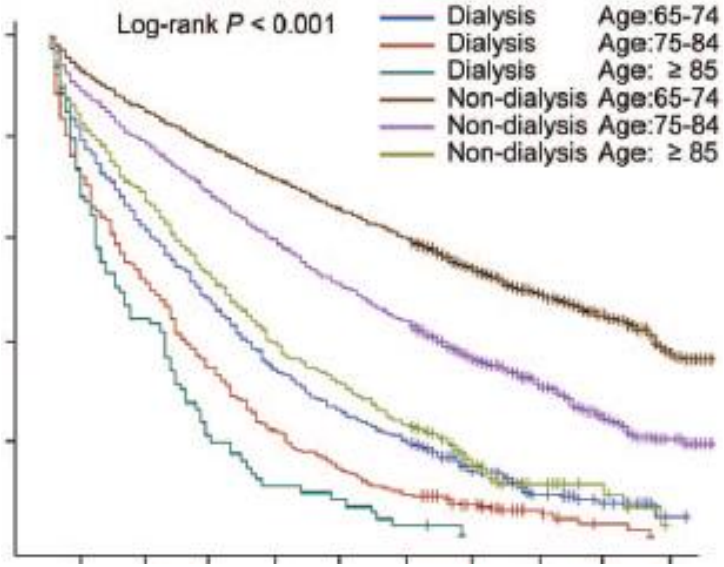
**dobutamine Stress Echocardiografie**

***Body composition monitoring?***

# CKD/MBD – plotse dood

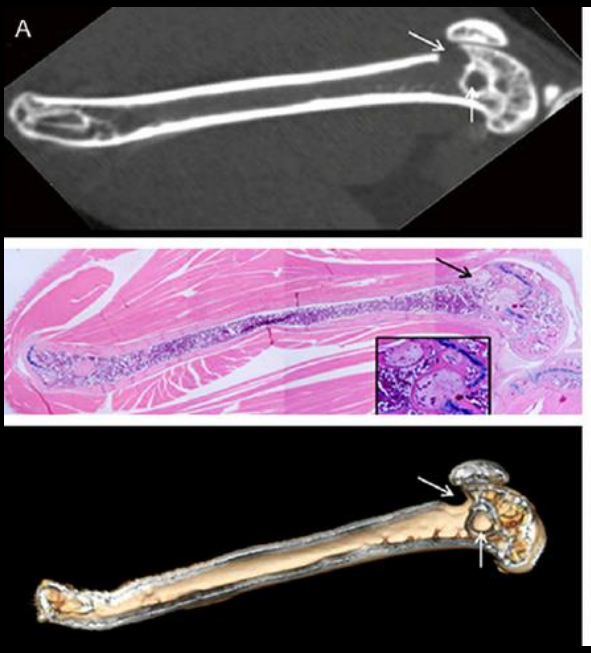


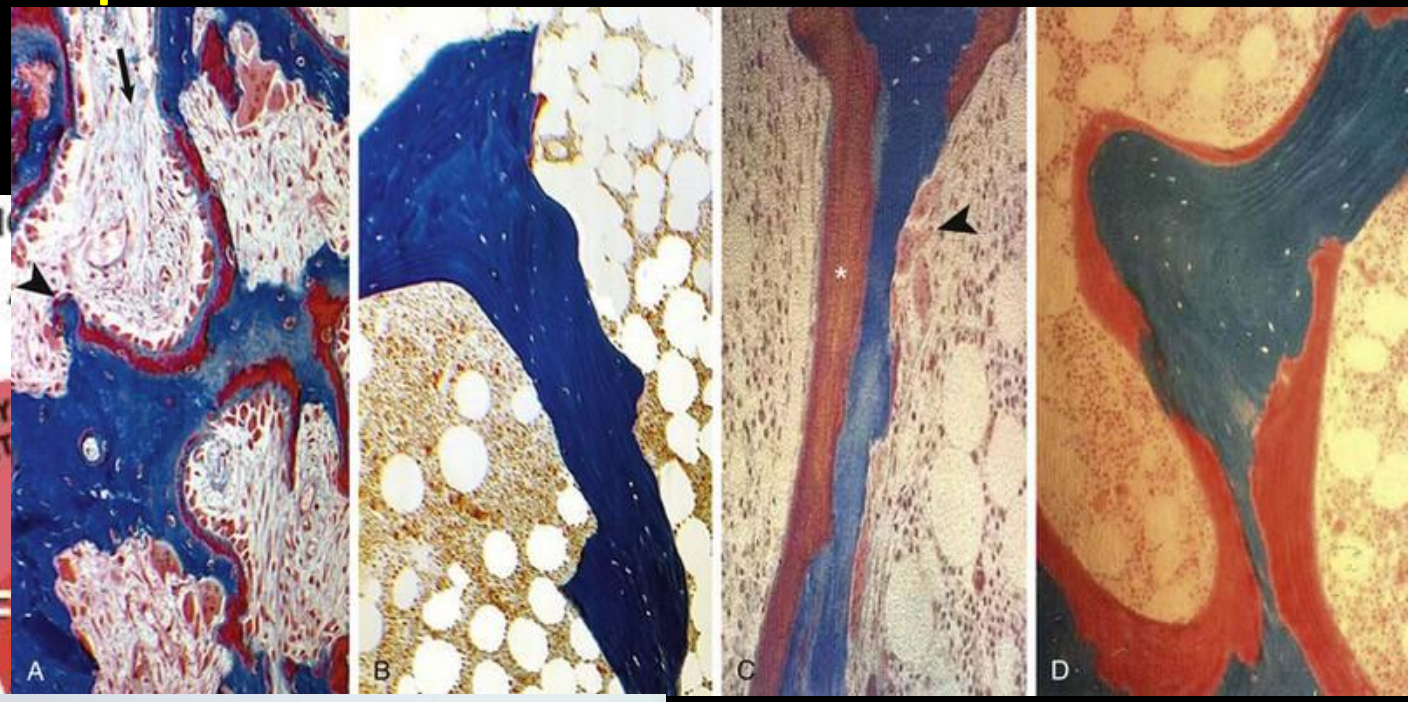




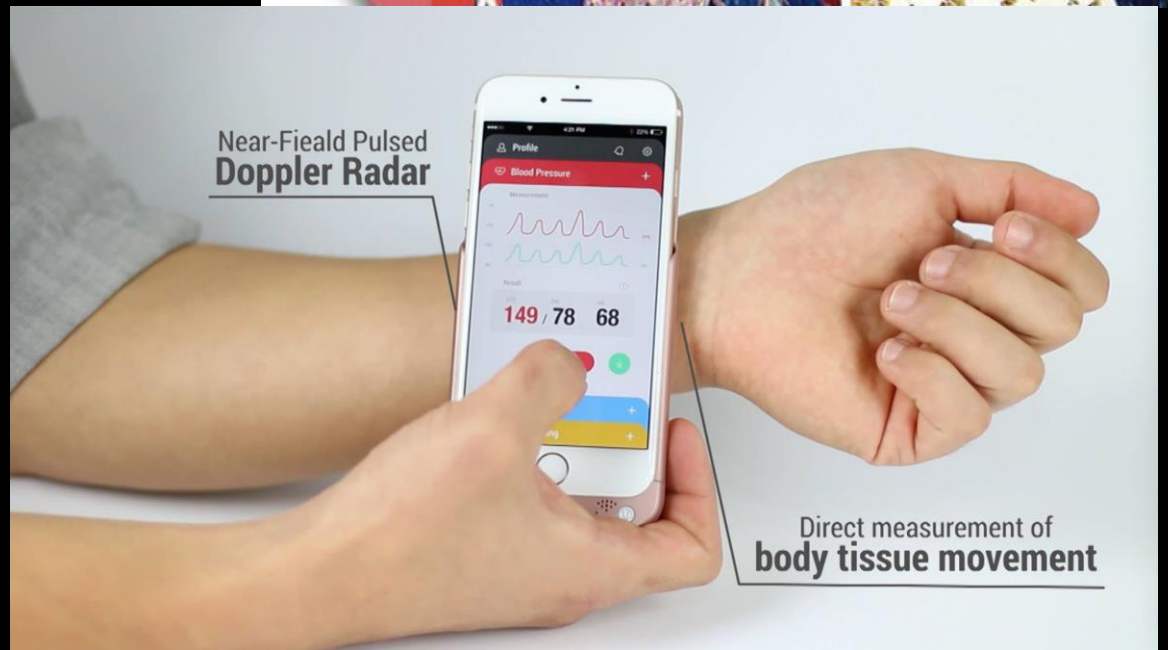

Hung LW et al. Medicine 2017, 96: 37(e7618)

# CKD/MBD – plotse dood






‘niemand gaat nog dood van z’n nieren…’



‘en ook niet van de reste?’

# CKD/MBD – plotse dood

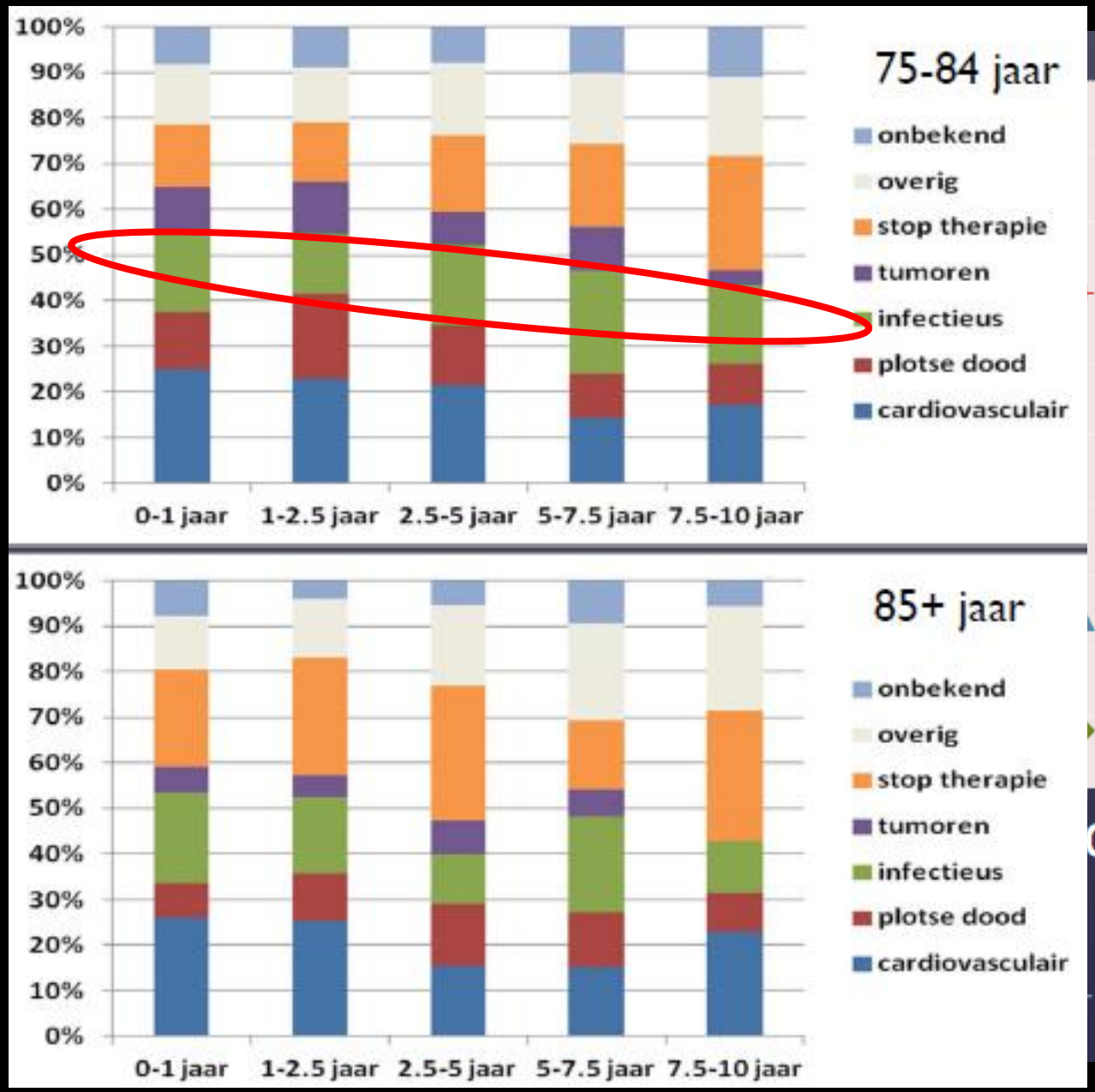
www.kisupplements.org

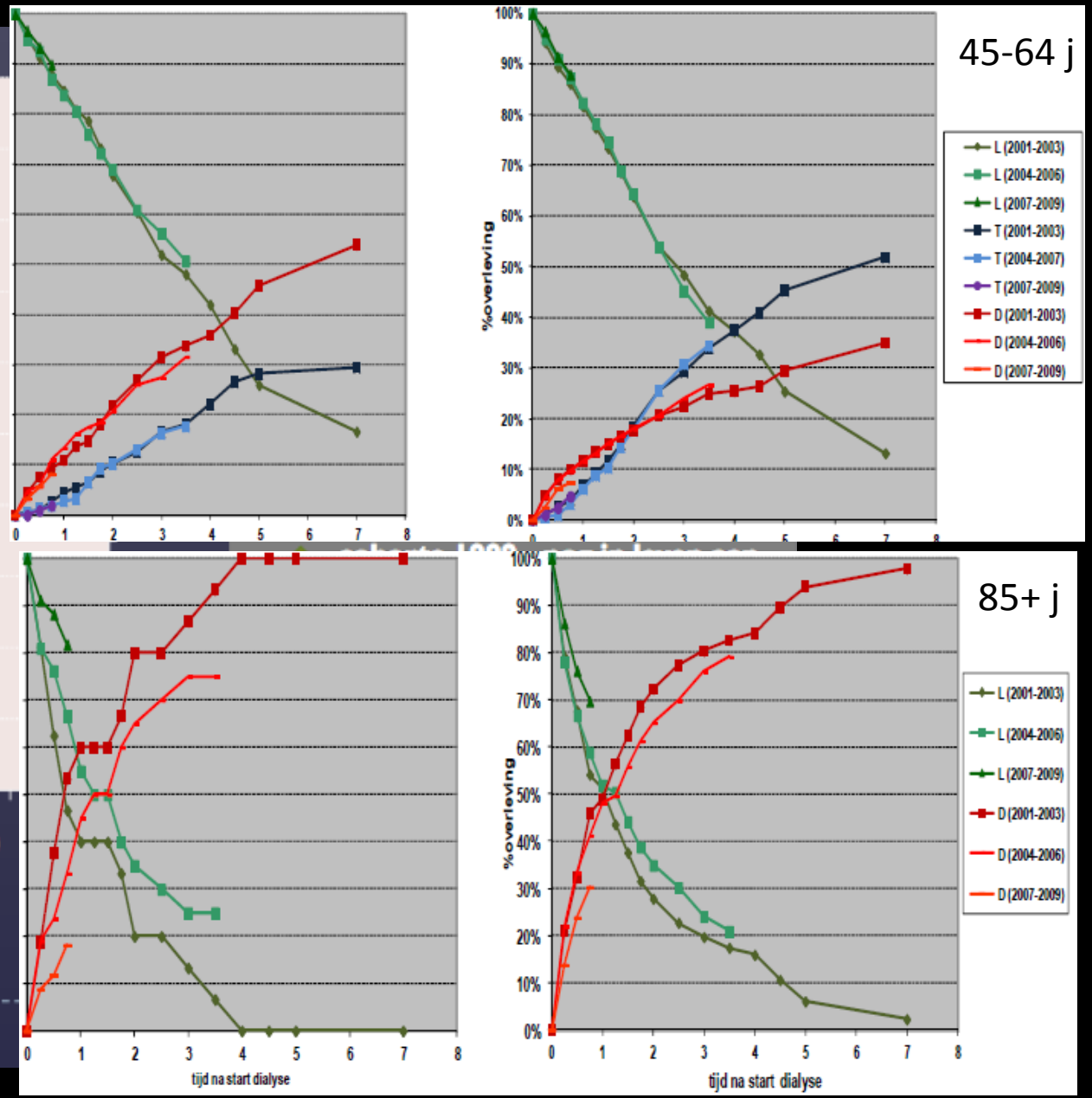
## Summary and comparison of 2017 updated and 2009 KDIGO CKD-MBD recommendations

| 2017 revised KDIGO CKD-MBD recommendations | 2009 KDIGO CKD-MBD recommendations |
|---|---|
| 3.2.1. In patients with CKD G3a–G5D with evidence of CKD-MBD and/or risk factors for osteoporosis, we suggest BMD testing to assess fracture risk if results will impact treatment decisions (*2B*). | 3.2.2. In patients with CKD G3a–G5D with evidence of CKD-MBD, we suggest that BMD testing not be performed routinely, because BMD does not predict fracture risk as it does in the general population, and BMD does not predict the type of renal osteodystrophy (*2B*). |
| 3.2.2. In patients with CKD G3a–G5D, it is reasonable to perform a bone biopsy if knowledge of the type of renal osteodystrophy will impact treatment decisions (*Not Graded*). | 3.2.1. In patients with CKD G3a–G5D, it is reasonable to perform a bone biopsy in various settings including, but not limited to: unexplained fractures, persistent bone pain, unexplained hypercalcemia, unexplained hypophosphatemia, possible aluminum toxicity, and prior to therapy with bisphosphonates in patients with CKD-MBD (*Not Graded*). |

De vooruitgang gaat altijd dat tikje trager

# … hoe snel overlijden ze … & wanneer waaraan?




J Demeester, Orpadt meeting 2013 – idem trend in data uit jaarraport 2016

# Infecties: méér dan access, virus serologie & vaccins

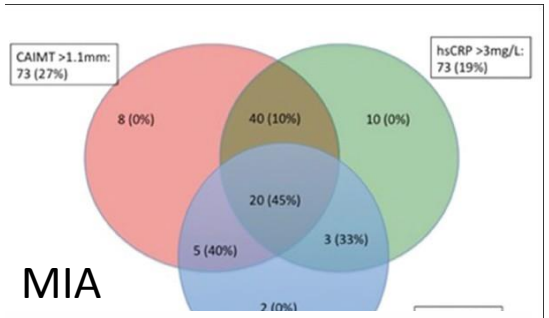
**Table 2** Time to ulcer, death and association of ulceration with amputation and death

| | Patients at-risk | All cases | Incident dialysis cases subgroup |
|---|---|---|---|
| Median time to ulcer (days) | n/a | 166 (72, 302) | 151 (58, 267) |
| Time to death from ulcer detection (days) | n/a | 124 (56, 259) | 109.5 (47, 257) |
| **Odds ratio (95% CI)** | | | |
| Amputation | | | |
| [illegible] | Reference | 2.05 (2.35, 3.70) | 3.26 (1.91, 5.55) |
| | | | 84, 5.39) |
| | | | 38, 6.53) |
| | | | 88, 1.48) |
| | | | 91, 1.55) |
| | | | 79, 1.78) |
| | | | 4 to 3.24) |
| | | | 0 to 2.45) |
| | | | to 19.1) |
| | | | 4 to 3.24) |
| | | | 5 |

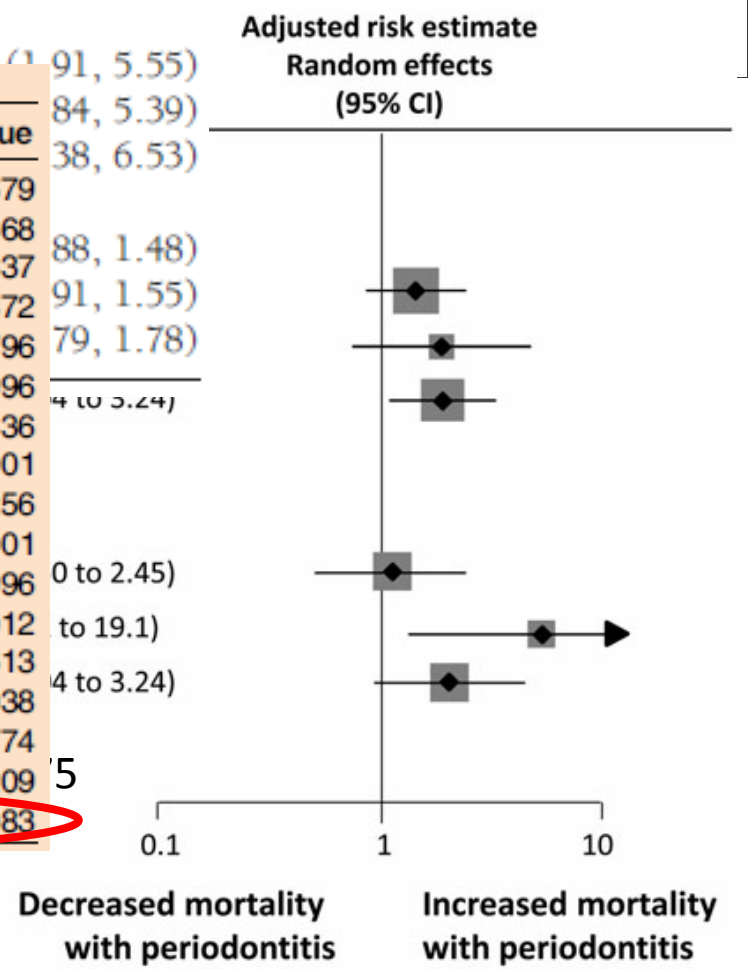
**Table 3** Results of the sensitivity analysis

| Independent variable | Estimate | Wald 95% confidence limits | | p Value |
|---|---|---|---|---|
| (Intercept) | −1.4139 | 2.9316 | 0.1038 | 0.0679 |
| Age (years) | 0.0053 | 0.0044 | 0.015 | 0.2868 |
| Male sex | 0.0628 | 0.1617 | 0.2873 | 0.5837 |
| White race | −0.2072 | 0.4446 | 0.0303 | 0.0872 |
| Hispanic ethnicity | −0.265 | 0.5614 | −0.0313 | 0.0796 |
| Central venous catheter | 0.22 | 0.0418 | 0.4817 | 0.0996 |
| Predialysis systolic blood pressure (mm Hg) | −0.0063 | 0.0125 | −0.0002 | 0.0436 |
| Albumin (g/dL) | −0.8414 | 1.0774 | 0.6054 | <0.0001 |
| Phosphorus (mg/dL) | 0.1128 | 0.0137 | 0.2119 | 0.0256 |
| Peripheral artery disease | 0.9691 | 0.7331 | 1.2051 | <0.0001 |
| Infection | 0.111 | 0.2113 | 0.4334 | 0.4996 |
| Hypertension | −0.3976 | 0.6383 | −0.1568 | 0.0012 |
| Myocardial infarction | −0.2773 | 0.7612 | 0.2066 | 0.2613 |
| Ischemic heart disease | 0.3688 | 0.1194 | 0.6182 | 0.0038 |
| Cardiac dysrhythmias | −0.0479 | −0.38 | 0.2842 | 0.7774 |
| Congestive heart failure | −0.0275 | 0.2656 | 0.2106 | 0.8209 |
| Foot check implementation | −0.2993 | 0.5214 | −0.0772 | 0.0083 |

Garimella PS et al Hemodial Int 2017, 21: 145-77

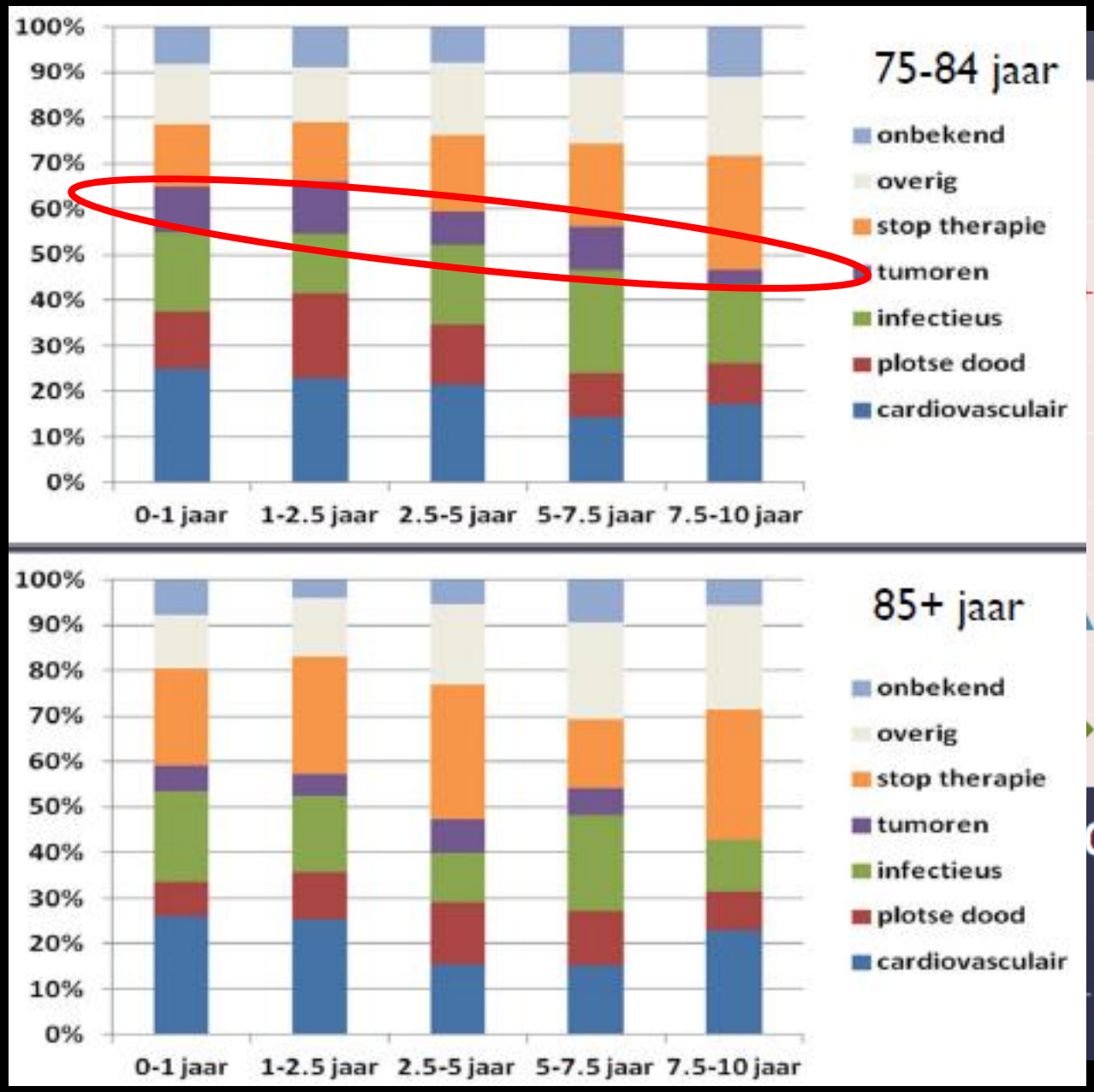


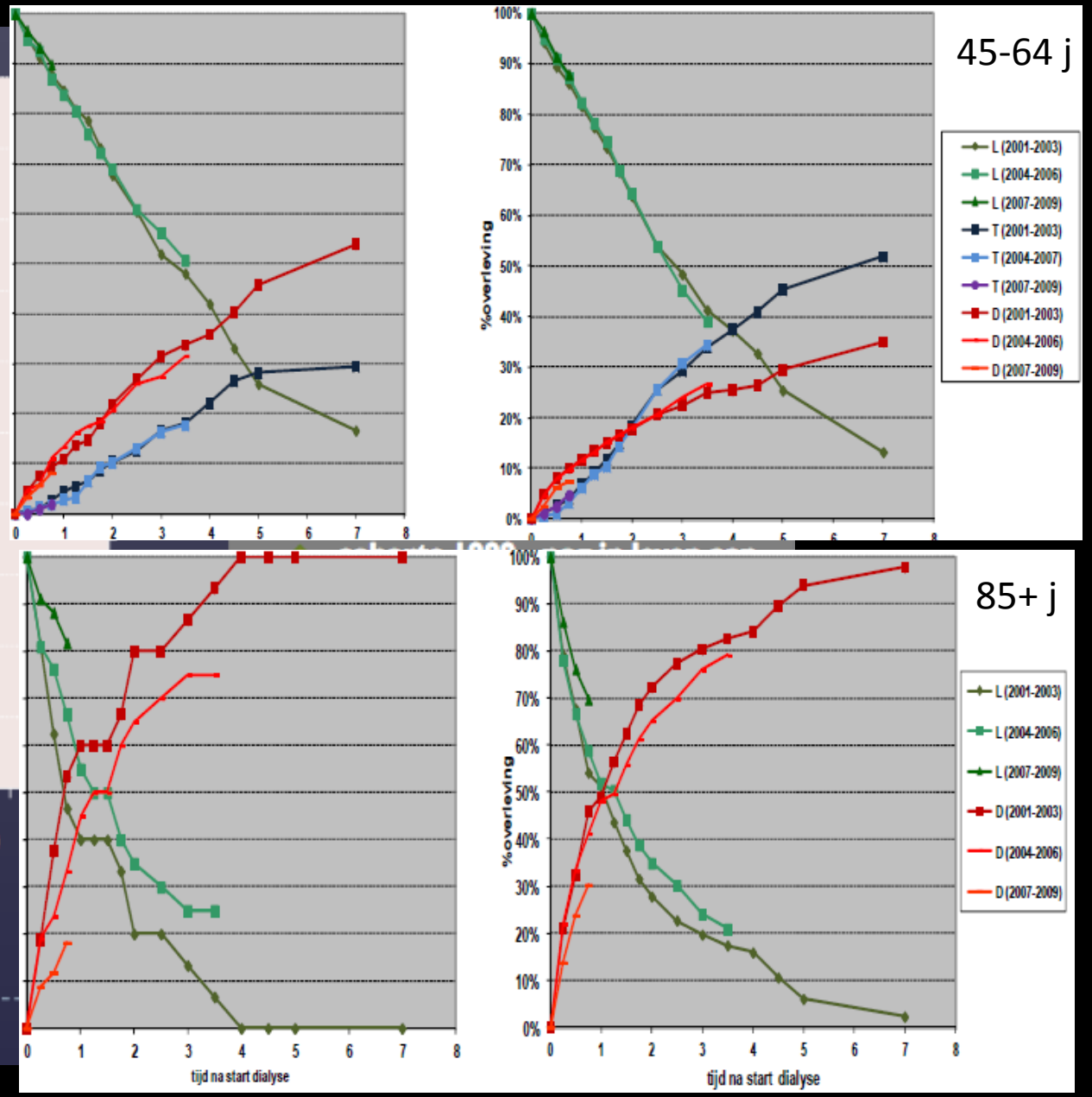

MIA




Marn Pernat A et al BMJ Diabet Res & Care 2016, 4: e000158

# … hoe snel overlijden ze … & wanneer waaraan?




J Demeester, Orpadt meeting 2013 – idem trend in data uit jaarraport 2016

# Kanker

**Table 2.** Cancer incidence in ESRD: Literature summary

| Cancer | SIR | Risk factors in ESRD | References |
|---|---|---|---|
| Renal cell | 3.6–24.1 | Acquired cystic disease | 2–8 |
| Bladder and ureter | 1.5–16.4 | Analgesic abuse, Balkan nephropathy, oral cyclophosphamide | 2,3,5,6,8 |
| Tongue | 1.2–1.9 | Human papilloma virus | 2,3,6 |
| Cervical and uterine | 0.9 | Human papilloma virus | 6 |
| | 2.7–4.3+ | | 2,3 |
| Liver | 1.4–4.5 | Hepatitis B and C | 2,3,5,6 |
| Thyroid and other | 2.2–2.3 | | 2,3,6 |
| Endocrine organs | | | |
| Breast (women) | 0.8–1.42 | | 3,6,8 |
| Lung/bronchus | 0.5–1.28 | | 3,6,8 |
| Colon/rectum | 1.0–1.27 | | 3,6,8 |
| Pancreas | 1.08 | | 8 |
| Prostate | 0.5–1.08 | | 3,6,8 |

Holley JL. Am Soc Nephrol 2016 Chapter 17
Onco-Nephrology Curriculum

**Table 3.** Suggested cancer screening in ESRD patients: Individualized, considering expected survival, risk factors, and transplant status

| Cancer | Recommended screening |
|---|---|
| Breast | -Yearly mammogram beginning age 40 and on transplant list |
| | Clinical breast examination every 3 years for ages 20–39 and yearly for age >40 |
| Colorectal | Beginning age 50: Yearly FIT or FOBT for those on transplant lists and flexible sigmoidoscopy, colonoscopy, double contrast barium enema, or virtual colonoscopy per transplant evaluation protocols |
| | Positive FIT or FOBT will require additional evaluation |
| Cervical | Begin screening at age 21: 21–65, yearly Pap for those on transplant list; consider HPV DNA and HPV vaccine in transplant candidates |
| Prostate | Age 50, annual PSA and digital rectal examination for men on transplant list |
| | Age 45 if African American or father or brother had prostate cancer before the age of 65 |
| Renal cell | Yearly CT or MRI in patients on dialysis >3 years and on transplant list |

For all the above cancers, consider screening in high-risk patients with long expected survival. FIT, fecal immunochemical test; FOBT, fecal occult blood

# ‘routine’ onderzoeken - waarom?

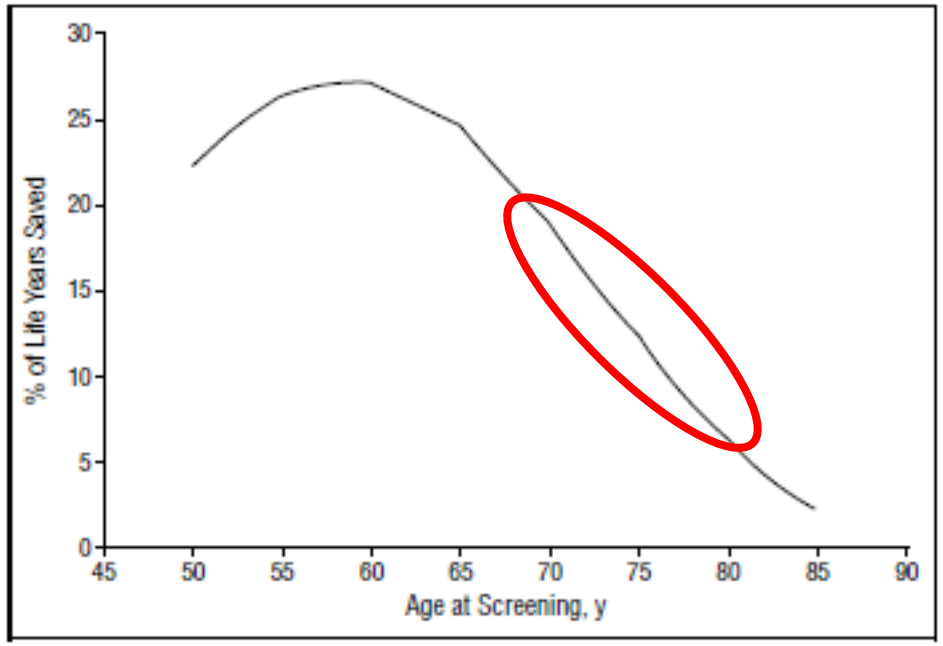
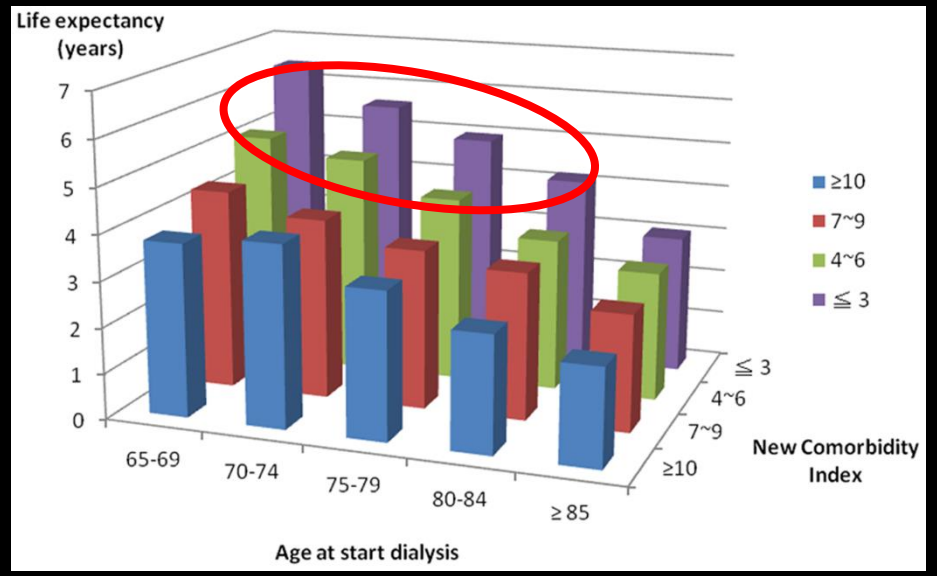



**Figure 2.** Influence of age at the single colonoscopy on the percentage of life years saved.

Sonnenberg A et al. Arch Intern Med 2002, 162: 163-168

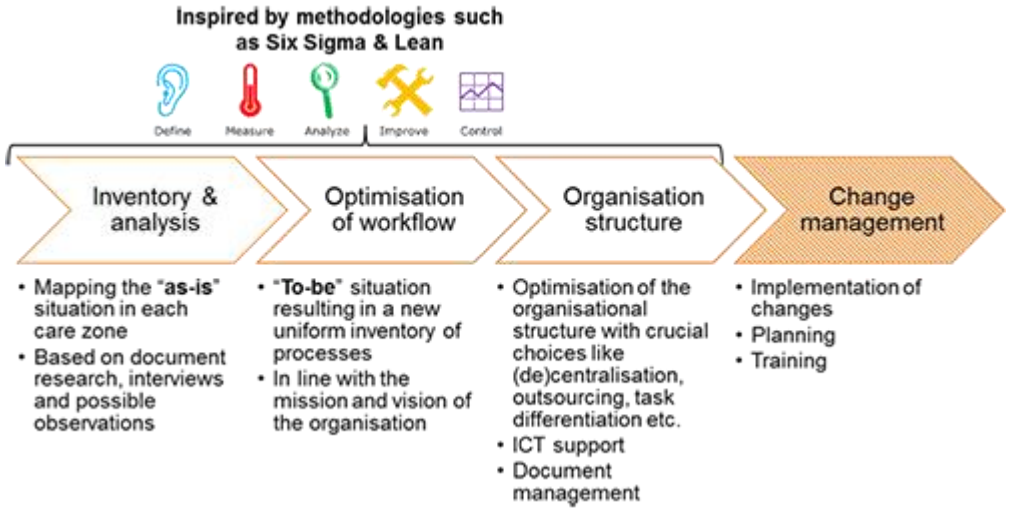


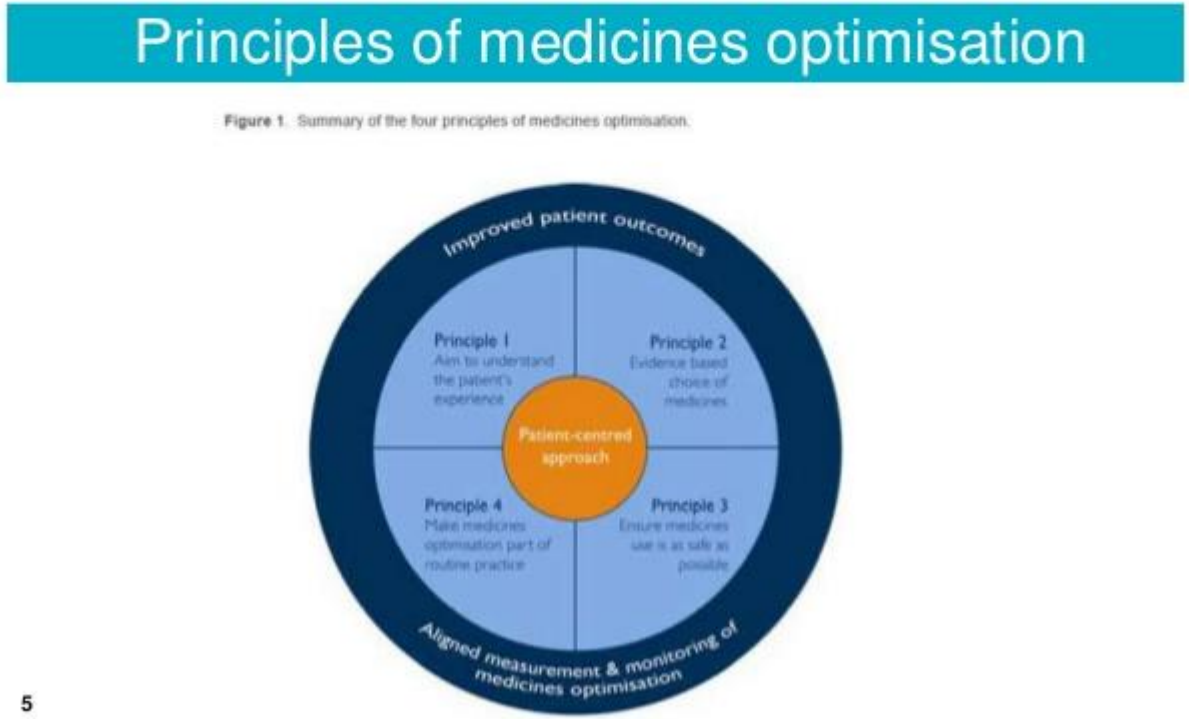

Kan WC et al. Plos One 2013, 8: e68748

# En nu?

# Nihilisme …. of een (AI) algoritme?

# Optimalisatie vs Industrialisatie



levens expectantie

# ‘routine’ onderzoeken bij wie?

**’Je kunt de mensen niet gelukkig maken tegen hun goesting’**

**Individu vs Collectief**

**’Primum non nocere’**

‘onderzoek/therapie’ dosis

# ‘patient centered outcome’

Kt/v &

↓

Dt/v & Nt/v

# Investigaties op de dialyse afdeling

- Alles hangt af van type/voorkeuren dialysepatiënt
- Minimum (bij niet palliatieve patiënt):
  - Cardiaal (ECG, RX thorax, echocardio incl dobu-stress)
  - Acces gerelateerde zaken
- Max (bij gemotiveerde nét niet transplantabele, nog ‘jonge’ patiënt):
  - Bot
  - Infecties (vergeet tanden/voeten niet)
  - Kanker screening (colon – borst/cervix – prostaat – nier/blaas ifv pathologie nierziekte)

*!Effect leeftijd & aan/afwezigheid diabetes niet te onderschatten!*

***‘Vaste regels bieden een dankbaar houvast voor de sympathieke overtreder.’***

W Lemahieu, die u dankt voor uw aandacht.