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Appendix 1 - Search Strategy

Predict*
Prognos*
Surviv*
Mortality
“functional outcomes”
comorbidity
Life expectancy
Score/index/indices
“c-statistic” / “c-index”/roc curve/
proportional hazards models/
cox proportional/cox regression
Risk prediction (rules)
Risk adjustment/
Risk assessment/stratification
Geriatric assessment/
Models*
Likelihood
Severity of illness index
Vulnerable populations/
Frailty
Weight or overweight
Hazard ratio
Kaplan Meier/survival curve

Both acute and chronic kidney failure.
All years, all languages
Adults

esrd Thorsteinsdottir EMBASE

1. exp *renal replacement therapy/
2. 1 and (death* or mortality or surviv*).mp. [mp=title, abstract, subject headings, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword]
3. 2 and (predict*.mp. or proportional hazards model/ or cox.mp. or "kaplan-meier".mp. or risk assessment/ or prognosis.mp.)
4. exp case control study/ or exp case study/ or exp clinical article/ or exp clinical trial/ or exp longitudinal study/ or exp major clinical study/ or exp prospective study/ or exp retrospective study/
5. exp cohort analysis/ or exp correlational study/ or exp cross-sectional study/
6. 3 and (4 or 5)
7. limit 6 to (adult <18 to 64 years> or aged <65+ years>)
8. acute kidney failure/ or chronic kidney failure/ or end stage renal disease/
9. acute kidney failure/th or chronic kidney failure/th or end stage renal disease/th
10. (*acute kidney failure/th or *chronic kidney failure/th or *end stage renal disease/th) and (death* or mortality or surviv*).mp. [mp=title, abstract, subject headings, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword]
11. 10 and (risk assessment/ or predict*.mp. or proportional hazards model/ or cox.mp. or "kaplan-meier".mp. or prognosis.mp.)
12. 11 and (4 or 5)
13. limit 12 to (adult <18 to 64 years> or aged <65+ years>)
14. 7 or 13
15. remove duplicates from 14



esrd Thorsteinsdottir MEDLINE

1. (ckd or esrd or eskd or "end stage renal" or "end stage kidney").mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier]
2. exp renal insufficiency/co, mo, th, pc or kidney failure, chronic/co, th, pc, mo or kidney failure, acute/co, mo, th, pc

3. renal replacement therapy/ or renal dialysis/ or hemofiltration/
4. (hemodialysis or haemodialysis or dialysis).mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier]
5. or/1-4
6. Vulnerable Populations/
7. frail*.mp. or frail elderly/ [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier]
8. 1 or (exp *renal insufficiency/co, mo, th, pc or *kidney failure, chronic/co, th, pc, mo or *kidney failure, acute/co, mo, th, pc) or (*renal replacement therapy/ or *renal dialysis/ or *hemofiltration/) or (hemodialysis or haemodialysis or dialysis).tw.
9. (6 or 7) and (mo.fs. or mortality.mp. or death*.mp. or surviv*.mp. or life expectancy/) [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier]
10. 9 and predict*.mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier]
11. 9 and ("c statistic" or "c index" or score or index or indices or roc).mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier]
12. 10 or 11
13. 12 and (predict* or prognos* or risk*).mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier]
14. 8 and (mo.fs. or mortality.mp. or death*.mp. or surviv*.mp. or life expectancy/) [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier]
15. 14 and predict*.mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier]
16. 14 and ("c statistic" or "c index" or score or index or indices or roc or cox or rule* or adjust* or stratif*).mp. [mp=title, abstract, original title, name of substance word, subject heading word,

keyword heading word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier]

17. 14 and (model* or ratio or prognos*).mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier]

18. 15 and (16 or 17)

19. 18 and (cohort* or prospective* or series or population* or retrospective*).mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier]

20. limit 18 to (clinical trial, all or clinical trial, phase i or clinical trial, phase ii or clinical trial, phase iii or clinical trial, phase iv or clinical trial or comparative study or controlled clinical trial or evaluation studies or meta analysis or multicenter study or observational study or pragmatic clinical trial or randomized controlled trial or "review" or systematic reviews or validation studies)

21. 19 or 20

22. limit 21 to ("young adult (19 to 24 years)" or "adult (19 to 44 years)" or "young adult and adult (19-24 and 19-44)" or "middle age (45 to 64 years)" or "middle aged (45 plus years)" or "all aged (65 and over)" or "aged (80 and over)")

23. 21 and (adult* or "middle age*" or elder* or older* or men or women).mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier]

24. 22 or 23

Appendix 2 - ESRD Prognostication Data Abstraction

Study Information

Date reviewed: Reviewer:

First Author: Year Published: Language:

Title:

Please circle one:

Country / International Single-center / Multi-center

AKI	ESRD		
ICU	Hospital	Outpatient	All
CRRT	Intermittent HD	Peritoneal dialysis	All

Please describe the following:

Study Design __ _____

Predictive Modelling YES / NO

_____

Validation Cohort YES / NO ____

Length of Follow Up/Prognostication _____

Include? YES NO

Exclusion criteria

Development Cohort

N Age mean Age SD

Female (%) 44%

Distribution of race: White (%) Black (%) Hispanic (%)

Other (%)

Factors included in model and average values (comorbidities, indices, demographics, etc.):

Dialysis type: hemodialysis peritoneal home

Access type: catheter AV other not specified

Validation Cohort

N Age mean Age SD

Female (%)

Distribution of race: White (%) Black (%) Hispanic (%) Other (%)

Factors included in model and average values (comorbidities, indices, demographics, etc.):

Dialysis type: hemodialysis peritoneal home

Access type: catheter AV other

Outcomes

	Development Group	Validation Group
N		
C-statistic		
CI		

Observed mortality (ppy)		
SD		
Observed mortality (HR/OR/RR)		
CI		
Predicted mortality		
SD		
Hospitalizations (ppy)		
SD		
Hospitalization LOS (mean)		
SD		
Readmissions (mean)		
SD		

Quality of Prediction Model

Sample Participation Described? **YES** INCOMPLETE (why?)

Prognostic Variables Defined? **YES** INCOMPLETE (why?)

Blinded Measurement? YES INCOMPLETE (why?) N/A

Potential Predictors Completed (%) _____

Mortality Outcome Complete (%) _____

Conceptual Model Stability Tested? YES PARTLY NO

Appendix 3 - ESRD Prognostication Quality Score Data Abstraction

	Study Participation	**Study Attrition**	**Prognostic factor measurement**	**Outcome measurement**	**Confounding measurement and account**	**Analysis**

Quality of Prediction Model

Sample Participation Described? **YES** INCOMPLETE (why?)

Attrition

Potential Predictors Completed (%) _____

Mortality Outcome Complete (%) _____

Prognostic Variables Defined? **YES** INCOMPLETE (why?)

Blinded Outcome Measurement? YES INCOMPLETE (why?) N/A

Conceptual Model Stability Tested? YES PARTLY NO

Study participation Yes/NotReported/ Partly/Unsure

1. The study sample represents the population of interest on key characteristics, sufficient to limit potential bias to the results.

Study attrition

2. Loss to follow-up (from sample to study population) is not associated with key characteristics, sufficient to limit potential bias (i.e., the study data adequately represent the sample).

Prognostic factor measurement

3. The prognostic factor of interest is adequately measured in study participants to sufficiently limit potential bias.

Outcome measurement

4. The outcomes of interest are adequately measured in study participants to sufficiently limit potential bias.

Confounding measurement and account

5. Important potential confounders are appropriately accounted for, limiting potential bias with respect to the prognostic factor of interest.

Analysis

6. The statistical analysis is appropriate for the design of the study, limiting potential for presentation of invalid results.

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Supplemental Table 1. Papers excluded after full text review

Year	Journal	First Author	Title
2004	Kidney International	Abbott	Body mass index, dialysis modality, and survival: Analysis of the States Renal Data System Dialysis Morbidity and Mortality Wave
2010	Peritoneal Dialysis International	Abraham	Predictors of long-term survival on peritoneal dialysis in South I multicenter study
2008	American Journal of Nephrology	Agarwal	Competing risk factor analysis of end-stage renal disease and m chronic kidney disease
2007	CJASN	Ajiro	Mortality predictors after 10 years of dialysis: a prospective stu Japanese hemodialysis patients
2010	Arquivos Brasileiros de Cardiologia	Almeida	Global and cardiovascular mortality and risk factors in patients u hemodialysis treatment. [Spanish, English, Portuguese]
1994	American Journal of Kidney Diseases	Avram	Predictors of survival in continuous ambulatory peritoneal dialy the importance of prealbumin and other nutritional and metab
1995	American Journal of Kidney Diseases	Avram	Markers for survival in dialysis: a seven-year prospective study
1995	Journal of the American Society of Nephrology	Avram	PREDICTORS OF MORTALITY IN HEMODIALYSIS (HD) - AN 8 YEAR PROSPECTIVE-STUDY
1996	Peritoneal Dialysis International	Avram	Predictors of survival in continuous ambulatory peritoneal dialy a five-year prospective study
2001	American Journal of Kidney Diseases	Avram	Survival on hemodialysis and peritoneal dialysis over 12 years w emphasis on nutritional parameters
2000	American Journal of Kidney Diseases	Becker	Using renal transplantation to evaluate a simple approach for pr the impact of end-stage renal disease therapies on patient survi observed/expected life span
2000	American Journal of Medicine	Beddhu	A simple comorbidity scale predicts clinical outcomes and costs patients
1998	Journal of Renal Nutrition	Beto	Using the hemodialysis prognostic nutrition index and urea redu to predict morbidity and mortality: a pilot study of the 1995 cou renal nutrition national research question.[Erratum appears in 1 Jul;8(3):170]
1999	Journal of Renal Nutrition	Beto	Hemodialysis prognostic nutrition index as a predictor for morbi mortality in hemodialysis patients and its correlation to adequa dialysis. Council on Renal Nutrition National Research Question Collaborative Study Group
2007	Renal Failure	Biesenbach	Different risk factors and causes for early death after initiating d diabetic and non-diabetic patients
2008	Nephrology	Bilgic	Predictors for quality of life in continuous ambulatory peritonea patients
2007	CJASN	Bradbury	Predictors of early mortality among incident US hemodialysis pa the Dialysis Outcomes and Practice Patterns Study (DOPPS)
2014	BMC Nephrology	Browne	Analysis of factors predicting mortality of new patients commen replacement therapy 10 years of follow-up
2001	Nefrologia	Caravaca	[Predictors of early death during dialysis]

2008	Dialisis y Trasplante	Carreras	The malnutrition-inflammation score as a mortality predictor in under hemodialysis. [Spanish]
2011	Nephron	Chae	Prediction of mortality in patients undergoing maintenance hem Charlson Comorbidity Index using ICD-10 database
2014	CJASN	Chen	A comorbidity index for mortality prediction in Chinese patients receiving hemodialysis
2009	Q J Med	Cherkuri	Analysis of risk factors for mortality of incident patients comme dialysis in East Yorkshire, UK
2014	Blood Purification	Chua	Predicting first-year mortality in incident dialysis patients with e renal disease-The UREA5 study
2009	Blood Purification	Chung	Impact of incremental risk factors on peritoneal dialysis patient proposal of a simplified clinical mortality risk score
2010	CJASN	Cohen	Predicting six-month mortality for patients who are on maintena hemodialysis
2009	Nephrology Dialysis Transplantation	Conway	Predicting mortality and uptake of renal replacement therapy in with stage 4 chronic kidney disease
1991	Psychological Medicine	Craven	The Endstage Renal Disease Severity Index (ESRD-SI)
1995	Nephrology Dialysis Transplantation	De Lima	Predictors of mortality in long-term haemodialysis patients with prevalence of comorbid conditions
1990	Journal of Nervous and Mental Disease	Devins	Psychosocial predictors of survival in end-stage renal disease
1999	Nefrologia	Diaz Corte	Factors predicting survival during replacement therapy for end s disease. [Spanish]
2013	American Journal of Geriatric Psychiatry	Feng	Depressive symptoms in older adults with chronic kidney diseas Mortality, quality of life outcomes, and correlates
2009	West Indian Medical Journal	Gayle	Quality of life in end stage renal disease: a multicentre compara
1995	Nephrology Dialysis Transplantation	Genestier	Prognostic factors in CAPD patients: A retrospective study of a 1 period
2010	Peritoneal Dialysis International	Genestier	Prognostic survival factors in elderly renal failure patients treate peritoneal dialysis: a nine-year retrospective study
2011	Collegium Antropologicum	Germin-Petrovic	Health-related quality of life in the patients on maintenance her the analysis of demographic and clinical factors
2010	Nephrology Dialysis Transplantation	Goldfarb-Rumyantzev	Association between social adaptability index and survival of pa chronic kidney disease
2005	Polskie Archiwum Medycyny Wewnetrznej	Grzegorzewska	[Which factors determine survival of patients on regular dialysis treatment?]
2013	Journal of the American Medical Directors Association	Hall	End-stage renal disease in nursing homes: a systematic review
2009	BMC Nephrology	Han	Quality of life and mortality from a nephrologist's view: a prospe observational study
2013	Nephrology	Huang	Performance of the Framingham risk score in patients receiving hemodialysis
2013	Palliative Medicine	Hussain	Comparison of survival analysis and palliative care involvement

			aged over 70 years choosing conservative management or renal replacement therapy in advanced chronic kidney disease
1982	Annals of Internal Medicine	Hutchinson	Predicting survival in adults with end-stage renal disease: an age equivalence index
1998	American Journal of Nephrology	Ifudu	Predictive value of functional status for mortality in patients on maintenance hemodialysis
2013	International Urology & Nephrology	Ignjatovic	Endothelial dysfunction, inflammation and malnutrition markers predictors of mortality in dialysis patients: multimarker approac
1994	Nephron	Iseki	Effect of renal diseases and comorbid conditions on survival in c dialysis patients
2012	CJASN	Joyce	Health-related quality of life as a predictor of mortality among s AKI
2001	American Journal of Kidney Diseases	Kalantar-Zadeh	A malnutrition-inflammation score is correlated with morbidity mortality in maintenance hemodialysis patients
2010	Journal of Nephrology	Kao	Life expectancy, expected years of life lost and survival of hemo peritoneal dialysis patients
2012	Renal Failure	Kim do	Factors influencing survival according to elapsed time in periton patients
2000	Kidney International	Kimmel	Multiple measurements of depression predict mortality in a long study of chronic hemodialysis outpatients
1998	Scandinavian Journal of Urology and Nephrology	Klefter	Risk factors in haemodialysis patients: Evaluation of commonly r variables on death rate
2003	Kidney International	Knight	The association between mental health, physical function, and hemodialysis mortality
1993	Diabetologia	Koch	Survival and predictors of death in dialysed diabetic patients
2010	Clinical Nephrology	Kumar	Significance of self-reported sleep quality (SQ) in chronic kidney (CKD): the Renal Research Institute (RRI)-CKD study
1997	Revista de Investigacion Clinica	Leanos-Miranda	Factors predicting survival in patients on peritoneal dialysis. [Spa
2011	Journal of Renal Nutrition	Leinig	Predictive value of malnutrition markers for mortality in periton patients
2010	Kidney International	Liu	An improved comorbidity index for outcome analyses among di patients
2003	American Journal of Kidney Diseases	Lopes	Health-related quality of life and associated outcomes among he patients of different ethnicities in the United States: the Dialysis and Practice Patterns Study (DOPPS)
2010	Journal of Renal Nutrition	Lopes	Independent and Joint Associations of Nutritional Status Indicat Mortality Risk Among Chronic Hemodialysis Patients in the Dialy Outcomes and Practice Patterns Study (DOPPS)
1998	Nefrologia	Lou	Risk factors for mortality in long term hemodialysis. [Spanish]
1990	American Journal of Kidney Diseases	Lowrie	Death risk in hemodialysis patients: the predictive value of comm measured variables and an evaluation of death rate differences facilities
2003	American Journal of	Lowrie	Medical outcomes study short form-36: a consistent and power

	Kidney Diseases		predictor of morbidity and mortality in dialysis patients
2012	American Journal of Nephrology	Lukowsky	Patterns and predictors of early mortality in incident hemodialys new insights
2012	International Urology & Nephrology	Madziarska	Elderly dialysis patients: Analysis of factors affecting long-term s year prospective observation
2005	Kidney International	Mallamaci	Prognostic value of combined use of biomarkers of inflammatio endothelial dysfunction, and myocardiopathy in patients with ES
2009	Japanese Journal of Nephrology	Matsuo	[Risk factors for death in patients starting PD for their first renal replacement therapy]
2008	Acta Diabetologica	Mauri	Development of a predictive model for early death in diabetic pa entering hemodialysis: a population-based study
2003	American Journal of Kidney Diseases	Miskulin	Comorbidity and its change predict survival in incident dialysis p
2004	Nephrology Dialysis Transplantation	Miskulin	Predicting 1 year mortality in an outpatient haemodialysis popu comparison of comorbidity instruments
2005	Revista Da Associacao Medica Brasileira	Morsch	[Renal disease severity index, clinical indicators and mortality of hemodialysis]
2013	Nephrology Dialysis Transplantation	Ng	Progression in comorbidity before hemodialysis initiation is a va predictor of survival in incident patients
2011	American Journal of Kidney Diseases	Nitsch	CKD and hospitalization in the elderly: a community-based coho the United Kingdom
1999	Advances in Peritoneal Dialysis	Ohashi	Predictors of survival in continuous ambulatory peritoneal dialys the importance of left ventricular hypertrophy and diabetic nep
2002	Nephrology	Okada	Predialysis factors related to prognosis in type 2 diabetic patient chronic dialysis in Japan
2013	Journal of Nephrology	Oliva	Survival and factors predicting mortality in hemodialysis patient years old
2012	Health & Quality of Life Outcomes	Osthus	Mortality and health-related quality of life in prevalent dialysis p Comparison between 12-items and 36-items short-form health s
1989	Advances in Peritoneal dialysis	Panarello	Dialysis for the elderly: survival and risk factors
2014	Journal of Nephrology	Panichi	Geriatric nutritional risk index is a strong predictor of mortality i hemodialysis patients: Data from the Riscavid cohort
2000	Health Care Financing Review	Parkerson	Health-related quality of life predictors of survival and hospital u
2005	American Journal of Kidney Diseases	Perlman	Quality of life in chronic kidney disease (CKD): A cross-sectional the renal research institute - CKD study
1991	International Journal of Psychiatry in Medicine	Peterson	Depression, perception of illness and mortality in patients with c renal disease
2002	Kidney International	Pifer	Mortality risk in hemodialysis patients and changes in nutritiona DOPPS
2009	Nephrology Dialysis Transplantation	Pizzarelli	Predictivity of survival according to different equations for estim function in community-dwelling elderly subjects
2002	Journal of the American Society of Nephrology	Qureshi	Inflammation, malnutrition, and cardiac disease as predictors of in hemodialysis patients

2009	American Journal of Kidney Diseases	Rambod	Association of Malnutrition-Inflammation Score with quality of l mortality in hemodialysis patients: a 5-year prospective cohort s
2012	International Urology & Nephrology	Rattanasompattikul	Charlson comorbidity score is a strong predictor of mortality in hemodialysis patients
1993	Journal of the American Society of Nephrology	Rocco	The efficacy number as a predictor of morbidity and mortality in dialysis patients
2002	Peritoneal Dialysis International	Rocco	Risk factors for early mortality in U.S. peritoneal dialysis patients residual renal function
2006	Disease Management	Sands	Predicting hospitalization and mortality in end-stage renal disea patients using an Index of Coexisting Disease (ICED)-based risk s model
2009	Nephrology Dialysis Transplantation	Seica	Factors affecting the quality of life of haemodialysis patients fro a multicentric study
2014	PLoS ONE	Seidel	Physical, Cognitive and Emotional Factors Contributing to Qualit Functional Health and Participation in Community Dwelling in Cl Kidney Disease
2006	Makedonska Akademija na Naukite i Umetnostite Oddelenie Za Bioloshki i Meditsinski Nauki Prilozi	Selim	Inflammation predicts all-cause and cardiovascular mortality in haemodialysis patients
2010	Renal Failure	Senol	Important determinants of quality of life in a peritoneal dialysis in Turkey
2010	British Journal of General Practice	Sharma	Does stage-3 chronic kidney disease matter? A systematic litera
2011	Nephrology Dialysis Transplantation	Stosovic	The predictive value of anthropometric parameters on mortality haemodialysis patients
2012	American Journal of Nephrology	Takahashi	Combined values of serum albumin, C-reactive protein and body index at dialysis initiation accurately predicts long-term mortalit
2013	Annals of Internal Medicine	Tangri	Risk prediction models for patients with chronic kidney disease: systematic review
2012	Blood Purification	Thijssen	Prediction of mortality in the first two years of hemodialysis: res validation study
2013	International Urology & Nephrology	Toledo	Validity of malnutrition scores for predicting mortality in chronic hemodialysis patients
2006	Journal of the American Society of Nephrology	Tonelli	Chronic kidney disease and mortality risk: A systematic review
2005	American Journal of Nephrology	Trivedi	Predictors of death in patients on peritoneal dialysis: the Missou Peritoneal Dialysis Study
2010	Nephrology Dialysis Transplantation	Tsai	Quality of life predicts risks of end-stage renal disease and mort patients with chronic kidney disease.[Erratum appears in Nephr Transplant. 2011 Jan;26(1):392]
2014	PLoS ONE	van Diepen	Predicting Mortality in Patients with Diabetes Starting Dialysis

2010	Nephron	Verdalles	Factors predicting mortality in elderly patients on dialysis
2011	American Journal of Kidney Diseases	Wagner	Predicting mortality in incident dialysis patients: an analysis of t Kingdom Renal Registry
1997	American Journal of Kidney Diseases	DeOreo	Hemodialysis patient-assessed functional health status predicts survival, hospitalization, and dialysis-attendance compliance
2001	Journal of the American Society of Nephrology	Kalantar-Zadeh	Association among SF36 quality of life measures and nutrition, hospitalization, and mortality in hemodialysis
2002	Journal of renal nutrition	Allen	Association of nutritional markers with physical and mental hea prevalent hemodialysis patients from the HEMO study
2004	Nephrology Dialysis Transplantation	Covic	Illness representations and quality of life scores in haemodialysi
2008	Nephrology	Bilgic	Predictors for quality of life in continuous ambulatory peritonea patients
2008	Nephrology Dialysis Transplantation	Elder	Sleep quality predicts quality of life and mortality risk in haemod patients: Results from the Dialysis Outcomes and Practice Patte (DOPPS)
2009	Diabetic Medicine	Hayashino	Low health-related quality of life is associated with all-cause mo patients with diabetes on haemodialysis: The Japan Dialysis Out Practice Pattern Study
2012	Saudi journal of kidney diseases and transplantation	Guney	Poor quality of life is associated with increased mortality in mai hemodialysis patients: a prospective cohort study
2012	Kidney Research and Clinical Practice	Jeon	The effect of depression and health-related quality of life on the of hemodialysis patients
2015	Journal of Pain and Symptom Management	Amro	Symptom clusters predict mortality among dialysis patients in N prospective observational cohort study
2015	Nephron	Broers	Quality of Life in Dialysis Patients: A Retrospective Cohort Study
2015	Blood Purification	Germain	How to integrate predictions in outcomes in planning clinical ca
2016	International Urology and Nephrology	Griva	Predicting technique and patient survival over 12 months in per dialysis: the role of anxiety and depression
2016	Hong Kong Journal of Nephrology	Kwok	Outcomes in elderly patients with end-stage renal disease: Com renal replacement therapy and conservative management
2016	Biomarkers	Sousa-Martins	Risk factors for mortality in end-stage kidney disease patients u hemodiafiltration: three-year follow-up study
2017	Clinical Nutrition ESPEN	Borges	Malnutrition Inflammation Score cut-off predicting mortality in maintenance hemodialysis patients
2017	Systematic Reviews	Brett	Physical frailty and functional status in patients with advanced k disease: a protocol for a systematic review
2017	Peritoneal Dialysis International	Chan	Association of socio-economic position with technique failure a in australian non-indigenous peritoneal dialysis patients
2017	Archives of Gerontology &	Chowdhury	Frailty and chronic kidney disease: A systematic review

	Geriatrics		
2017	BMC Nephrology	Clark	Frailty in end-stage renal disease: comparing patient, caregiver, clinician perspectives
2017	Nephrology Dialysis Transplantation	Couchoud	Restricted mean survival time over 15 years for patients starting replacement therapy
2017	PLoS ONE	Dai	Clinical global assessment of nutritional status as predictor of m chronic kidney disease patients
2017	American Journal of Kidney Diseases	Derrett	Predictors of Health Deterioration Among Older Adults After 12 Dialysis Therapy: A Longitudinal Cohort Study From New Zealan
2017	Asia Pacific Journal of Clinical Nutrition	Dou	The geriatric nutritional risk index may predict healthcare costs transitions during hemodialysis in China
2017	KI Reports	Doulgerakis	Cardiac Autonomic Neuropathy Predicts All-Cause and Cardiova Mortality in Patients With End-Stage Renal Failure: A 5-Year Pro Study
2017	30th Annual Congress of the European Society of Intensive Care Medicine, ESICM	Hamada	Short-term mortality after continuous renal replacement therap maintenance hemodialysis patients: A scoring system of short-t mortality risk after CRRT
2017	Peritoneal Dialysis International	Hoffman	Outcomes of PD patients at 6 months
2017	Nephrology Dialysis Transplantation	Ito	Peritoneal dialysis and hemodialysis; A survival comparison in th old patients in Japan
2017	Clinical Epidemiology	Janmaat	Effect of glomerular filtration rate at dialysis initiation on surviva patients with advanced chronic kidney disease: What is the effe time bias?
2017	Nutrients	Kang	Nutritional status predicts 10-year mortality in patients with end renal disease on hemodialysis
2017	Nephrology	Kanno	Suboptimal initiation predicts short-term prognosis and vulnera among very elderly patients who start hemodialysis
2017	Journal of Nephropathology	Khazaei	Predictors of long-term survival of hemodialysis patients in Ham province, west of iran
2017	PLoS ONE	Kim	Lower education level is a risk factor for peritonitis and techniqu but not a risk for overall mortality in peritoneal dialysis under comprehensive training system
2017	Indian Journal of Nephrology	Kirushnan	Impact of malnutrition, inflammation, and atherosclerosis on th in hemodialysis patients
2017	Transplantation	Laham	Nonprogrammed Vascular Access Is Associated with Greater Mo Patients Who Return to Hemodialysis with a Failing Renal Graft
2017	Kidney Research and Clinical Practice	Lee	Heart rate is associated with mortality in patients undergoing co renal replacement therapy
2017	American Journal of Nephrology	Nee	Pre-End-Stage Renal Disease Care and Early Survival among Inci Dialysis Patients in the US Military Health System
2018	Palliative Medicine	Forzley	External validation and clinical utility of a prediction model for 6 mortality in patients undergoing hemodialysis for end-stage kid
2018	BMC Nephrology	Hall	Association of Kidney Disease Quality of Life (KDQOL-36) with m hospitalization in older adults receiving hemodialysis
2018	Tehran University	Jahantigh	A model for predicting peritoneal dialysis patients' survival, usin

	Medical Journal		mining algorithms. [Persian]
2018	PLoS ONE	Jung	Individualized prediction of mortality using multiple inflammato in patients on dialysis
2016	BMC Neph	Ayav	Competing risk of death and end-stage renal disease in incident kidney disease (stages 3 to 5): the EPIRAN community-based stu
2016	Clin Kid J	Pugh	Frailty and comorbidity are independent predictors of outcome referred for pre-dialysis education
2016	Int J Cardiology	Anker	Development and validation of cardiovascular risk scores for hae patients
2015	Int J Med Sci	Cao	Predicting One-Year Mortality in Peritoneal Dialysis Patients: An Analysis of the China Peritoneal Dialysis Registry
2015	PLoS ONE	Park	Recalibration and Validation of the Charlson Comorbidity Index Incident Hemodialysis Patients
2015	Ing J Gerontology	Wu	The Effects of Survival Predictors before Hemodialysis Initiation in Adults and the Elderly
2015	Nephron	Grincenkov	Impact of baseline health-related quality of life scores on surviva incident patients on peritoneal dialysis: a cohort study
2016	Int Urology & Nephrology	Griva	Predicting technique and patient survival over 12 months in per dialysis: the role of anxiety and depression.
2014	Blood Purification	Chua	Predicting first-year mortality in incident dialysis patients with e renal disease - the UREA5 study
2014	J Cardiology	Takahashi	Geriatric nutritional risk index accurately predicts cardiovascula in incident hemodialysis patients
2016	Clin Nutrition	Beberashvili	Geriatric nutritional risk index, muscle function, quality of life ar outcome in hemodialysis patients
2016	Revista Latino-America de Enfermagem	de Oliveira	Health-related quality of life as a predictor of mortality in patier peritoneal dialysis
2015	J Renal Nutrition	de Roij van Zuijdewijn	A Comparison of 8 Nutrition-Related Tests to Predict Mortality i Hemodialysis Patients
2015	PLoS ONE	Kanda	Importance of simultaneous evaluation of multiple risk factors f hemodialysis patients' mortality and development of a novel ind outcomes and practice patterns study
2016	J Renal Nutrition	Santin	Concurrent and Predictive Validity of Composite Methods to Ass Nutritional Status in Older Adults on Hemodialysis
2014	Eur J Clin Investigation	Zhao	Risk score to predict mortality in continuous ambulatory peritor patients
2014	Perit dial int	Kumar	PREDICTORS OF PERITONITIS, HOSPITAL DAYS, AND TECHNIQUE FOR PERITONEAL DIALYSIS PATIENTS IN A MANAGED CARE SETT
2016	Clin Exp Nephrol	Inaguma	Physical function at the time of dialysis initiation is associated w subsequent mortality
2017	PLoS ONE	Magalhaes	Predictive factors of one-year mortality in a cohort of patients u urgent-start Hemodialysis
2016	Iranian J Kidney Disease	Ossarah	Survival of Patients on Hemodialysis and Predictors of Mortality

2014	Int Urology & Nephrology	Serafinceanu	Impact of gender and dialysis modality on early mortality risk in ESRD patients
2016	J Renal Nutrition	Caetano	Body composition and Mortality Predictors in HD patients
2015	Nephron	Bossola	Fatigue is associated with Increased Risk of Mortality in Patients Hemodialysis
2018	BMC Nephrology	Cai	Prognostic value of inflammation-based prognostic score is on o patient is undergoing continuous ambulatory peritoneal dialysis
2018	Nephrology Dialysis Transplantation	Fitzpatrick	Frailty, body composition and the risk of mortality in incident he patients: the Predictors of Arrhythmic and Cardiovascular Risk i Renal Disease study
2018	Nephrology Dialysis Transplantation	Fukuma	Development and validation of a production mono for loss of ph function in elderly hemodialysis patients
2018	Nephrology Dialysis Transplantation	Guinea	Survival and comorbidity in patients on renal replacement thera
2018	Perit dial int	Kamijo	Sarcopenia and frailty in PD: Impact on mortality, malnutrition, inflammation
2018	Blood Purification	Lai	Factors associated with functional performance among patients hemodialysis in Taiwan
2018	Kidney Blood Pressure and Research	Zhang	Derivation and validation of risks scores to predict cerebrovascu mortality among incident peritoneal dialysis patients

Supplemental Table 2 Overview of predictive variables by index

Variables included in predictive indices

Index	Age	Gender	Race	Functional Status	Comorbidities	BMI/weight loss/ nutritional status	Albumin	GFR/ creatinine	Other Labs	CKD etiology	Context	Access type	Smoking	Hospitalizations/ readmissions	Other
ACPI	X				X										
AROii	X				X	X	X	X	X	X		X	X		X
Barthels				X											
CCI	X				X										
CCI Beddhu	X				X										
CCI Di Iorio	X													X	
CCI Hemmelgarn	X				X										
Davies					X										
Doi				X	X			X	X						X
ESRD-SI					X										
Foley	X				X										X
Hospice Eligibility Criteria				X		X	X							X	
Ivory	X				X	X				X	X				
Karnofsky				X											
Khan-Wright	X				X										
mCCI-IPD	X	X			X										
NCI-Liu					X										
NYHA				X*											
Obi low	X		X		X	X		X	X						
Obi high															
REIN				X	X	X					X				X

REIN abbreviated					x	x					x				x
REIN updated	X	X		X	X		X								X
SF 36 PCS	N/A Survey responses														
SF 36 MCS	N/A Survey responses														
RMRC	X	X		X	X	X				X	X				
Rule based model	Complex computerized algorithm														
Thamer Simple	X			X	X		X							X	
Thamer comprehensive	X	X	X	X	X		X	X			X	X		X	
Van Manen	X				X										
Wagner	X	X	X		X		X	X	X		X		X		X
Wick	X				X			X						X	
Complex frailty				X	X	X	X								X

* symptoms affecting functional status. Other included; behavioral disorder (REIN and updated REIN), dementia and risk of delirium (Complex Frailty), ventilator dependency (Foley), ESA non use (Doi) Treatment modality (Wagner) and Dialysis blood flow (AROii)

Supplemental Table 3 Predictive Variables and scoring of Included Indices

Index	Studies Utilizing Index	Predictive Variables	Score Cutoffs and Associated Mortality Risk

Age-comorbidity prognostic index (ACPI)	Fernandez Lucas et al, 2007 Marinovich et al, 2010	Points assigned based on: 2 - Age 50-60 yr 3 - Age >60 yr 3 - Ischemic heart disease w/ CHF 1 - Noncontrolled hypertension 1 - Atrial fibrillation 1 - COPD 1 - GI disease 2 - Systemic diseases 2 - Diabetes 2 - PVD 4 - Malignancy <5 years	Score 0-1 2-4 ≥5	3yr mortality 11% 23% 46%
AROii	Floege et al, 2015	Age Smoking status Cardiovascular disease history Cancer history CKD etiology BMI Vascular access Dialysis blood flow Serum hemoglobin Serum ferritin Serum CRP Serum albumin Serum creatinine Serum total calcium	Score 5 6-10 ≥ 11 Includes Nomogram figure	1 yr mort <9% 9-<19% 15- <29	2 yr mort <15% ≥19% ≥29%
Barthels	Inaguma et al, 2017	Points assigned based on independence in the following factors: Eating Washing Dressing Personal hygiene Stools Micturition Use of restroom Movement Walking Stairs	Score 100 (H) 75-99 (M) <75 (L)	Mortality (unclear f/u time) 12% 24% 38%
CCI	Fernandez Lucas et al, 2007 Fried et al, 2001	Points assigned based on: 1 - Age 50-60 yr	Variable cutoffs in different studies. High risk defined as ≥6-8 with mortality	

	Hemmelgarn et al, 2003 Kan et al, 2013 Marinovich et al, 2010 van Manen et al, 2002 Gomez et al, 2015 Wick et al, 2017	2 - Age 60-70 yr 3 - Age >70 yr 1 - Myocardial infarction 1 - CHF 1 - CVD 2 - Hemiplegia 1 - Dementia 1 - PVD 1 - COPD 1 - GI disease 1 - Systemic diseases 1 - Diabetes 2 - Diabetes w/ end organ damage 1/2/3 - Mild/moderate/severe liver disease 1 - Connective tissue disease 1 - Peptic ulcer disease 2 - Moderate or severe renal disease 2 - Tumor without metastasis 2 - Leukemia/lymphoma 6 - Metastatic solid tumor 6- AIDS	presented in KM curves without giving absolute survival cutoffs.	
CCI (Beddhu)	Beddhu et al, 2002	CCI – modified Beddhu scored all patients with any form of coronary artery disease instead of only assigning 1 point to those with a prior myocardial infarction	**Score** ≤3 4-5 ≥6	**HR for death** 1 Referent 7.5 7.6
CCI (Di Iorio)	Di Iorio et al, 2004	CCI + 1 point for each day of non-surgical hospitalization	**Score** ≥6	**Mortality rate/ dialysis years** ~60%

CCI (Hemmelgarn)	Hemmelgarn et al, 2003 Geddes et al, 2006 Fernandez Lucas et al, 2007 Marinovich et al, 2010 Gomez et al, 2015	CCI with the following weights based on Cox modeling: 2 - Myocardial infarction 2 - CHF 2 - CVD 1 - Dementia 1 - PVD 1 - COPD 2 - Diabetes 1 - Diabetes w/ end organ damage 2 - Moderate/severe liver disease 1 - Connective tissue disease 1 - Peptic ulcer disease 2 - Leukemia 5 - Lymphoma 10 - Metastatic solid tumor	**Score =>** 9-15 6-8 4-5 2-3 0-1	**survival** <3months 3-12 months 12-24 months 24-60 months >60 months [46]
mCCI-IPD	Cho et al, 2017	Age Sex Comorbidities: Mild liver disease Chronic pulmonary disease Myocardial infarction Hemiplegia Congestive heart failure Diabetes Any tumor (including leukemia and lymphoma) Cerebrovascular disease Diabetes with end-organ damage Moderate to severe liver disease Metastatic solid tumor	Score 0 1-3 ≤ 25th percentile 4-5 25th – 75th percentile ≥6 > 75th percentile	Kaplan Meier curves
Davies (Stoke Comorbidy Grade SCG)	Davies et al, 2002 van Manen et al, 2002	1 - Malignancy 1 - Ischemic heart disease 1 - Peripheral vascular disease 1 - Left ventricular dysfunction 1 - Diabetes mellitus 1 - Systemic collagen vascular disease 1 - Other significant pathology sever e enough to have an impact on survival	Score 0 Low 1-2 Medium ≥3 High	Mortality (unclear f/u time) 23% 50% 64%

Doi	Doi et al, 2015	Points assigned based on: 1 - eGRF>7 mL/min per 1.73 1 - serum albumin<3.5 g/dl 2 - serum calcium>8.5 mg/dl 2 - modified CCI 1-2 3 - modified CCI >=3 1 - performance status 1-2 3 - performance status 3-4 2 - ESA non-use	Score 0-4 5-6 7-8 9-12	1 yr mortality 2.5% 5.5% 15.2% 28.9%
ESRD-SI (RDSS)	Postorino et al, 2007	11 disease categories rated on a scale of 0-10 with complex coding scheme [79] Heart disease Cerebral Vascular Disease Peripheral vascular disease Peripheral neuropathy Bone disease Respiratory disease Visual impairment Autonomic neuropathy and gastrointestinal disease Access and dialysis events Diabetes Other	Score 0-20 21-40 >40	Hazard Ratio 1 referent 2.05 (1.66–2.55) 4.59 (3.06–6.87)
Foley	Foley et al, 1994 Barrett et al, 1997	Points assigned based on: 1 - Age <50 2 - Age 51-60 3 - Age 61-70 4 - Age >70 1/2 - Moderate/severe cardiac failure 1/2 - Moderate/severe ischemic heart disease 2 - Arrhythmia requiring therapy 2 - Severe PVD 2 - Advanced neoplasia 4 - Comatose 4 - Sepsis 4 - Hepatic failure 4 - Ventilator dependence	Score => <4 5-6 7-8 9≤ 10≤	6 month mortality 4% 33% 47% 90% 100%
Hospice eligibility	Cheung et al, 2014	Evaluated the five general clinical criteria since most	Score	6 month mortality

criteria		patients would meet the disease-specific criteria for ESRD: 1. Readmission within 2 month 2. Use of home care services 3. Dependence in ≥3 activities of daily living 4. Weight loss >2.3 kg 5. Albumin <25 g/L		Age 67-74 0 5.7 1 13.5 2 22.5 ≥3 39.3	Age 75-84 9.0 19.7 32.1 47.7	Age 85+ 14.9 28.2 39.8 51.2
Ivory	Ivory et al, 2017	1.6 - Age, per 10 years BMI Category 2 - Underweight 0 - Normal weight -1 - Overweight/Obese 1 - Chronic Lung Disease 2 - Coronary Artery Disease 1 - Peripheral Vascular Disease 3 - Cerebrovascular Disease and age <60 y 1 - Cerebrovascular Disease and age 60+ y 3 - Late referral Primary renal disease 0 - Diabetic Nephropathy, Gomerulonephritis or hypertension -2 - Polycystic 2 - Other	Score 6 or less 6.1-10 10.1-14 14.1-18 18.1 or above	6 mo mortality 0.5% 1.7% 5.0% 12.0% 20.5%		

Karnofsky	Lopez Revuelta et al, 2004	100 - Normal no complaints; no evidence of disease. 90 - Able to carry on normal activity; minor signs or symptoms of disease. 80 - Normal activity with effort; some signs or symptoms of disease. 70 - Cares for self; unable to carry on normal activity or to do active work. 60 - Requires occasional assistance, but is able to care for most of his personal needs. Unable to work; 50 - Requires considerable assistance and frequent medical care. 40 - Disabled; requires special care and assistance. 30 - Severely disabled; hospital admission is indicated although death not imminent. 20 - Very sick; hospital admission necessary active supportive treatment necessary. 10 - Moribund; fatal processes progressing rapidly. Unable to care for self; requires equivalent of institutional or hospital care; disease may be progressing rapidly. 0 - Dead			
Khan-Wright	Khan et al, 1993 Khan et al, 1998 van Manen et al, 2002 Marinovich et al, 2010 Postorino et al, 2007	Patients divided into the following risk groups: *Low:* Age <70 and no comorbid illness *Medium:* Age 70-80 years OR Age <80 with angina, previous MI, CHF, COPD, pulmonary fibrosis, or liver disease OR Age <70 with diabetes *High:* Age >80 years OR Any age with two or more organ dysfunctions in addition to ESRD OR any age with diabetes and cardiopulmonary disease OR any age with visceral malignancy	Score Low (1) Med (2) High (3)	2 yr 10% 30% 54%	HR 1 Referent (60) 2.77 (2.14–3.57) 5.07 (3.94–6.53)

Multi factorial frailty score	Lee et al,	Three categories for each of the following, scored 0, 1 and 2 Malignant disease CCI Albumin mg/g ADL (Modified Barthel's) IADL (Lawton and Brody Index) Dementia (K-MMSE) Risk of delirium (NDS) Malnutrition (MNA) Mid-Arm circumference		HR Frailty defined as a score of ≥10 Frailty yes vs. no 4.03 (0.96-16.93) p = 0.057 Every 1 point score increase 1.63 (1.01-2.65; p=0.047)
New Comorbitity Index (nCI)	Kan et al, 2013 Cheung et al, 2014	Points assigned based on the following comorbidities: 1 - Diabetes 3 - CHF 1 - CAD 2 - CVD 2 - PVD 2 - Other cardiac disease 2 - Arrhythmia 2 - COPD 2 - GI bleeding 2 - Liver disease 2 - Cancer	Score ≤3 4-6 7-9 ≥10 Score ≤3 4-6 7-9 ≥10	Life expectancy 65-69 y / 75-79 y / ≥85 y 6.42 / 4.97 / 3.05 5.14 / 4.08 / 2.82 4.39 / 3.48 / 2.55 3.79 / 3.22 / 2.13 6 month mortality [45] 67-74 y / 75-84 y / ≥85 y 6.5% / / 30.6% 11.4% / 12.4% / 27.6% 15.1% / 17.2% / 32.3% 23.7% / 20.1% / 30.7% / 38.4%
NYHA Classification	Postorino et al, 2007	NYHA classification: Class 0: No functional limitations Class 1: Occasional exertional dyspnea Class 2: Ordinary physical activity results in dyspnea Class 3: Marked limitation of physical activity Class 4: Symptoms of heart failure at rest	Score 0 1 2 **3–4**	Hazard Ratio 1 referent 1.47 (1.17–1.85) 2.49 (1.79–3.47) 3.18 (2.22–4.55)

Obi low gfr	Obi et al, 2018	Cox proportional hazards based on Age (categorized) Race Hispanic ethnicity Cause of ESRD Comorbidities BMI Last eGFR Laboratory tests	Score deciles < -1 > -1 to -0.687 > -0.687 to -0.449 > -0.449 to -0.231 > -231 to – 0.0144 > -0.0144 to 0.201 > 0.201 to 0.436 > 0.436 to 0.686 > 0.686 to 1.02 > 1.02	Mortality 4% 7.3% 9.7% 12.2% 14.7% 18.0% 22.2% 26.8% 34.7% 51%
Obi high gfr	Obi et al, 2018	Same as above but different weights and comorbities.	Score deciles ≤-0.863 >-0.863 to -0.54 >-0.54 to -0.314 >-0.314 to -0.133 >-0.133 to 0.0393 >0.0393 to 0.201 >0.201 to 0.364 >0.364 to 0.534 >0.534 to 0.798 >0.798	Mortality 13.1% 18.4% 26.5% 31.1% 35.3% 40.1% 46.0% 51.5% 59.8% 74.1%
REIN score	Couchoud, 2010 Otero-Lopez et al, 2012 Cheung et al, 2014 Thamer et al, 2015 Peeters et al, 2016	Points assigned based on the following: 2 - BMI < 18.5 kg/m^2 1 - Diabetes 2 - CHF 1 - Dysrhythmia 2 - Severe PVD 1 - Active malignancy 2 - Severe behavioral disorder 3 - Dependence for transfers 2 - Unplanned dialysis	Score 0-1 2 3-4 5-6 7-8 Score ≤4 5-6 7-8 ≥9	6 month Mortality 8% 14% 26% 35% 51% 3 month 3% 9% 15% 25%	12 month [65] 9% 26% 34% 53%

			Score	67-74 y	75-84 y	≥85 y
			0-3	8.3%	13.0%	19.1%
			4-5	13.9%	20.3%	30.5%
			6-7	19.8%	26.4%	34.8%
			≥8	29.1%	36.1%	44.2%
SF-36 PCS and SF-36 MCS	Lopez Revuelta, 2004	Survey Instrument: https://www.rand.org/health/surveys_tools/mos/36-item-short-form/survey-instrument.html Instructions for scoring: https://www.rand.org/health/surveys_tools/mos/36-item-short-form/scoring.html			
Updated REIN score	Couchoud et al, 2015	Points assigned based on the following: 1 - Male 2 - Age 85-90 years 3 - Age >90 years 2 - CHF stage I-II 4 - CHF stage II-IV 1 - PVD stage III-IV 1 - dysrythmia 2 - cancer 2 - severe behavioral disorder 4 - need assistance to transfer 9 - totally dependent to transfer 5 - albuminemia<25 3 - albuminemia 25-30 2 - albuminemia 30-35	Score <12 12-16 ≥17	3 month mortality <20 20-40% ≥40%	
RMRC	Mauri et al, 2008 Otero-Lopez et al, 2012	Logistic regression model based on : Age Sex Primary renal disease Functional autonomy degree Cardiovascular disease COPD Malignant processes Chronic liver disease Malnutrition Vascular access type	Score cutoffs not defined. Presented as deciles of risk.		

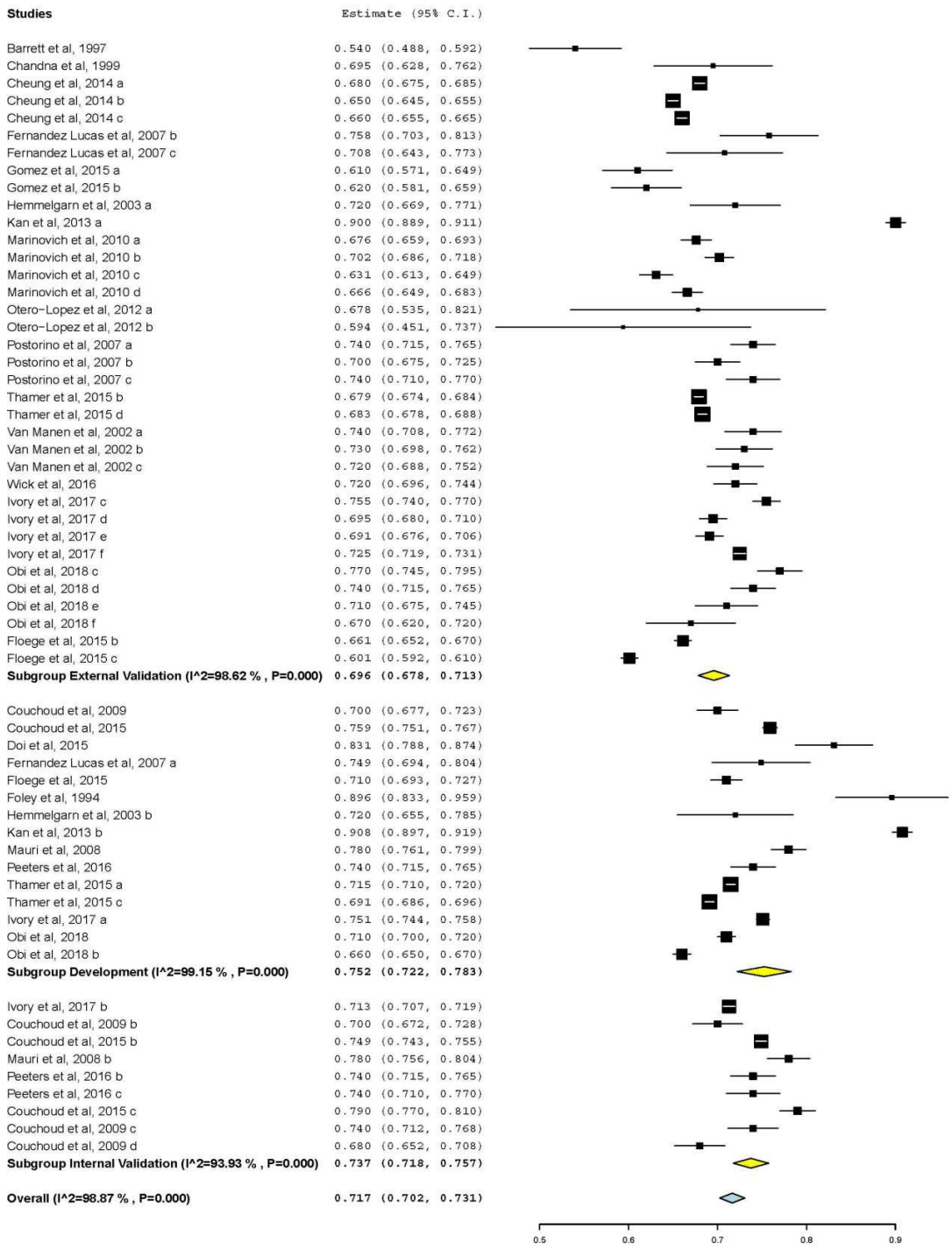
Rule based model	Geddes et al, 2006	Computerized algorithm	**Not reported**		
Thamer – simple	Thamer et al, 2015	Points assigned based on the following:	Score	mortality	
		0 - Age < 70		3 month	6 month
		1 - Age 70-84			
		2 - Age 85-89	0	2%	4%
		3 - Age ≥ 90	2	3%	7%
		1 - Albumin < 3.5 g/dL	3	12%	20%
		1 - Needs assistance in daily living	4	17%	27%
		1 - Lives in nursing home	5	22%	35%
		1 - Cancer or history of cancer	6	28%	44%
		1 - CHF	7	34%	49%
		1 - Hospitalized more than once or > 1 month in the last year	≥8	39%	55%
Thamer – comprehensive	Thamer et al, 2015	Cox proportional hazards based on [52] Age Sex Race Catheter use No or late nephrology referral Albumin Creatinine Needs assistance in daily living or walking Living in Nursing home Cancer Peripheral vascular disease Alcohol problem CHF No of hospitalizations in previous 6 months	Detail not provided risk deciles with mortality 2% to just shy of 30% in Figure 2		

Van Manen	Van Manen et al 2002	Cox proportional hazards based on Age (categorized) DM (years insulin dependent vs not) Renal vascular disease Malignancies (previous, current) Liver Cirrhosis COPD Stroke Myocardial infarction Angina (severity rated) CHF (severity rated) Other heart diseases Peripheral Vascular Disease Systemic collagen disease	Score cutoffs not provided
Wagner	Thamer et al, 2015 Ivory et al, 2017	Cox proportional hazards based on [27] Age Gender Treatment modality Race Cause of ESRD DM CVD Smoking Hemoglobin Albumin Creatinine Calcium	Score cutoffs not provided Score 3mo-3yr risk Low 7% Intermediate 20% High 34% Very High 59%
Wick	Wick et al, 2017	0 - Age < 79 2 - Age 80+ 0 – eGFR 0-9.9 1 – eGFR 10-14.9 3 – eGFR 15+ 2 – Atrial Fibrillation 2 – CHF 5 - Lymphoma 3 – Metastatic Cancer 2 - Hospitalized in the last 6 months	Score 6 month mortality <5 <25% >12 >50%ss

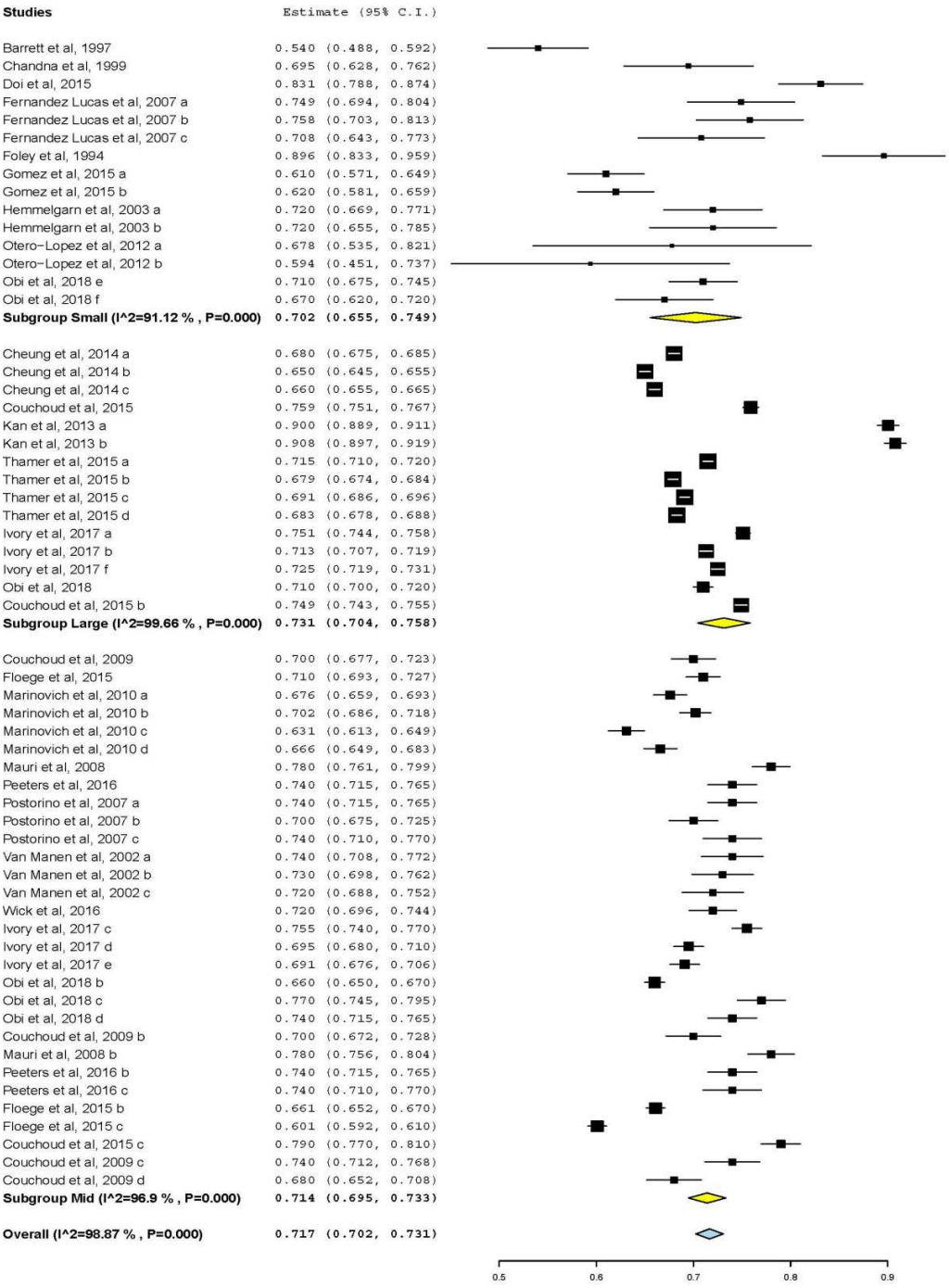
1
2
3

1
2

Supplemental Figure 1. Meta-Analysis by validation status



Supplemental Figure 8. Meta-Analysis by Cohort Size



Supplemental Figure 9. Meta-Analysis for cohorts >75 mean age

