

BCPRA EOL Champion Training

Identification of High Risk Patients



**BC Renal
Agency**

An agency of the Provincial
Health Services Authority

Objectives

- **Identify patients who will benefit from interactions with health professionals skilled in palliative care provision**
 - Describe the possible illness trajectories to help identify ESRD patients at the highest risk of early death
 - Describe the prognostication strategies that can be used to identify patients at the highest risk of mortality and/or greatest need for supportive care
- **Apply acquired knowledge to improve the planning and delivery of palliative care at a regional program level.**



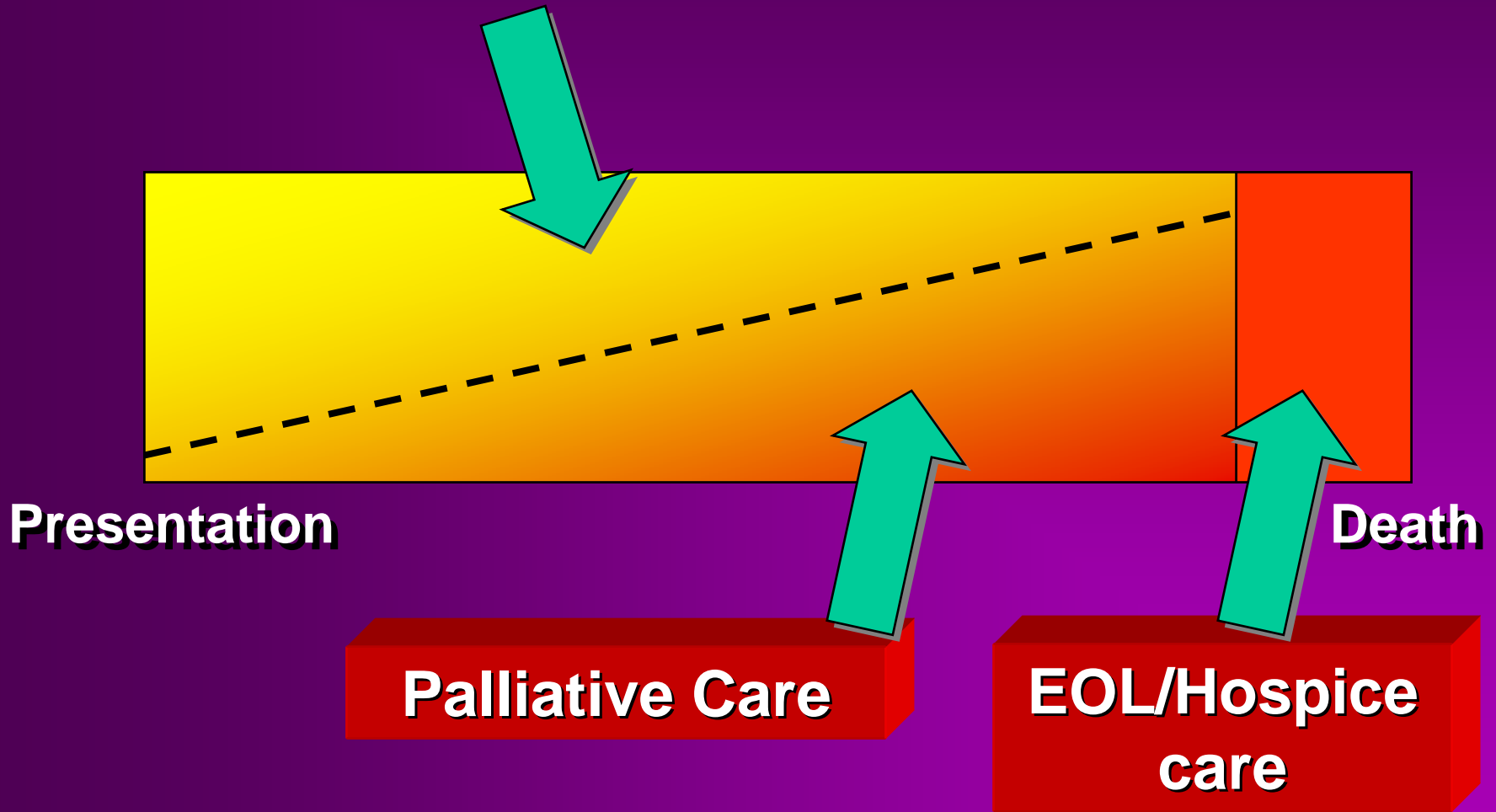
Palliative Care

Palliative care is an approach that improves the **quality of life** of **patients and their families** facing the problem associated with life-threatening illness, through the **prevention and relief** of suffering by means of **early identification** and **impeccable assessment and treatment** of pain and other problems, **physical, psychosocial and spiritual**.

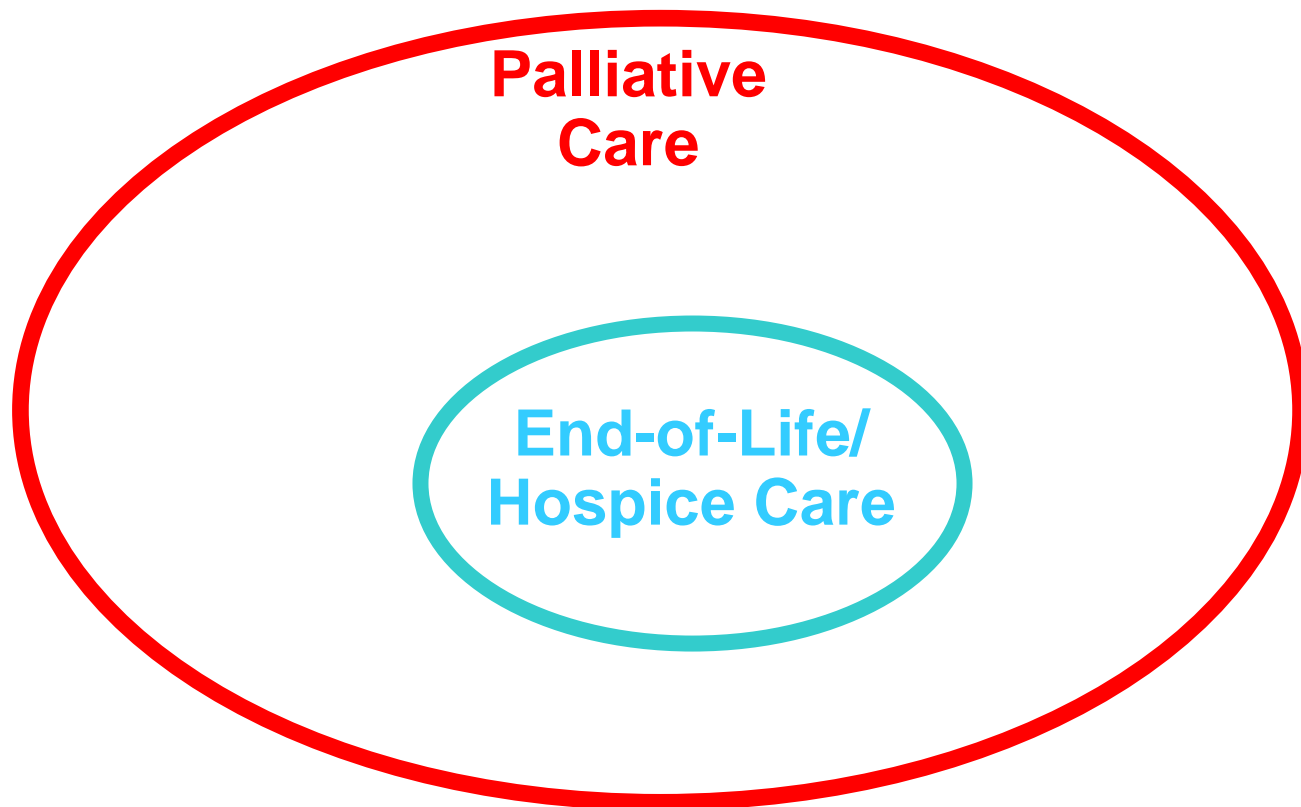
World Health Organization



Curative / Remissive Therapy



Relationship Between Palliative & EOL Care



Palliative Care Framework for Advanced CKD

Patient Identification

- High mortality risk
- High need
 - Suffering
 - Goals of care (initiation or withdrawal of dialysis)

Assess

Advance Care Planning

- Surrogate decision-maker
- Goals of care
- Decision making

Management of Suffering

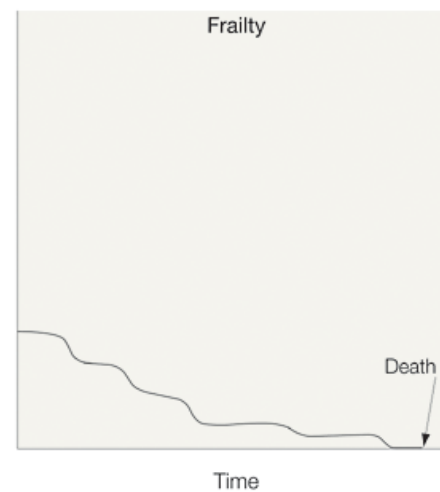
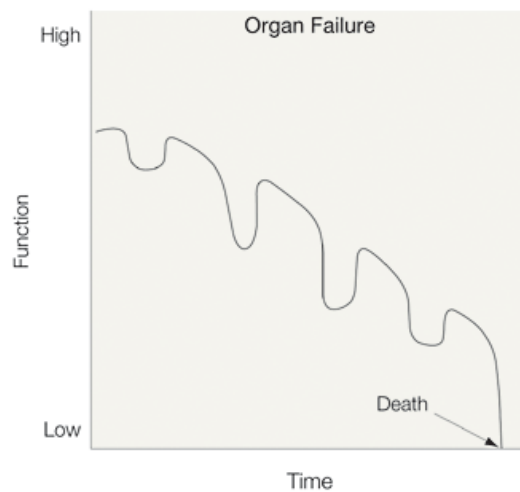
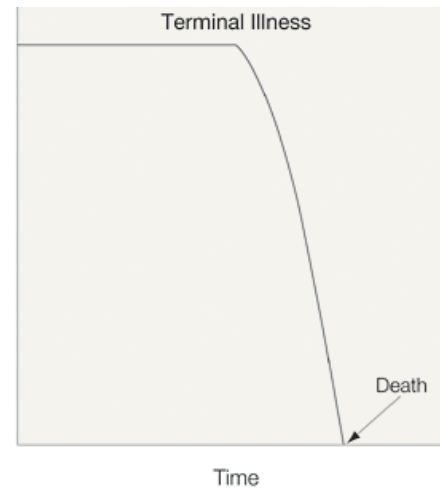
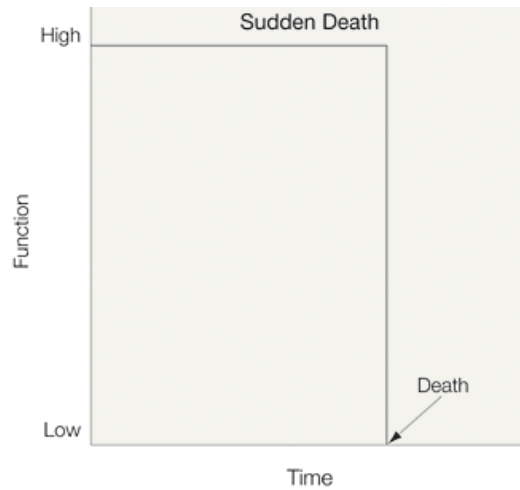
- Physical
- Emotional/psychosocial
- Spiritual
- Anticipatory grief

Death

Bereavement



Theoretical Trajectories of Dying

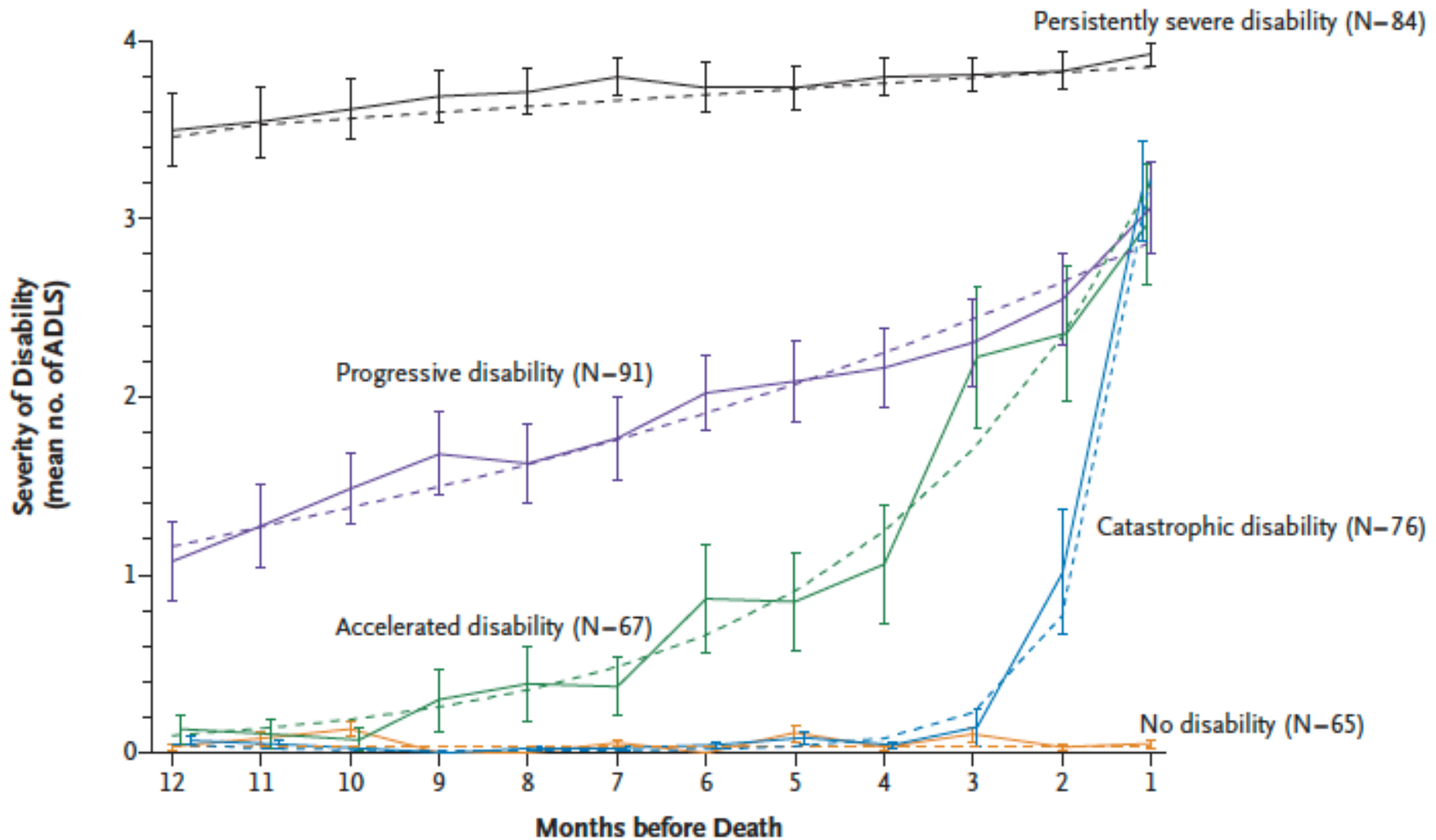


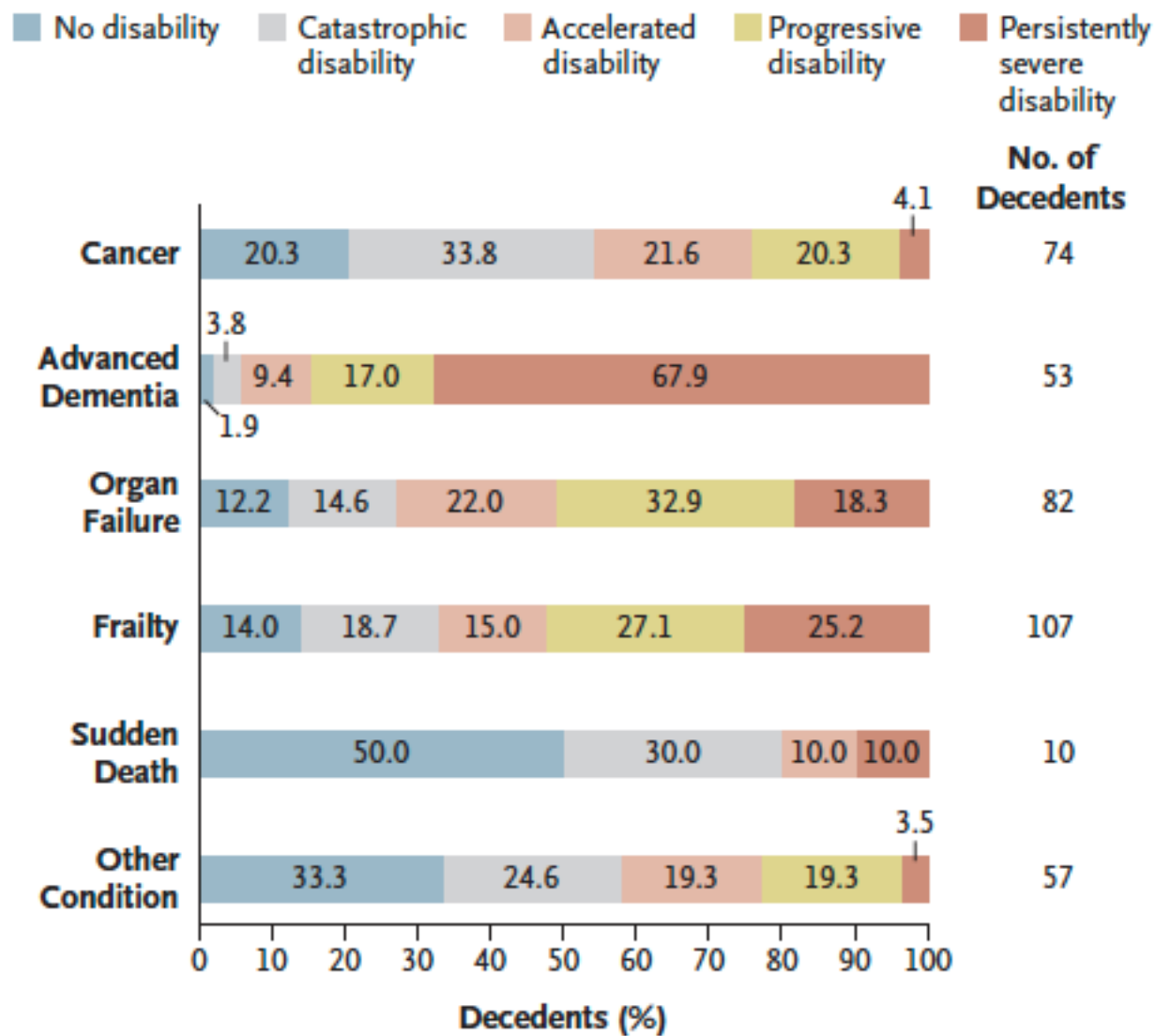
Lunney, J. R. et al. JAMA 2003;289:2387-2392.



Trajectories of Disability in the Last Year of Life

NEJM April 2010





Clinical Scenario

- 76 year-old woman who has been on hemodialysis for 6 months
- ESRD due to hypertension
 - Stroke 2 years ago, no apparent residual deficits
 - Known CAD (stable angina), no prior MI
- Still lives in her own home with her husband
- Very knowledgeable re: politics and loves to engage in philosophical discussions
- No ACP, no advance directive, full code



ESRD Patients in Canada

- 50% patients starting dialysis > 65 years old
- Patients ≥ 75 years represent the fastest-growing group of dialysis patients.
- Significant co-morbidity



Predictors of Poor Prognosis in ESRD

- **Nutritional status**
 - Serum albumin < 35g/L
 - ~ 50% mortality at 1 year
 - 17% at 2 years
- **Age**
- **Comorbid Illnesses: Charlson Comorbidity Index**
 - CCI ≥ 8 ~ 50% 1 year mortality Beddhu S
 - <http://www.medalreg.com>
 - Dialysis comorbidity index: Liu et al. KI 2010
- **Surprise Question**
- **Functional Status**

RPA/ASN. *Shared Decision-Making in the Appropriate Initiation of and Withdrawal from Dialysis*. 2000; revised 2010



Unadjusted Survival Probabilities (%) for Incident ESRD Patients

Age	1 year	2 years	3 years	5 years	10 years
40 - 49	89.6	81.6	73.5	61.9	37.7
50 - 59	86.2	75.9	65.4	49.5	21.8
60 - 64	83.0	69.6	58.3	38.1	12.3
65 - 69	79.1	63.1	50.8	30.7	6.4
70 - 79	71.2	53.5	39.0	20.2	2.7
80+	60.5	40.8	25.7	9.6	0.9



Charlson Comorbidity Index

Beddhu S AJKD 2000

Points

1 point each for: CAD, CHF, PVD, dementia, chronic pulmonary disease, connective tissue disorder, peptic ulcer disease, mild liver disease, DM

1 point for every decade over 40

2 points each for: hemiplegia, moderate-severe renal disease, DM with end-organ damage, cancer (including leukemia or lymphoma)

3 points for moderate-severe liver disease

6 points each for metastatic solid tumour, AIDS

Score Totals	Low (≤ 3)	Moderate (4-5)	High (6-7)	Very high (≥ 8)
Annual Mortality Rate	3%	13%	27%	49%



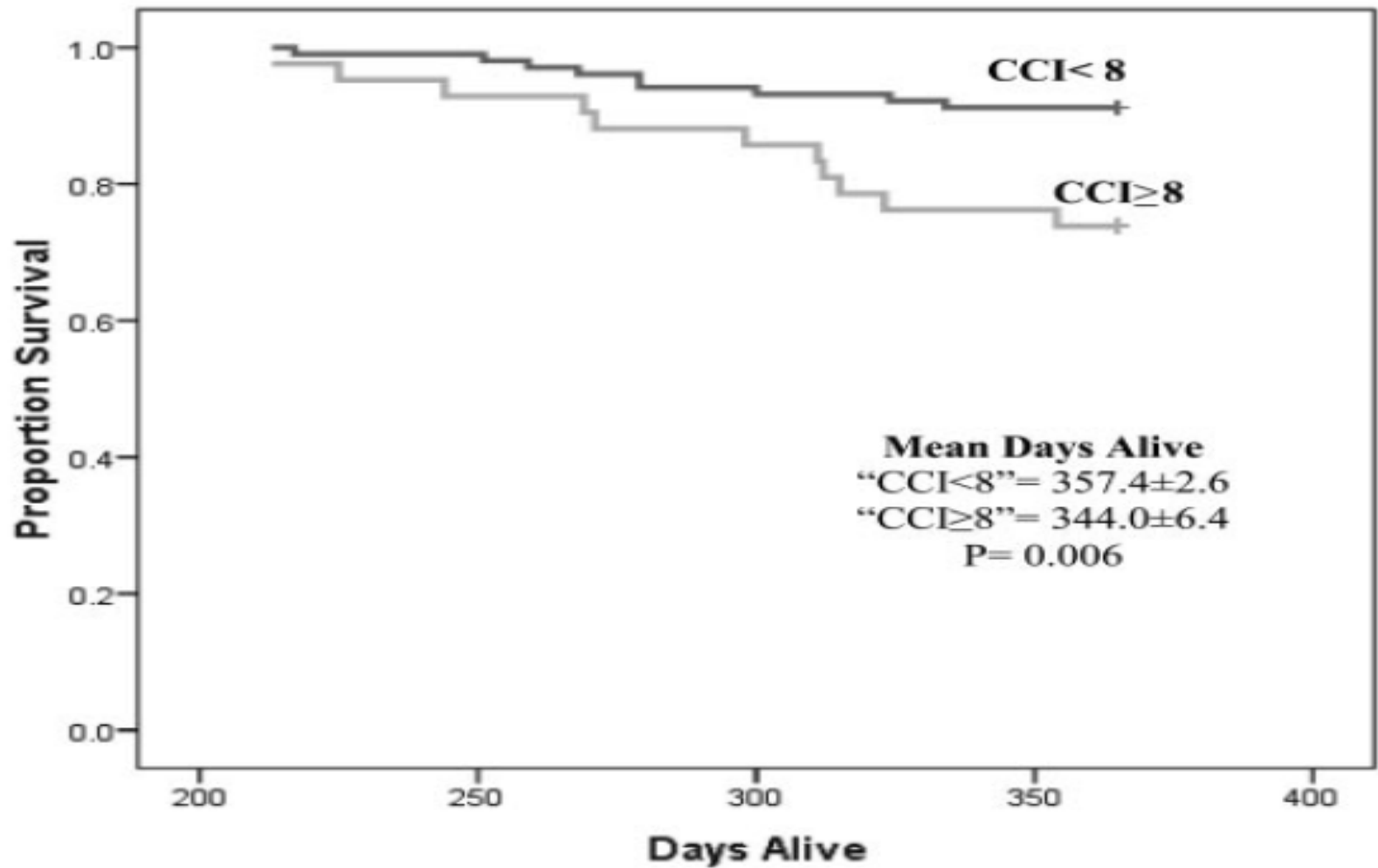
Comorbidity Index and Score of Charlson et al

Purpose: To use the comorbidity score developed by Charlson et al to give an estimate of 10 year survival for a patient. 

Age of the patient	<input type="text"/>	years
Does the patient have?		
AIDS?	<input type="radio"/> Yes	<input type="radio"/> No
Cerebrovascular disease?	<input type="radio"/> Yes	<input type="radio"/> No
Chronic pulmonary disease?	<input type="radio"/> Yes	<input type="radio"/> No
Congestive heart failure?	<input type="radio"/> Yes	<input type="radio"/> No
Connective tissue disease?	<input type="radio"/> Yes	<input type="radio"/> No
Dementia?	<input type="radio"/> Yes	<input type="radio"/> No
Hemiplegia?	<input type="radio"/> Yes	<input type="radio"/> No
Leukemia?	<input type="radio"/> Yes	<input type="radio"/> No
Malignant lymphoma?	<input type="radio"/> Yes	<input type="radio"/> No
Myocardial infarction?	<input type="radio"/> Yes	<input type="radio"/> No
Peripheral vascular disease?	<input type="radio"/> Yes	<input type="radio"/> No
Ulcer disease?	<input type="radio"/> Yes	<input type="radio"/> No

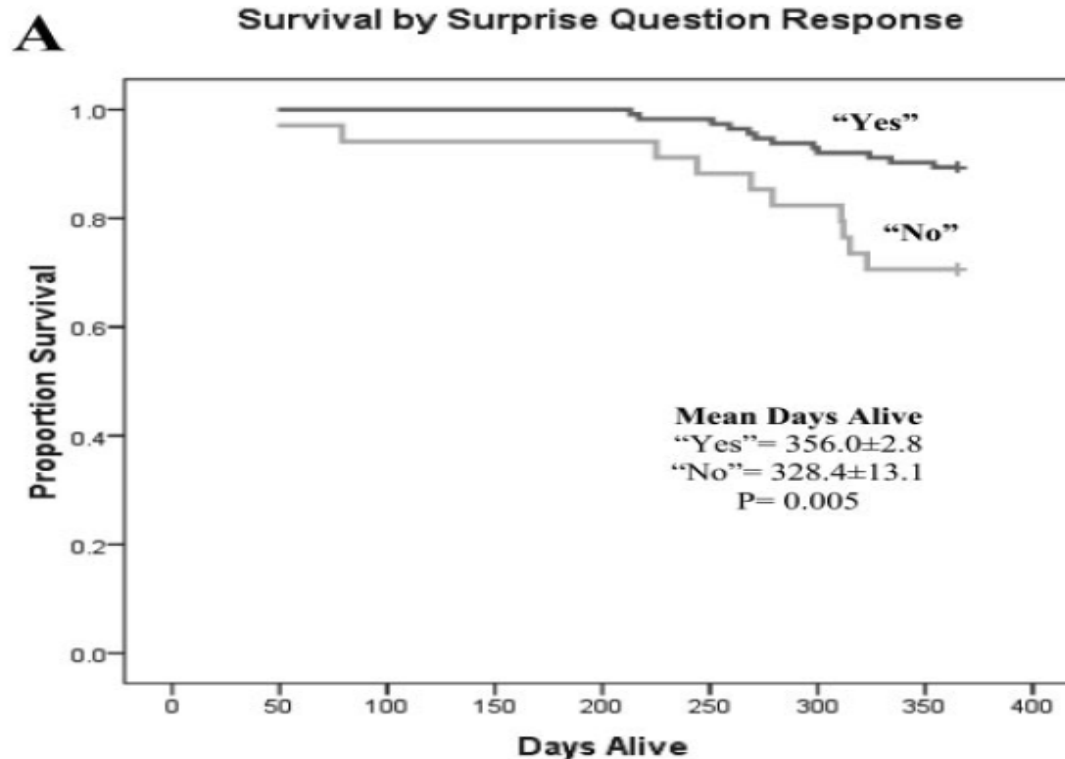
Click the appropriate column for each condition (give only 1 answer per row)

	none	without end organ damage	with end organ damage	
Diabetes mellitus	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
	none	mild	moderate	severe
Liver disease	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Renal disease	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	none	non-metastatic	metastatic	
Malignant solid tumor	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	

B**Survival by Comorbidity Score**

No. at Risk	200	250	300	350	400
CCI < 8	102	101	95	93	93
CCI ≥ 8	42	39	36	32	31

Would you be surprised if the patient died in the next year?



No. at Risk	0	50	100	150	200	250	300	350	400
"Yes"	113	113	113	113	113	111	104	102	101
"No"	34	33	32	32	32	30	28	24	24



- The odds of dying (within 1 year) for the patients in the “No, I would not be surprised” group were 3.5 times higher than for patients in the “Yes, I would be surprised” group
- Mortality at 1 year = 29.4% v. 10.6%; OR 3.5
- Older age
- Lower serum albumin
- Greater comorbidity – CCI
- Higher pain levels
- Greater functional impairment – Karnofsky

“The surprise question helps identify patients for whom palliative care is appropriate.”



Integrated Prognostic Model

Cohen CJASN 2009

Variable	Enter Value	Hazards ratio (95% CI)	Predicted Survival	
Albumin (enter raw albumin level; if < 2.5, enter 2.5; if > 4, enter 4)	3.5	0.274 (0.152 – 0.493)		
Surprise Question (enter 1 if not surprised, 0 if surprised)	1	2.707 (1.759 – 4.167)		
Age (enter actual age)	65	1.357 (1.17 – 1.567)	6 month	89.0%
Dementia (1 = yes, 0 = no)	0	2.235 (1.117 – 4.472)	12 month	74.4%
Peripheral vascular disease (1 = yes, 0 = no)	0	1.879 (1.247 – 2.832)	18 month	60.1%



Remaining Challenges: Determining who Will Benefit from Conservative Management v. Dialysis

Murtagh FE NDT 2007

- Pts > 75 yrs, eGFR < 15 ml/min
- Conservatively managed patients: older (83.0 v. 79.6)

	Dialysis (n = 52)	Conservative (n = 77)	All patients
1 year survival	84%	68%	74%
2 year survival	76%	47%	58%



“.... survival advantage [for dialyzed patients] was lost in those patients with high comorbidity scores, especially when the comorbidity included ischaemic heart disease.”

Survival in elderly patients with CKD stage 5

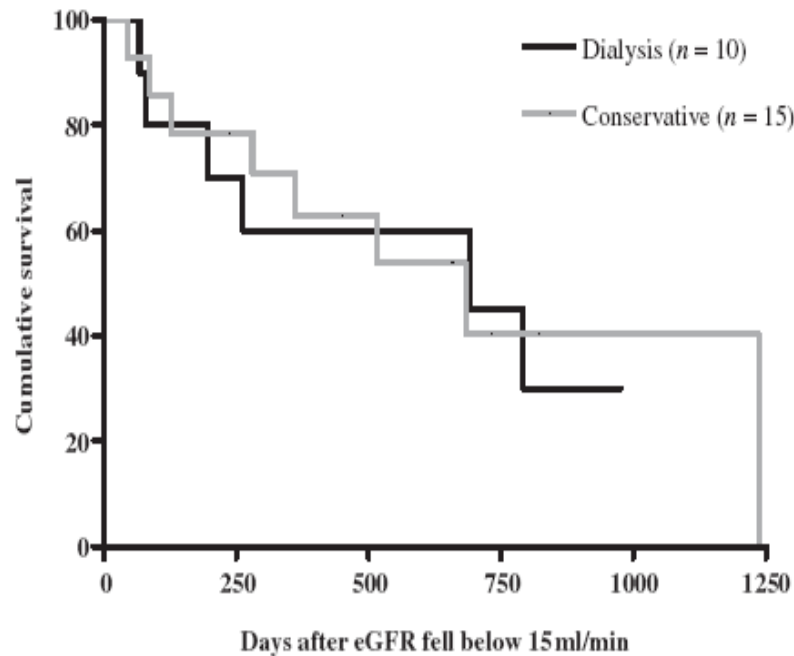


Fig. 3. Kaplan-Meier survival curves for those with high comorbidity (score=2), comparing dialysis and conservative groups (log rank statistic <0.001 , $df\ 1$, $P=0.98$).



Conservative Therapy v. Dialysis for Elderly Patients with Significant Comorbidity

Carson R, Burns A CJASN 2009

- Pts \geq 70 yrs (at 1st dialysis treatment)
- eGFR at start of RRT: 10.8 ml/min; 69% were HD

	Conservative (n = 29)	RRT (n = 173) (not a control)
Age	81.6	76.4
1 year survival (months)	13.9	37.8
Hospitalization rate (days/pt/days survived)	0.043	0.069

- Conservatively managed patients were more likely to die at home or in a hospice (OR 4.15)



Functional Status of Elderly Adults before and after Initiation of Dialysis

Manjula Kurella Tamura, M.D., M.P.H., Kenneth E. Covinsky, M.D., M.P.H., Glenn M. Chertow, M.D., M.P.H., Kristine Yaffe, M.D., C. Seth Landefeld, M.D., and Charles E. McCulloch, Ph.D.

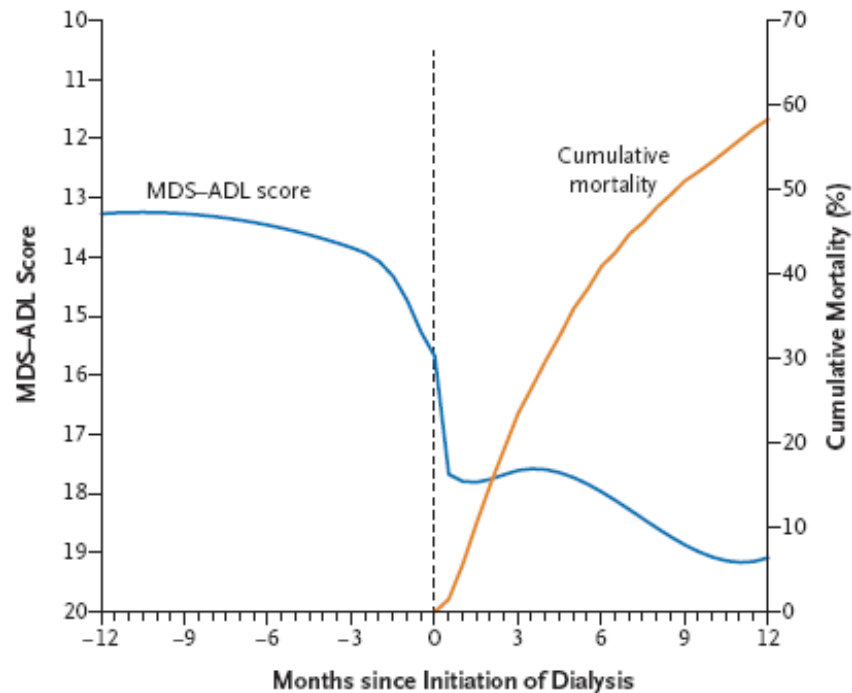


Figure 3. Smoothed Trajectory of Functional Status before and after the Initiation of Dialysis and Cumulative Mortality Rate.

The dashed vertical line indicates the initiation of dialysis in a hypothetical 75-year-old nursing home resident. MDS-ADL denotes Minimum Data Set-Activities of Daily Living. The numbers on the MDS-ADL axis run from highest to lowest.

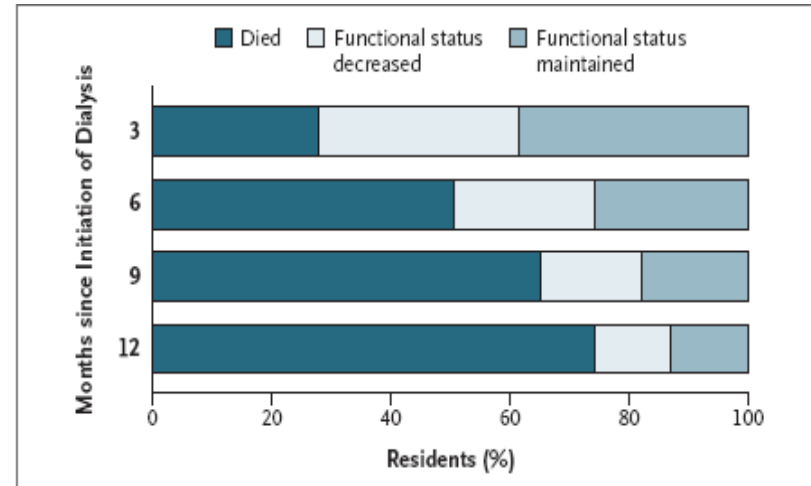


Figure 2. Change in Functional Status after Initiation of Dialysis.

Data were missing for 549 nursing home residents at 3 months, 696 residents at 6 months, 823 residents at 9 months, and 787 residents at 12 months from the full analytic cohort of 3702 residents.

A clinical score to predict 6-month prognosis in elderly patients starting dialysis for end-stage renal disease

Cécile Couchoud¹, Michel Labeeuw², Olivier Moranne^{3,4,5}, Vincent Allot⁶, Vincent Esnault⁵, Luc Frimat⁷, Bénédicte Stengel^{3,4}, and for the French Renal Epidemiology and Information Network (REIN) registry

Incident pts > 75 yrs: predict early (< 6 month) mortality

- Comorbidity
 - Diabetes, CHF (III/IV), PVD (III/IV), Dysrhythmia
 - BMI < 18.5
 - Malignancy (active)
 - Severe behavioral disorder
- Mobility: totally dependent for transfers
- Unplanned dialysis start
- Point score



REIN Prognostic Model (Incident Dialysis Patients)

Couchoud NDT 2008

Variable	Comorbidity Points	Predicted 6 month Survival	
Diabetes, Dysrhythmia, Active malignancy	1 each	0	8%
		1	10%
BMI < 18.5 kg/m ² , CHF stages III to IV, PVD stages III to IV, Severe behavioural disorder, Unplanned dialysis start	2 each	2	17%
		3-4	21%
		5-6	33%
		7-8	50%
		≥ 9	70%
Total dependency for transfers	3	≥ 9	70%



Screening for Physical and Emotional Distress



Edmonton Symptom Assessment System:
Numerical Scale
Northern Alberta Renal Program

Please circle the number that best describes:

- No pain 0 1 2 3 4 5 6 7 8 9 10 Worst possible pain
- Not tired 0 1 2 3 4 5 6 7 8 9 10 Worst possible tiredness
- Not nauseated 0 1 2 3 4 5 6 7 8 9 10 Worst possible nausea
- Not depressed 0 1 2 3 4 5 6 7 8 9 10 Worst possible depression
- Not anxious 0 1 2 3 4 5 6 7 8 9 10 Worst possible anxiety
- Not drowsy 0 1 2 3 4 5 6 7 8 9 10 Worst possible drowsiness
- Best appetite 0 1 2 3 4 5 6 7 8 9 10 Worst possible appetite
- Best feeling of wellbeing 0 1 2 3 4 5 6 7 8 9 10 Worst possible feeling of wellbeing
- No itching 0 1 2 3 4 5 6 7 8 9 10 Worst possible itching
- No shortness of breath 0 1 2 3 4 5 6 7 8 9 10 Worst possible shortness of breath
- Other problem 0 1 2 3 4 5 6 7 8 9 10

Patient's Name _____

Date _____ Time _____

Complete by (check one)

- Patient
- Caregiver
- Caregiver assisted

BODY DIAGRAM ON REVERSE SIDE



Spiritual/Existential Needs in Chronic and Terminal Illnesses

- Finding hope
- Finding meaning in my life
- Dying and Death
- Finding peace of mind
- Overcoming fears
- Finding spiritual resources



Spiritual Needs in Patients with CKD

- N=253; pre-dialysis (stage 4&5) and dialysis patients
- Patients reported a mean of 3 (out of 7) spiritual needs
- 69.1% of patients reporting at least 1 spiritual need.
- 32% of patients had high spiritual needs (defined as reporting \geq 5 of the 7 needs).
- Spiritual care needs were not associated with age, gender, race, marital status, dialysis modality, time on dialysis, or comorbidity.

Conclusions

- These patients had substantial spiritual care needs.
- There were no clear predictors of high spiritual care needs, highlighting the importance of evaluating all CKD patients for unmet needs.



Screening for Spiritual Distress

- **“Are there any spiritual concerns you would like to have addressed or discuss with a member of the health care team?”**
- Purpose is to serve as a gateway to larger discussions and a more in-depth spiritual assessment for those that indicate distress.
- Consult specialized professionals as required
 - Triage by social worker?
 - Direct consult to spiritual care/pastoral care?



Barriers to Implementation

- Large numbers of patients to screen
- Large and diverse geographic regions
- Diverse patient populations and clinical care delivery systems
- Roles of the multidisciplinary team members:
 - Whose responsibility is it to screen and identify high needs patients?
 - What training will be required?
- Confidentiality
 - Who will have access to the results?
 - How will results be reported, shared with the team?
 - What actions will screening activate
- Communication and documentation of “results”
- Quality assurance program



Implementation in Alberta

- Administered by nursing (takes 1- 4 mins)
 - monthly for HD patients
 - every clinic visit for home dialysis and pre-dialysis (CKD stage 4 & 5) patients
- Data entered into an information system
- Routine generation of report(s) of high risk individuals
 - Predicted survival $\leq 50\%$ at 12 months
 - Pain scores ≥ 4
 - Patients who identify they have spiritual issues they would like to discuss with HCP
- These patients will undergo further assessment



Quality Assurance

- Monitoring for completion of screening
- Assess # being identified (work burden)
 - with mod/severe symptoms
 - high mortality risk
 - can change how you define “high risk” based on work burden and the resources available to assess patients
- # needing intervention
 - Another opportunity to adjust criteria for assessing
- Who received an assessment
- Who received an intervention
- Effectiveness of intervention



Clinical Scenario

- 76 year-old woman: has been on dialysis for 6 months
- ESRD due to hypertension
 - Stroke 2 years ago, no apparent residual deficits
 - Known CAD (stable angina), no prior MI
- Still lives in her own home with her husband
- Very knowledgeable re: politics and loves to engage in philosophical discussions



Clinical Scenario

Variable	Enter Value	Predicted Survival	
Albumin	3.4		
Surprise Question 1=not surprised, 0=surprised	0		
Age	76	6 months	93%
Dementia (1 = yes, 0 = no)	0	12 months	84%
Peripheral vascular disease (1 = yes, 0 = no)	0	18 months	74%

ESAS: moderate pain (5/10 knee pain from OA)

Spirituality: did not indicate she required support



Clinical Scenario

Variable	Enter Value	Predicted Survival	
Albumin	3.4		
Surprise Question 1=not surprised, 0=surprised	1		
Age	76	6 months	83% (93%)
Dementia (1 = yes, 0 = no)	0	12 months	62% (84%)
Peripheral vascular disease (1 = yes, 0 = no)	0	18 months	44% (74%)

ESAS: moderate pain (5/10 knee pain from OA)

Spirituality: did not indicate she required support



Clinical Scenario

- 76 year-old woman: has been on dialysis for 6 months
- ESRD due to hypertension
 - Stroke 2 years ago, no apparent residual deficits
 - Known CAD (stable angina), no prior MI Still lives in her own home with her husband
- Enjoys political and philosophical discussions
- Upon closer questioning (both patient and husband): patient becoming more forgetful for short-term memory (example – difficulty recalling what she ate the night before; occasional odd behaviour – found missing socks in her fridge!
- Geriatric assessment: possible Alzheimer's Disease or multi-infarct dementia



Clinical Scenario

Variable	Enter Value	Predicted Survival	
Albumin	3.4		
Surprise Question 1=not surprised, 0=surprised	1		
Age	76	6 months	66% (83%)
Dementia (1 = yes, 0 = no)	1	12 months	35% (62%)
Peripheral vascular disease (1 = yes, 0 = no)	0	18 months	16% (44%)

ESAS: moderate pain (5/10 knee pain from OA)

Spirituality: once issues of dementia were raised she requested spiritual support



Questions?

