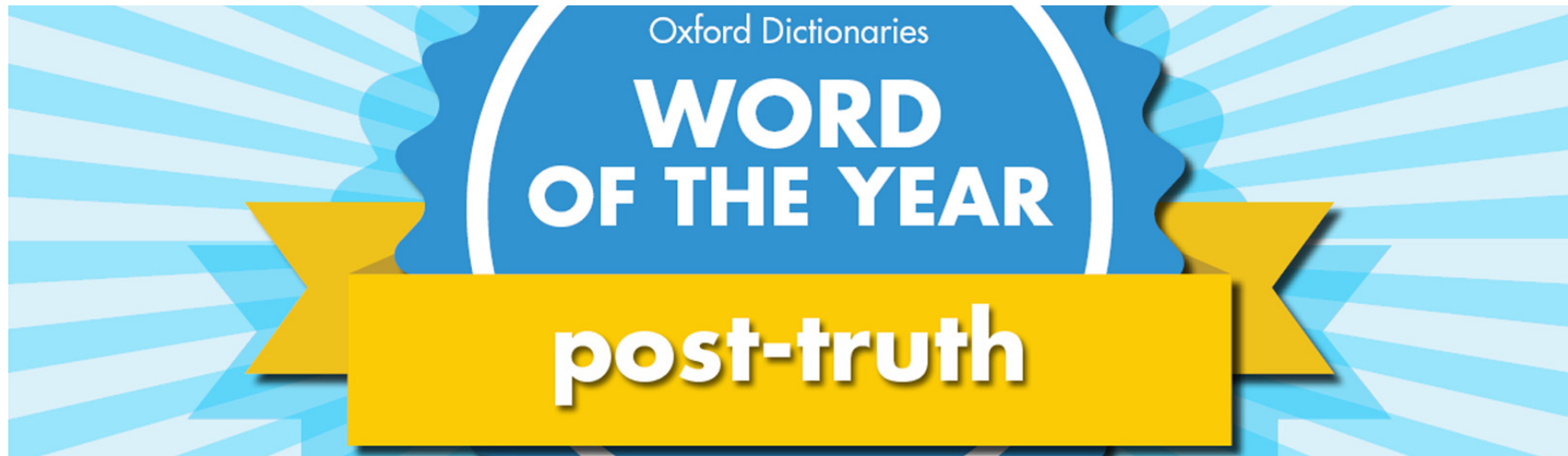# What's new in Renal Supportive Care?

What's happened from Jan 2016 to now ?

After much discussion, debate, and research, the Oxford Dictionaries Word of the Year 2016 is *post-truth* – an adjective defined as:

'*relating to or denoting circumstances in which objective facts are less influential in shaping public opinion than appeals to emotion and personal belief*'.

'Post-progress'

'Post-progress' suggests that technical ability and more and more interventions, while they extend wanted life for many, also bring with them existential quandaries about one's own relationship to medicine, to suffering, to more life, and of the apparent control that can be exercised over the timing of death.
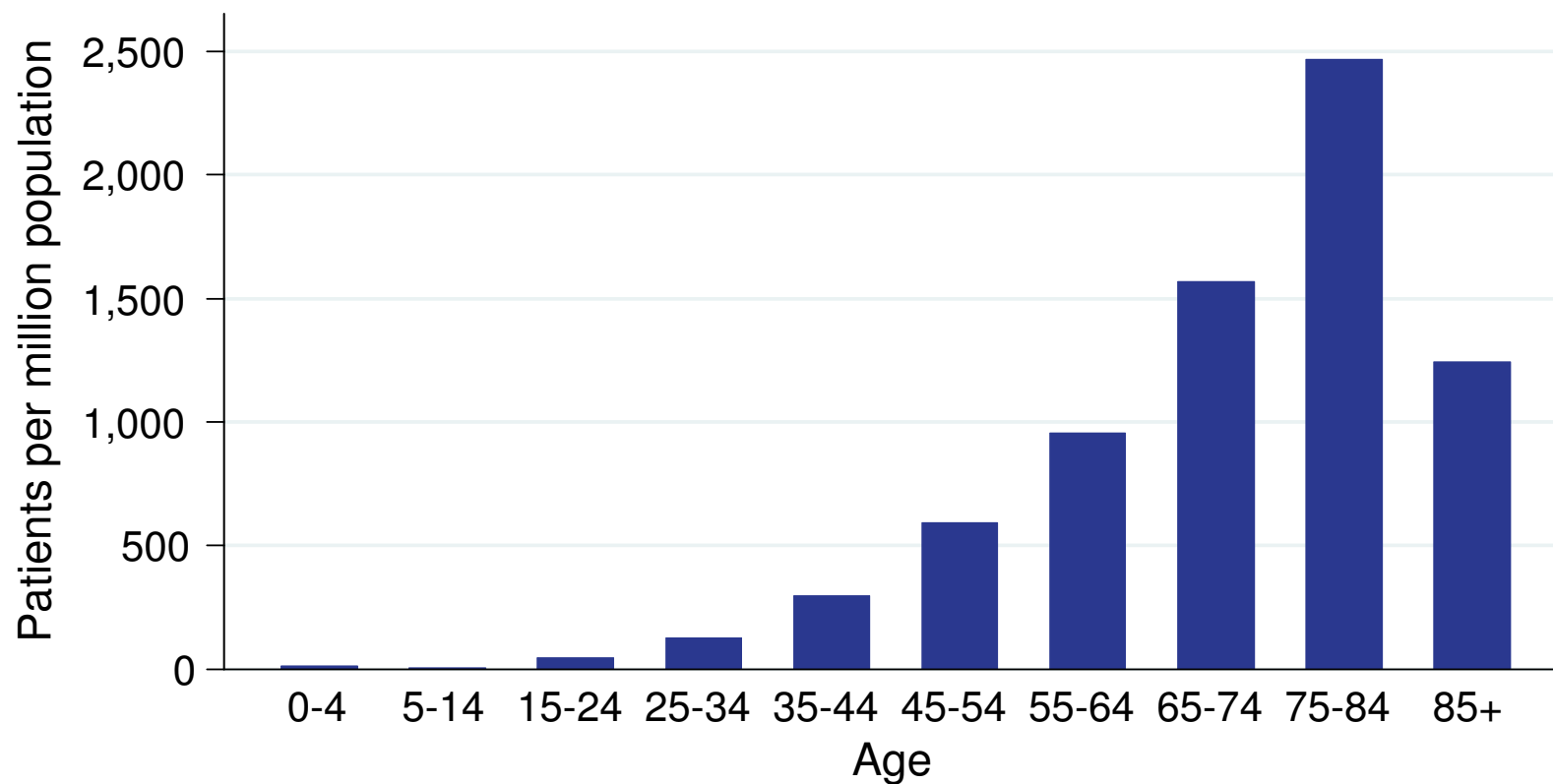
-Sharon R. Kaufman,
Kaufman, S.R. **Ordinary Medicine.** Duke University Press, Chapel Hill, NC; 2015
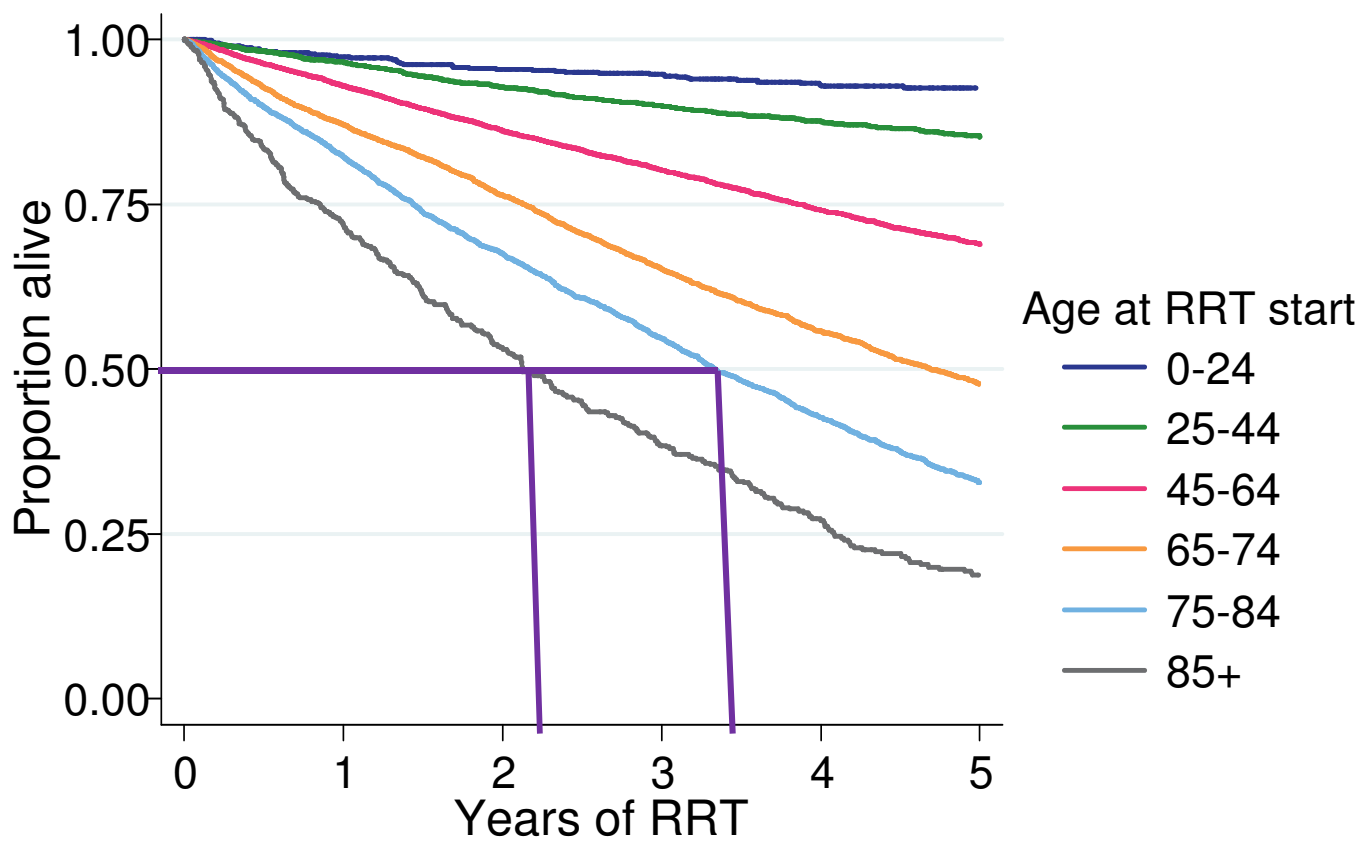
Survival with Dialysis

Prevalent Dialysis Patients - Australia
31 December 2015

2016 ANZDATA Annual Report, Figure 2.7

Survival on Renal Replacement Therapy
Australia 2006-2015

2016 ANZDATA Annual Report, Figure 3.1

Dialysis Survival perspective – Australian Data

Overall 5 year survival rates

• prostate cancer	92%
• breast cancer	89%
• renal cancer	72%
• **RRT in Australia**	
• **aged 45-64**	69%
• bowel cancer	66%
• Heart failure	52%
• **dialysis in Australia**	
• **aged 65-74**	48%
• ovarian cancer	43%
• **dialysis in Australia**	
• **aged 75-84**	33%
• lung cancer	< 14%

Cause of death
Deaths occurring during 2015
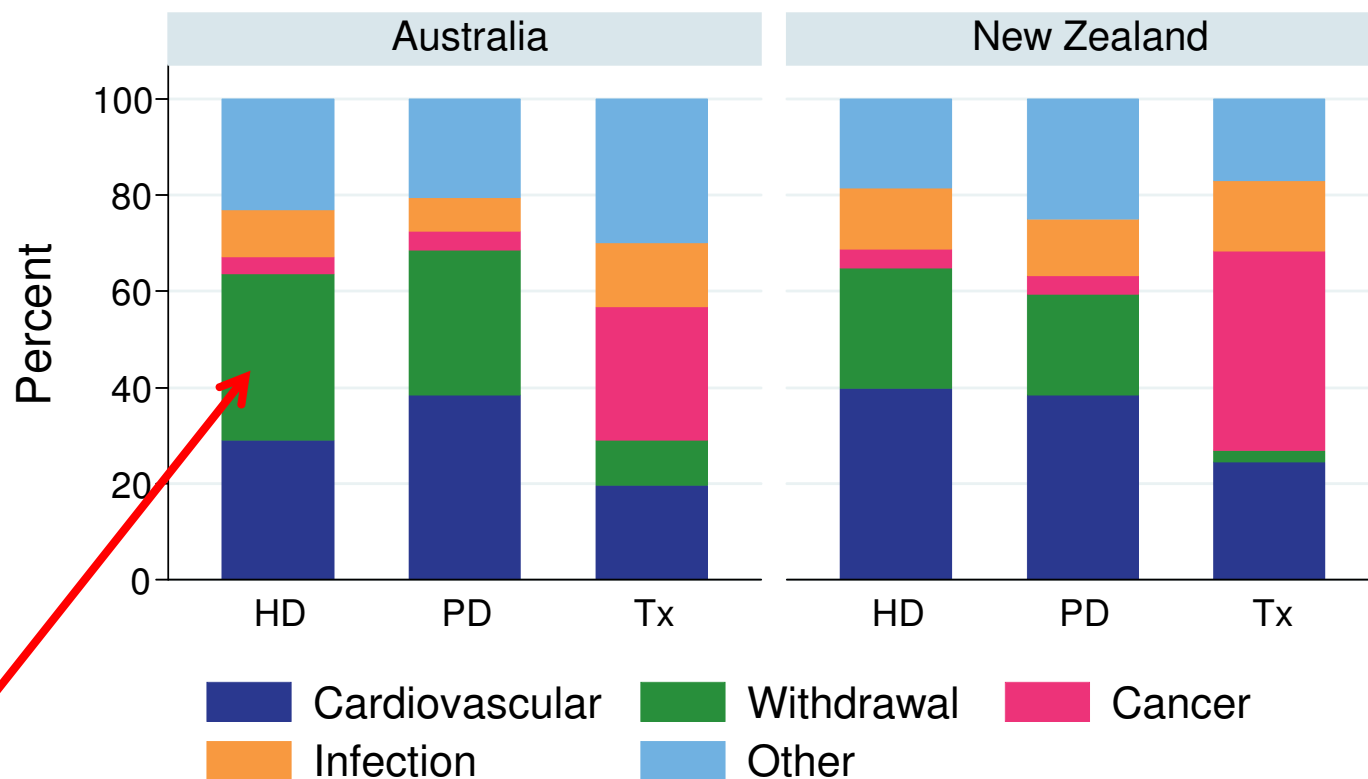
2016 ANZDATA Annual Report, Figure 3.5

Can we predict a patient's survival on dialysis?

Original Article

Predicting 6-month mortality risk of patients commencing dialysis treatment for end-stage kidney disease

Sara E. Ivory[1], Kevan R. Polkinghorne[1,2], Yeasmin Khandakar[1], Jessica Kasza[1], Sophia Zoungas[3], Retha Steenkamp[4], Paul Roderick[5] and Rory Wolfe[1]

Monash, Australia, and UK data

- Developed model based on ANZDATA patients ≥15 yrs. old 2000 – 2009

- Validated based on ANZDATA 2009-2011

- External validation using UK renal registry

FIGURE 1: Selection of patients for inclusion in risk prediction model development.
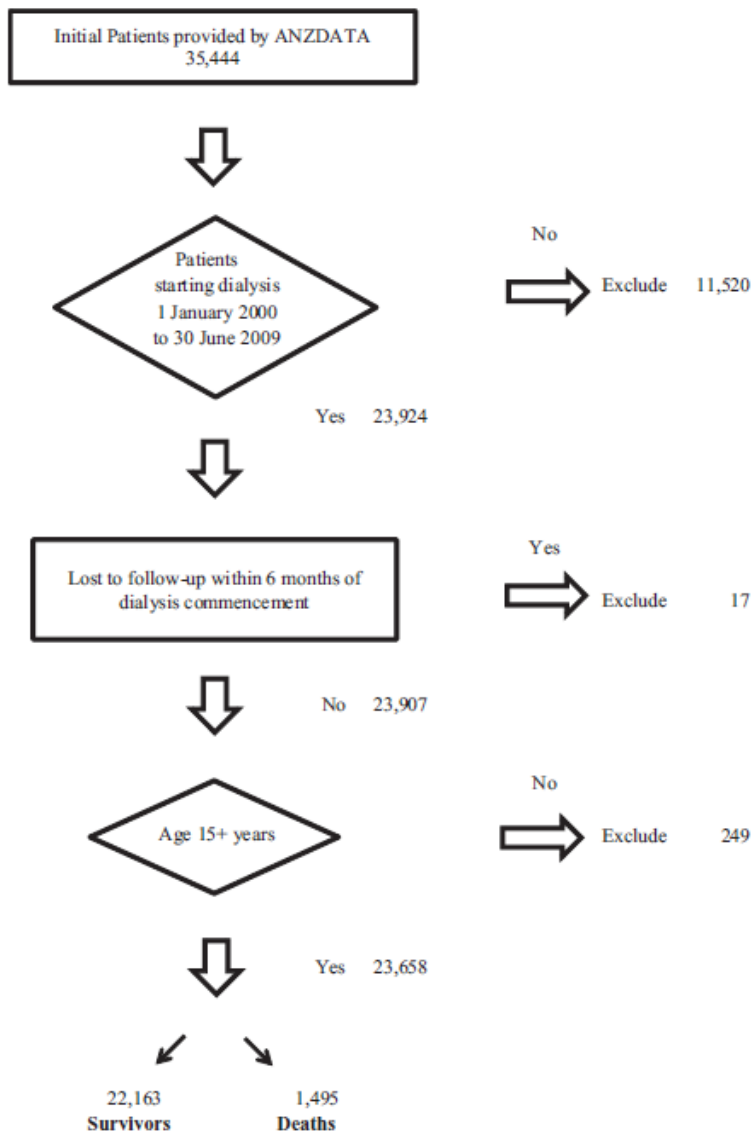
6% died within 6 months

- older

- More co-morbidities

Ivory et al. NDT 2017

Factors in predictive model

1. **Older age**

2. **Underweight**

3. **COPD**

4. **PVD**

5. **Cerebrovascular disease (esp. age < 60)**

- Performed better than some other models and useful for Australian data but not validated externally

Ivory et al. NDT 2017

Do patient-reported measures of symptoms and health status predict mortality in hemodialysis? An assessment of POS-S Renal and EQ-5D

Donal J. SEXTON,[1,*] Aoife C. LOWNEY,[2,*] Conall M. O'SEAGHDHA,[3] Marie MURPHY,[2] Tony O'BRIEN,[2] Liam F. CASSERLY,[4] Regina MCQUILLAN,[5] William D. PLANT,[6] Joseph A. EUSTACE,[6,7] Sinead M. KINSELLA,[6] Peter J. CONLON[3]

[1] *Health Research Board of Ireland Clinical Research Facility, National University of Ireland Galway, Galway, Ireland;* [2] *Department of Palliative Medicine, Marymount University Hospital & Hospice, Cork, Ireland;* [3] *Department of Nephrology, Beaumont Hospital, Dublin, Ireland;* [4] *Department of Nephrology,*

Factors associated with mortality

- 362 HD patients; 116 deaths
- 32% died over median of 2.6 years
- Factors:
  - Age
  - Lower albumin
  - Higher co-morbidity index
  - **Higher symptoms (POS-S Renal)**
  - **Lower health status (EQ 5D and EQ VAS)**

  55% died over median 2.1 years if:
  - age >60
  - reported problems with self-care, ADLs, mobility
- Surprise Question (12 months) did NOT discriminate

Sexton et al. *Hemodialysis International* 2016; 00:00–00

External validation and clinical utility of a prediction model for 6-month mortality in patients undergoing hemodialysis for end-stage kidney disease

Brian Forzley[1,2], Lee Er[3], Helen HL Chiu[3], Ognjenka Djurdjev[3],
Dan Martinusen[4], Rachel C Carson[1,4], Gaylene Hargrove[1,4],
Adeera Levin[1,3] and Mohamud Karim[1,5]

Cohen Model (Touchcalc) : Survival across quartiles of predicted risk.
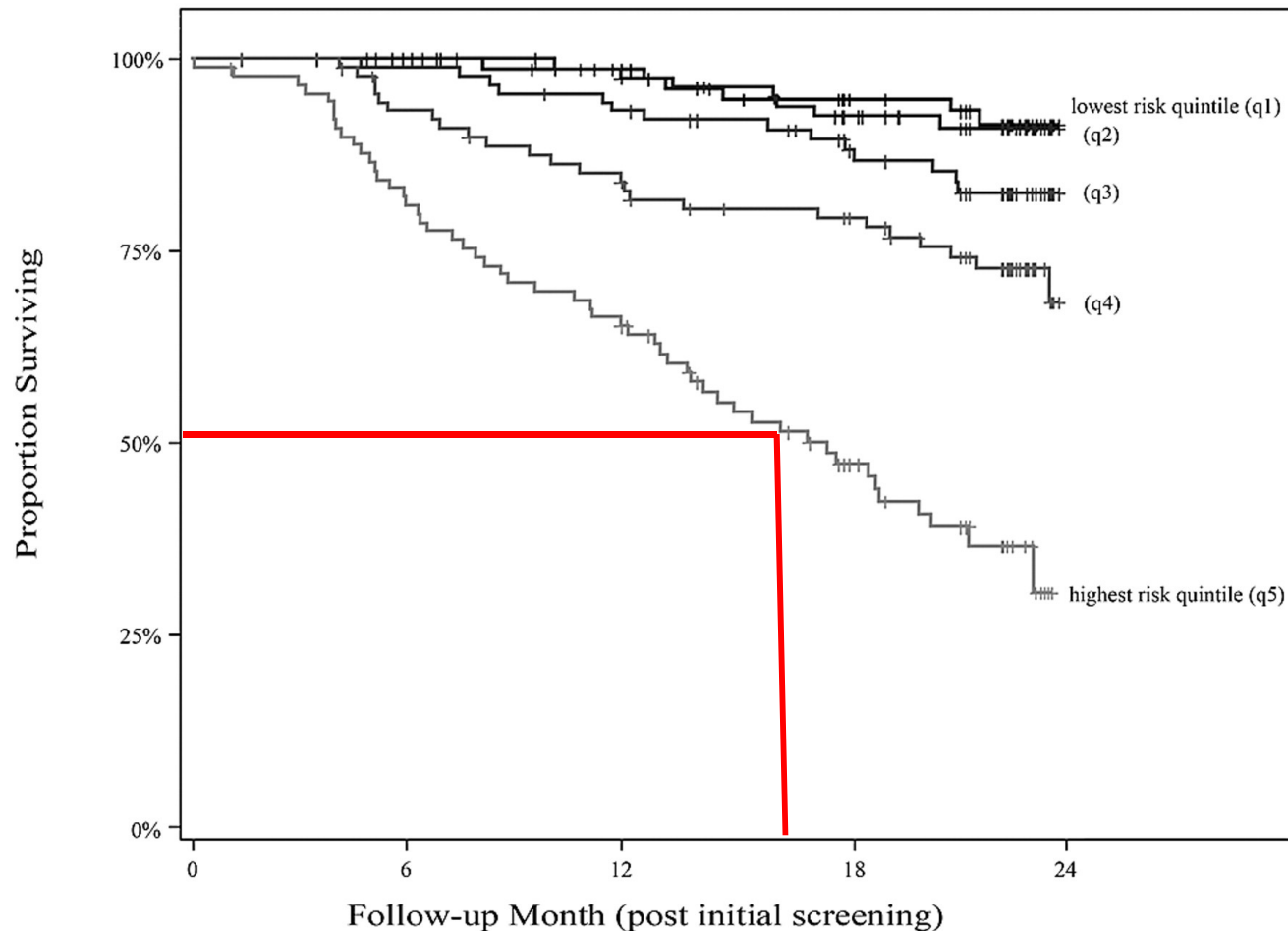
1. **Age**
2. **Dementia**
3. **PVD**
4. **Albumin**
5. **SQ**

512 HD patients across 5 Units

Lewis M. Cohen et al. CJASN 2010;5:72-79

CJASN

6 month mortality prediction

- Canadian dialysis registry : background

  - Patients $\geq$ 75 the major group starting dialysis

    - **5 yr. survival only 27%**

- Tested Cohen model in 374 HD patients

  - Mean age 68

  - 45% 'not surprised'

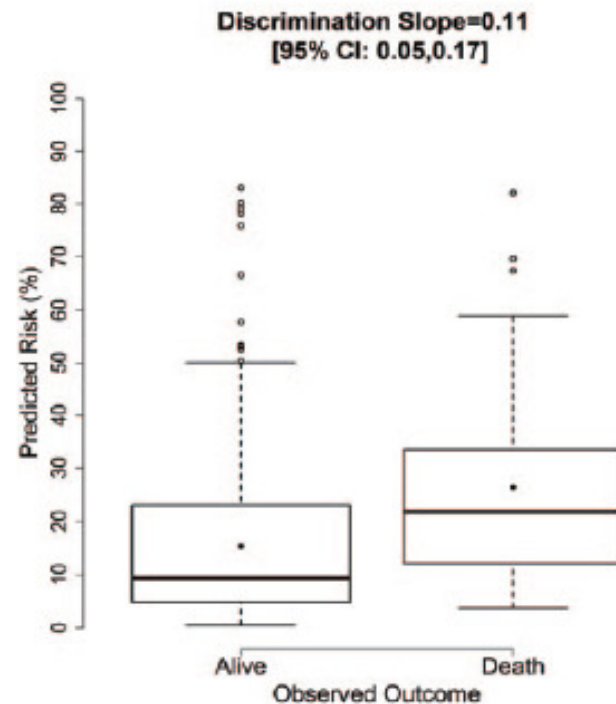 - 127 (34%) died in 2 years from SQ

  - 11.5% died in first 6 months after SQ

Forzley et al. Palliative Medicine. 2017

Model performs well at group but not individual level

Discrimination in Canadian cohort not as strong as in original USA cohort

Authors' concern:
If the model over-estimates death risk then having conversations about
withdrawal of dialysis may cause unnecessary distress & harm

But may be a good tool to aid initiating ACP discussions

Original Investigation

A Clinical Risk Prediction Tool for 6-Month Mortality After Dialysis Initiation Among Older Adults

James P. Wick, MSc,[1] Tanvir C. Turin, PhD, MBBS,[2] Peter D. Faris, PhD,[1] Jennifer M. MacRae, MSc, MD,[1] Robert G. Weaver, MSc,[3] Marcello Tonelli, SM MD,[3] Braden J. Manns, MSc, MD,[1,3] and Brenda R. Hemmelgarn, PhD, MD[1,3]

Alberta, Canada

2,200 patients starting dialysis age ≥65; 17% died within 6 months

- **Age > 80**

- **Hospitalisation in prior 6 months**

- **CCF**

- **Starting dialysis 'early' (eGFR 10-15)**

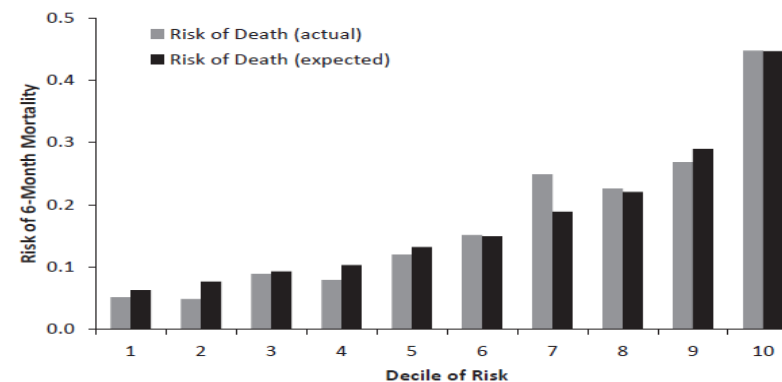- **Lymphoma, AF, metastatic cancer**

Figure 3. Actual versus expected risk for 6-month mortality from the final logistic model.

Alberta risk model
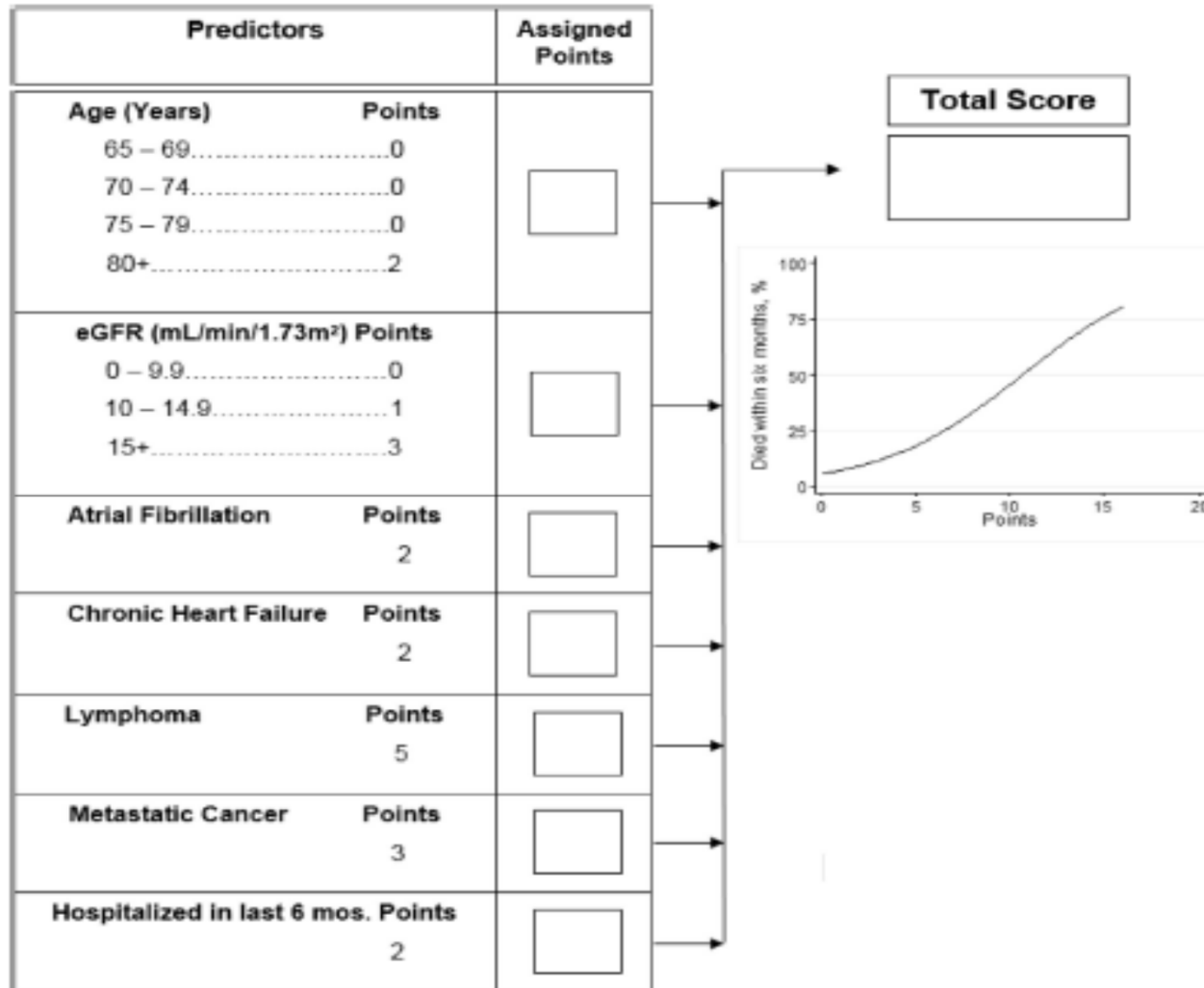
Celine Foote, MD, PhD[1,2]
Mark Woodward, PhD[1,3,4]
Meg J. Jardine, MD, PhD[1,2]

AJKD

Editorial

Scoring Risk Scores: Considerations Before Incorporating Clinical Risk Prediction Tools Into Your Practice

Check for updates

Uncertainty about survival in elderly dialysis patients

Highlights that predictive tools (usually after dialysis has commenced) from one country may not be applicable in another

A score at time of decision making (dialysis or not) would be of more use

Clinicians need be guarded about applicability of any predictive tool to their patient

Frailty Screening Tools for Elderly Patients Incident to Dialysis

Ismay N. van Loon,*†‡ Namiko A. Goto,§ Franciscus T.J. Boereboom,*† Michiel L. Bots,‖ Marianne C. Verhaar,‡ and Marije E. Hamaker¶   The Netherlands

- 123 incident dialysis patients age > 65 assessed by aged care specialist -3 to +2 weeks starting dialysis

- Average age 76; 75% HD; 20% diabetes; 64% men; 25% acute dialysis start

- Geriatric assessment vs. 6 Frailty screening tools used

- Specialist assessment : **75% Frail**.
    - 34% impaired ADLs; 66% some form of cognitive impairment;
    - 35% severe co-morbidities
    - 31% depressed

- No frailty test performed well enough to replace geriatric assessment but the latter is time consuming

No Frailty measure can replace geriatric assessment

91% PPV but only 48% NPV
i.e. when positive most are frail by geriatric assessment but when negative about half may still be frail

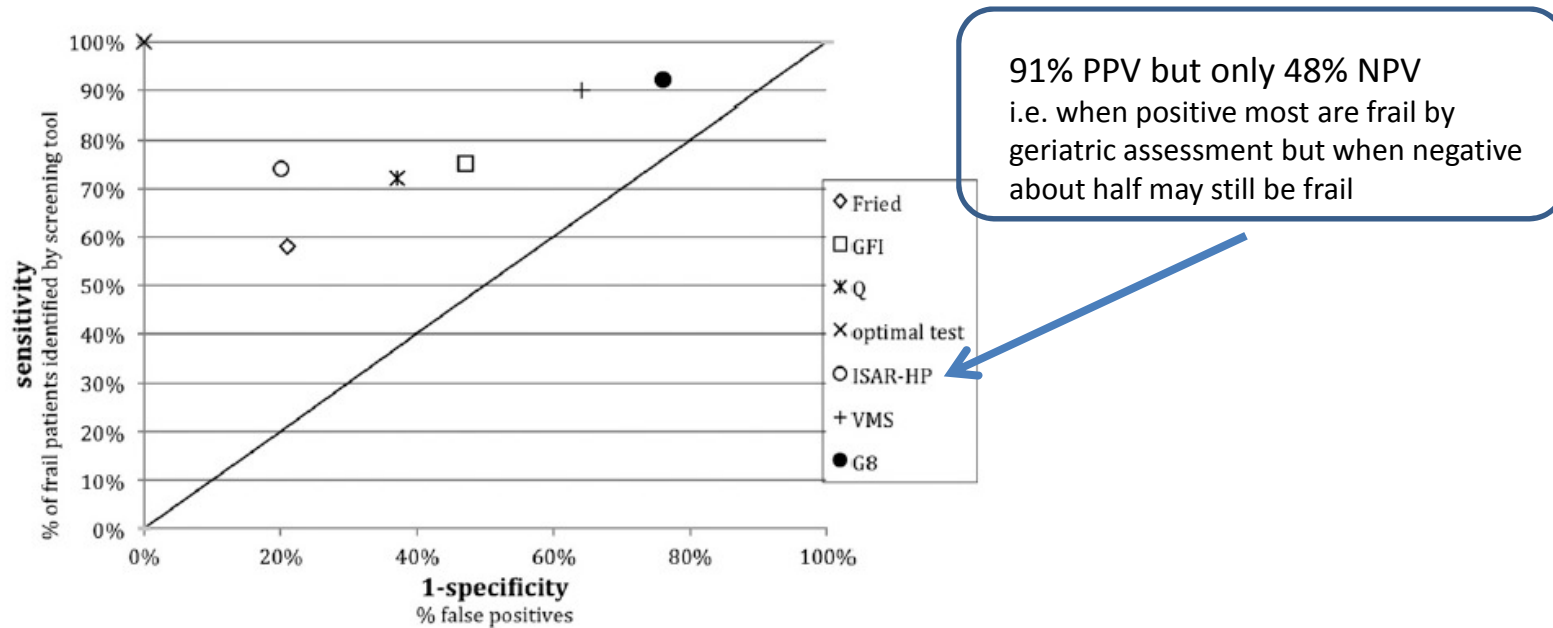**Figure 1. | Frailty screenings tools compared with the geriatric assessment (two or more impairments).** Diagonal represents a random guess (*i.e.*, 50–50 chance). Fried, Fried Frailty Index; G8, Geriatric8; GFI, Groningen Frailty Indicator; ISAR-HP, Identification of Seniors at Risk-Hospitalized Patients; Q, frailty question; VMS, Veiligheidsmanagementsysteem (Hospital Safety Program criteria).

Survival without dialysis

Comparative Survival among Older Adults with Advanced Kidney Disease Managed Conservatively Versus with Dialysis   The Netherlands. CJASN. April. 2016

Wouter R. Verberne,* A.B.M. Tom Geers,* Wilbert T. Jellema,* Hieronymus H. Vincent,* Johannes J.M. van Delden,[†] and Willem Jan W. Bos*

- Retrospective; single centre; 2004-14; age ≥70

- 107 chose conservative management (age 83);
  - 204 RRT (age 76), p<0.001

- CM included nurses, dieticians, social workers

- Davies co-morbidity score assessed:
  - IHD, LV function, PVD, malignancy, diabetes, COPD, CT disease

- Mean GFR at decision time – 15 in CM, 13 in RRT

- Co-morbidities similar (33% ≥3 co-morbidities; 75% heart disease)

Survival advantage lost if ≥80 yrs. old

Age ≥80 years

Median 2.1 yrs.

Median 1.4 yrs.

Comparative Survival among Older Adults with Advanced Kidney Disease Managed Conservatively Versus with Dialysis   The Netherlands. CJASN. April. 2016
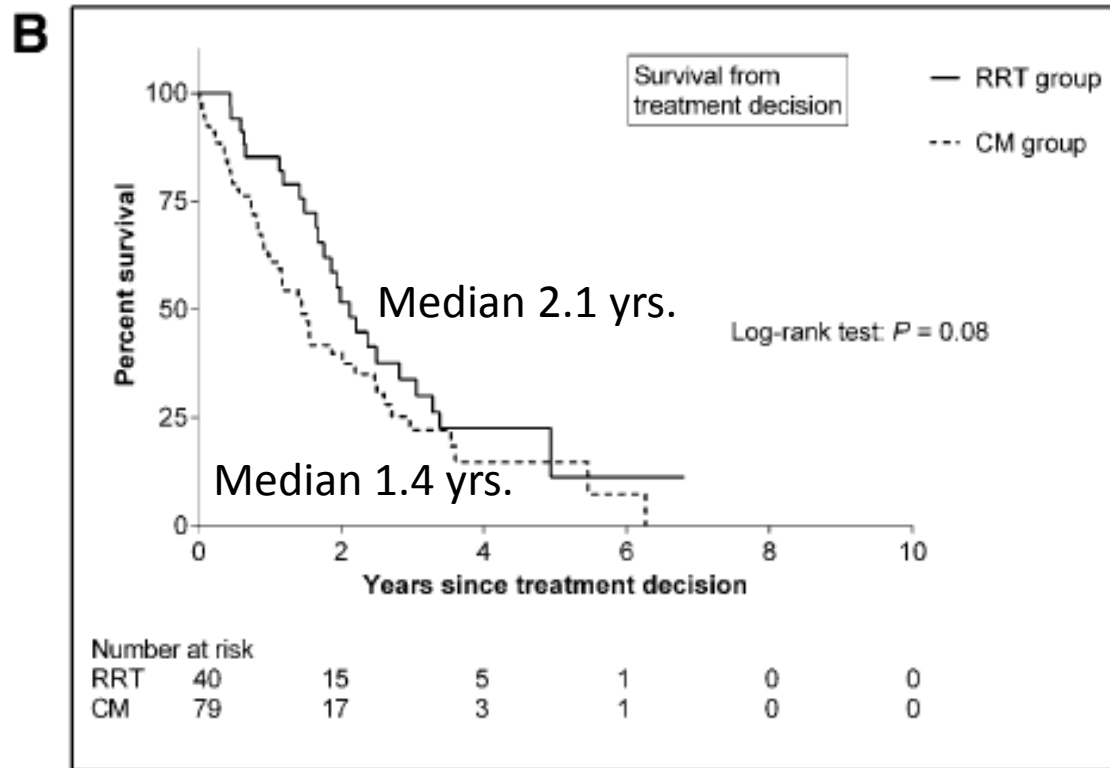
Wouter R. Verberne,* A.B.M. Tom Geers,* Wilbert T. Jellema,* Hieronymus H. Vincent,* Johannes J.M. van Delden,[†] and Willem Jan W. Bos*

- **Median survival in CM patients from time of modality choice = 18 months**

  - Brown et al. = 16 months

  - Wong et al. = 23 months

  - Kwok et al (2016) = 16 months

  - Carson = 14 months

  - Murtagh = 18 months

- **Survival advantage lost if $\geq$ 80 in this study**

  - Hussein et al. = similar

  - Chandna et al. & Murtagh et al. = survival advantage lost if $\geq$75 and severe co-morbidity

Conservative Management and End-of-Life Care in an Australian Cohort with ESRD

Rachael L. Morton,* Angela C. Webster,[†] Kevin McGeechan,[†] Kirsten Howard,[†] Fliss E.M. Murtagh,[‡] Nicholas A. Gray,[§] Peter G. Kerr,[||] Michael J. Germain,[¶] and Paul Snelling**

Abstract

Background and objectives We aimed to determine the proportion of patients who switched to dialysis after confirmed plans for conservative care and compare survival and end-of-life care among patients choosing conservative care with those initiating RRT.

PINOT study patients enrolled over 3 months 2009 followed over 3 years

From 66 Renal Units in Australia – dialysis, transplant, CM patients

102/721 (14%) conservative care – mean age 79 vs 61 yrs.

Table 2. Dialysis access creation and initiation during the 3-year follow-up period among 102 patients who chose conservative care at study baseline

Characteristic	n	Percent	95% Confidence Interval, %
First dialysis access created[a]			
Fistula/vascular catheter	7	7	2 to 12
Peritoneal dialysis catheter	3	3	1 to 8
No access	85	83	76 to 90
Unknown	7	7	2 to 12
Dialysis commenced			
Yes	8	8	3 to 13
No	87	85	77 to 91
Unrecorded	7	7	2 to 12
Primary reason for commencement of dialysis			
Symptom management	4	50	22 to 78
Time-limited trial of dialysis	3	38	14 to 69
Emergency/intensive care unit admission	1	12	2 to 47

[a]Dialysis access was created for ten of 102 patients; eight of these patients commenced dialysis.

8% commenced dialysis (5 died)

21% (vs. 4%) had a documented ACP

Supplemental Figure 1. Multivariable analysis of factors associated with 3-year mortality among 590 participants
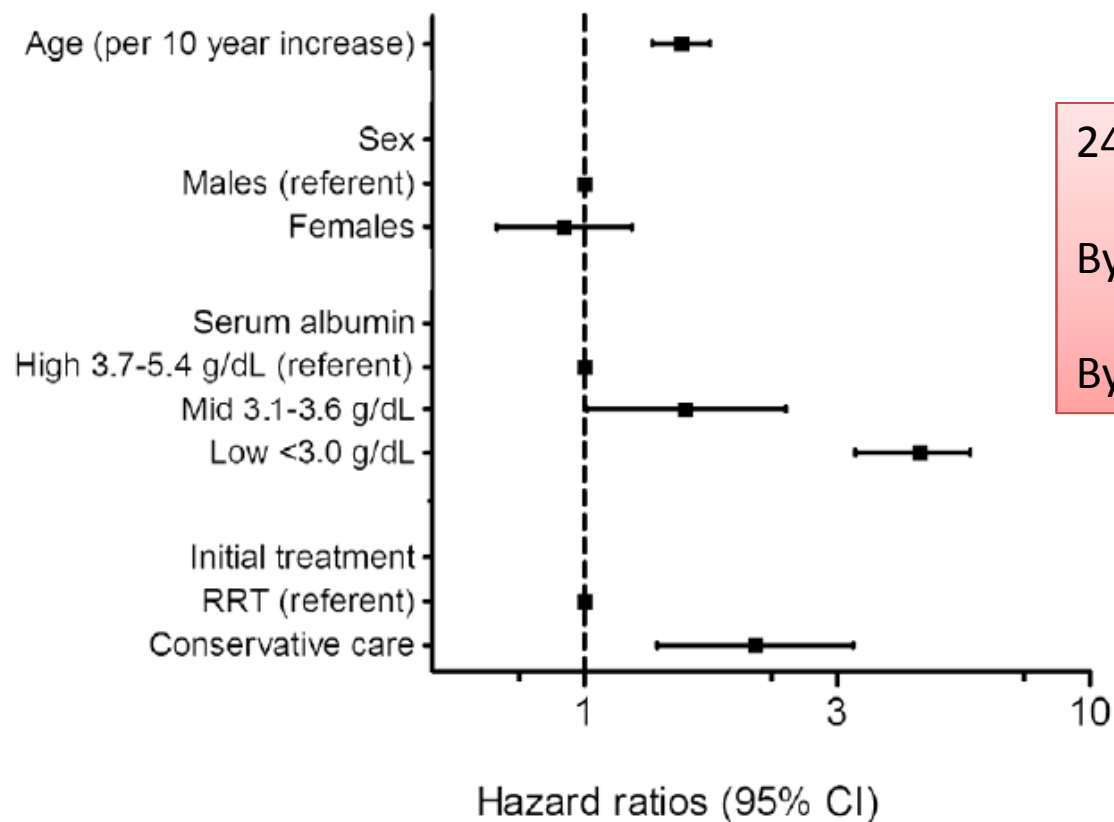
247 / 721 (34%) died

By 1 yr. 40% CM vs. 13% RRT

By 2 yrs. 58% CM vs. 20% RRT

Among the 247 who died, 57% CM received specialist Palliative Care vs. 26% RRT

Summary – Australian data

1. <10% who choose CM switch to RRT in 3 years

2. 1 in 5 CN patients with ESKD (eGFR <15) still alive after 3 years

3. For whole cohort factors associated with death

    – Older Age

    – Low serum albumin at start

    – CM (vs. RRT)

4. Those managed with RRT who died less likely to receive Palliative Care except in last week of life

5. Most common cause of death in RRT was withdrawal from dialysis

6. 43% of Australian nephrology trainees feel well trained in RSC

Survival with and without dialysis

ANZDATA Median Survival on Dialysis by Age*

Age at start of dialysis	Median, years
75-84	3.3
85+	2.1

ANZDATA 2016

Non-dialysis - Mean age 82 : median survival 1.4 years   *St. George hospital data*

St George data : No Survival advantage with dialysis if:

- *age >75; and*
- *2 or more co-morbidities*
  (one being CCF or IHD)

ABS expected survival from age 82 = 7.5 yrs. men, 9.9 yrs. women

Ethics Series

Time to Improve Informed Consent for Dialysis: An International Perspective

Frank Brennan,*† Cameron Stewart,‡ Hannah Burgess,* Sara N. Davison,§ Alvin H. Moss,‖¶ Fliss E.M. Murtagh,** Michael Germain,†† Shelley Tranter,* and Mark Brown*

CAPACITY

Does the patient have capacity to make an informed consent?
The nephrologist should check if the patient understands and retains information and employs reasoning

Yes

Not Sure

No

Seek Assessment

If there is any concern, the nephrologist should confirm with a formal assessment or referral.

If the patient is incompetent, consent is required from a surrogate decision-maker or may be fulfilled if a preference was stated by the patient in an advance care plan.
Decision must be made with sufficient information as per individual patient decision

VOLUNTARY

Was the decision made freely and voluntarily?

Does the patient have capacity to make an informed consent?

No

No

Yes

Yes

SUFFICIENT INFORMATION

Was sufficient information given to the patient in an understandable manner ?

- *The role of dialysis*
- *The logistics of ongoing dialysis treatment*
- *The benefits and risks of dialysis including the likely trajectory of the disease and the effect on the life of the patient.*
- *Any risks material to the individual patient*
- *An explanation of the option and role of conservative care.*

Yes

Consent invalid

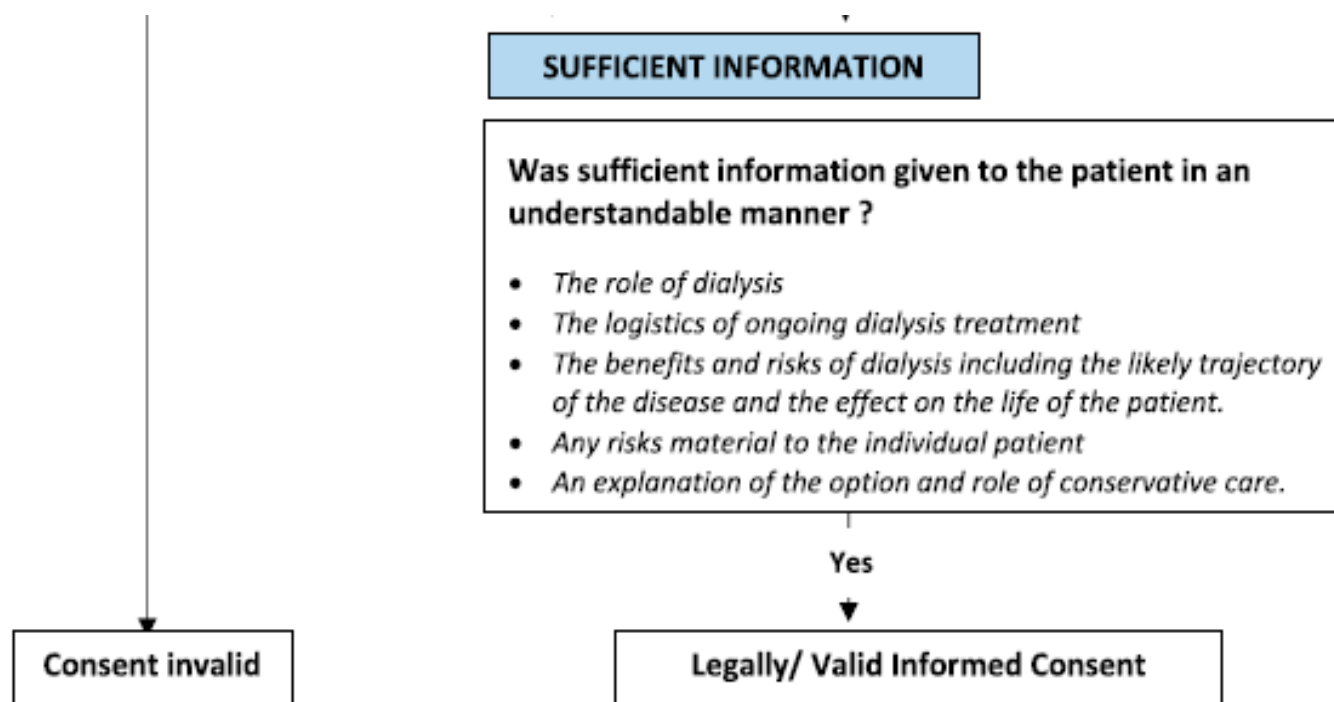**Legally/ Valid Informed Consent**

Figure 1. | The elements of a legally valid consent for dialysis.

Challenges to Nephrologists re Consent

1. ## Awareness

    -   Nephrologists' knowledge and understanding of the law of consent (for dialysis)

2. ## Preparedness

    -   Nephrologists' willingness to expand consent conversations beyond mechanical aspects of dialysis, to include:
        -   Prognosis
        -   QOL
        -   Aspects of life that matter most to the patient
        -   The option of conservative non-dialysis management

Characteristics and Outcomes of In-Hospital Palliative Care Consultation among Patients with Renal Disease Versus Other Serious Illnesses

Vanessa Grubbs,*[†] David O'Riordan,[‡] and Steve Pantilat[‡]

33,000 patients (USA) in hospital who had Palliative Care consult

3% (1050) for Renal patients, 97% other conditions – cancer, heart, lung, neuro

mean age both groups 72

Symptoms at time of consult (moderate/severe), % (n)

Pain	24.7 (118)	30.9 (4737)	0.004
Anxiety	14.9 (66)	15.3 (2184)	0.90
Nausea	5.9 (27)	5.9 (871)	>0.99
Dyspnea	30.5 (39)	41.6 (1862)	0.01

Renal group LESS pain & SOB

Significant increase in NFR status after consultation (30 to 69%)

Anxiety improved by Palliative Care consultation?

Table 2. Patient characteristics after palliative care consultation by condition prompting palliative care consultation

Characteristic	Condition Prompting Palliative Care Consultation, % (n)		P Value
	Renal Disease	Other Serious Illnesses[a]	
Symptom improvement from first to second assessment[b]			
Pain	66.7 (38)	76.6 (2056)	0.90
Anxiety	92.0 (23)	66.0 (819)	<0.01
Nausea	71.4 (10)	78.4 (462)	0.50
Dyspnea	69.2 (9)	68.0 (650)	0.90
Family meetings			0.66
No meetings	26.7 (249)	25.1 (7025)	
One meeting	45.3 (422)	45.4 (12,678)	
Two or more meetings	28.0 (261)	29.5 (8251)	
Discharged alive	78.7 (821)	77.4 (23,642)	0.34
Referred to hospice	30.7 (210)	37.6 (7571)	<0.001

[a]Other serious illnesses include cancer, heart disease, pulmonary disease, and neurologic disease.
[b]Includes patients reporting moderate to severe symptoms at first assessment who report improvement by at least one category at the second assessment that occurred within 72 hours of the first assessment.

Small numbers of moderate to severe symptoms in this renal cohort

Message from the study:

Renal patients in USA benefit as much as anyone else from Palliative Care consultation

Summary 2016 to 2017

- We have more data about survival
  - On dialysis
  - Off dialysis
    - Many Non-dialysis ESKD patients live longer than expected
- This should aid discussions
- We have predictive tools
  - Most only valid for individual patients at a local level
  - Common markers of poor prognosis
- Most patients on a non-dialysis pathway will not change to dialysis
- ACP remains difficult but is getting greater attention
- Palliative care consults worthwhile for renal patients

Ethics and 'Post-progress'

'Post-progress' suggests that technical ability and more and more interventions, while they extend wanted life for many, also bring with them existential quandaries about one's own relationship to medicine, to suffering, to more life, and of the apparent control that can be exercised over the timing of death.

-Sharon R. Kaufman,
Kaufman, S.R. **Ordinary Medicine.** Duke University Press, Chapel Hill, NC; 2015

Uncertainty Club