Supplemental Material Table of Contents

Supplemental Appendix 1. Administrative codes for identifying treatments, procedures, and additional comorbidities (dialysis, palliative care, intensive procedures, acute hospitalizations and ICU admissions, and comorbidities).

Supplemental Appendix 2. Methods for handling missing data (unit nonresponse and item nonresponse).

Supplemental Table 1. Unadjusted proportions of end-of-life treatment patterns for overall cohort.

Supplemental Table 2. Association of dialysis treatment status with end-of-life treatment patterns.

Supplemental Table 3. Comparison of respondent & non-respondent characteristics.

Supplemental Table 4. Unadjusted proportions for most favorable responses on Bereaved Family Survey for overall cohort.

Supplemental Table 5. Association of dialysis treatment status with most favorable responses on Bereaved Family Survey, additionally adjusted for end-of-life treatment patterns.

Supplemental Table 6. Sensitivity analysis of association of end-of-life treatment and dialysis treatment status with excellent overall care: cohort entry after September 2009.

Supplemental Table 7. Sensitivity analysis of association of dialysis treatment status with most favorable response on Bereaved Family Survey individual items: cohort entry after September 2009.

Supplemental Table 8. Demographic and clinical characteristics of those who died in VA inpatient settings vs. non-VA inpatient or community settings.

Supplemental Appendix 1. Administrative codes for identifying treatments, procedures, and additional comorbidities

(dialysis, palliative care, intensive procedures, acute hospitalizations and ICU admissions, and comorbidities).

a. Dialysis

International Classification of Diseases, 9th Edition Clinical Modification (ICD9-CM)

- 39.95 Hemodialysis
- 54.98 Peritoneal dialysis

International Classification of Diseases, 9th Edition Procedural Code (ICD9-PCS)

- V45.11 Postsurgical renal dialysis
- V45.12 Noncompliance with renal dialysis
- V56.0 Adequacy testing for hemodialysis
- V56.1 Fitting and adjustment of extracorporeal dialysis catheter
- V56.2 Fitting and adjustment of peritoneal dialysis catheter
- V56.31 Adequacy testing for hemodialysis
- V56.32 Adequacy testing for peritoneal dialysis
- V56.8 Adequacy testing for peritoneal dialysis

Current procedural terminology (CPT) codes

- 90921 ESRD related services for recipient 20+ years old
- 90925 Home dialysis (20 + years old)
- 90935 Inpatient or outpatient dialysis
- 90937 Inpatient dialysis or outpatient
- 90945 Inpatient dialysis or E&M for dialysis patients
- 90947 Inpatient dialysis or E&M for dialysis patients
- 90960 Hemoperfusion
- 90961 Outpatient dialysis (20+ years old)
- 90962 Outpatient dialysis (20+ years old)
- 90966 Home dialysis (20+ years old)
- 90970 Outpatient dialysis (20+ years old)
- 90997 Hemoperfusion
- 90999 Unlisted dialysis procedure, inpatient or outpatient
- 99512 Home visit for hemodialysis
- 99559 Home infusion of peritoneal dialysis

Clinic stop codes

- Acute dialysis treatment
- Maintenance assisted hemodialysis
- 603 Limited self-hemodialysis
- Home hemodialysis training
- Acute peritoneal dialysis treatment
- Maintenance assisted peritoneal dialysis
- 607 Limited self-peritoneal dialysis
- Home peritoneal dialysis training
- Home hemodialysis treatment
- 610 Contract dialysis

b. Palliative care

Palliative care consultation

VA clinic stop codes 351 or 353 at a complexity of Level 3 or higher (CPT codes 99241-99245 or 99251-99255) within 90 days of death

Palliative care visits can occur in inpatient or outpatient settings

Hospice services

VA bed section 96 or 1F

c. Intensive procedures

Feeding tube placement.

ICD-9-PCS

- 43.11 Percutaneous (endoscopic) gastrostomy (PEG)
- 43.19 Feeding tube placement, laparascopic
- 44.32 Percutaneous (endoscopic) gastrojejunostomy
- 46.32 Percutaneous (endoscopic) jejunostomy (PEJ)
- 46.39 Duodenostomy, feeding enterostomy

CPT codes

- 43246 Upper GI endoscopy with insertion of the gastrostomy tube
- 43653 Laparoscopy, surgical; gastrostomy, without construction of gastric tube
- 43760 Change of gastrostomy tube without imaging or endoscopic guidance
- 43830 Open Gastrostomy
- 43832 Gastrostomy, open with construction of gastric tube
- 44015 Jejunostomy any method
- 44186 Laparoscopy, surgical; jejunostomy (e.g., for decompression or feeding)
- 44372 Endoscopy with percutaneous jejunostomy placement
- 44373 Conversion of gastrostomy to jejunostomy
- 49440 Insertion of gastrostomy tube, percutaneous
- 49441 Insertion of duodenostomy or jejunostomy tube, percutaneous
- 49446 Conversion of gastrostomy tube to gastrojejunostomy tube
- 49450 Replacement of gastrostomy tube or cecostomy tube
- 49451 Replacement of duodenostomy or jejunostomy
- 49452 Replacement of gastrojejunostomy tube

Enteral or parenteral nutrition

ICD-9-PCS

- 96.6 Enteral infusion of concentrated nutritional substances
- 99.15 Parenteral infusion of concentrated nutritional substances

Intubation/mechanical ventilation

ICD-9-PCS

- 96.04 Insertion of endotracheal tube
- 96.05 Other intubation of respiratory tract
- 96.7X Continuous invasive mechanical ventilation

Tracheostomy

ICD-9-PCS

- 31.1 Temporary tracheostomy
- 31.2 Permanent tracheostomy
- 31.29 Other permanent tracheostomy
- 31.21 Mediastinal tracheostomy

Cardiopulmonary resuscitation

ICD-9-PCS

- 99.6 Cardiopulmonary resuscitation, not otherwise specified
- 99.63 Closed chest cardiac massage

d. Acute hospitalizations and ICU admissions

Acute hospitalizations in the VA were identified using medical/surgical bed section codes in the MedSAS inpatient datasets and acute hospitalizations occurring outside the VA were identified using Medicare inpatient claims and VA Fee Basis inpatient authorizations from the VA Corporate Data Warehouse (CDW). Admissions to the ICU were ascertained using bed section codes in the VA and revenue center codes in Medicare institutional claims. It was not possible to determine ICU stays in VA Fee Basis Files.

e. Comorbidities

We required at least one inpatient and two outpatient claims during the year before death for a given diagnosis. Dementia Diagnosis (Codes from Fujiyoshi, et al. 23 added to revised Charlson category 22)

ICD-9-CM

- 294.X Persistent mental disorders due to conditions classified elsewhere
- 330.9 Degenerative disease of nervous system, unspecified*
- 331.0 Alzheimer's disease
- 331.1 Frontotemporal dementia
- 331.82 Dementia with Lewy body
- 331.83 Mild cognitive impairment
- 331.9 Cerebral degeneration unspecified
- 438.0 Cognitive deficits, late effects of cerebrovascular disease
- 780.93 Memory loss

Peripheral vascular disease diagnosis (Codes from United States Renal Disease System¹ added to revised Charlson diagnostic category²²)

ICD-9-CM

- 443.9 Peripheral vascular disease, unspecified
- 444.0 Embolism and thrombosis of abdominal aorta
- 444.1 Embolism and thrombosis of thoracic aorta
- 444.21 Arterial embolism and thrombosis of upper extremity
- 444.22 Embolism and thrombosis of arteries of the lower extremities
- 444.81 Embolism and thrombosis of iliac artery
- 444.9 Embolism and thrombosis of unspecified artery
- 447 Other disorders of arteries and arterioles
- 557 Vascular insufficiency of intestine

^{*}Not in original article by Fujiyoshi, et al.²³ but required due to ICD-10 General Equivalence Mappings

Supplemental Appendix 2. Methods for handling missing data (unit nonresponse and item nonresponse).

Survey nonresponse: The propensity to respond was estimated using a logistic regression of a range of variables on the response indicator variable. These propensities were used to form ten adjustment strata. Respondents were then weighted by decile of the inverse of the observed response rate in each strata, referred to as response propensity stratification. This method is less reliant on the correct response propensity model than using the inverse of the response propensity and avoids extreme weighting for very small estimated response propensities. We included variables that were independently associated with survey response at a significance $P \le 0.1.26$ These included: dialysis treatment status, age, race, gender, relationship of next of kin, the following comorbidities: dementia, diabetes, peptic ulcer, dyslipidemia, hemiplegia paraplegia, any malignancy (not including metastatic solid tumor), congestive heart failure, coronary artery disease, cirrhosis, and venous thromboembolism and pulmonary embolism, quantile of Quan score (revised Charlson score for administrative data), 22 quintile of hospital days in last 90 days, admission to an ICU in last 30 days, and quantile ICU days in last 30 days, indicator for receipt of one or more intensive procedures in the last 30 days, indicator for specific intensive procedures in the last 30 days (including tracheostomy, cardiopulmonary resuscitation, mechanical ventilation, enteral nutrition), palliative care consultation in the last 90 days, hospice services at time of death, setting of death (ICU, acute ward, inpatient hospice or palliative care unit, or VA nursing home), fiscal year of death, region, facility complexity, and bereavement contact after death.

Item nonresponse: To adjust for item non-response (Supplemental Table 4), we used multiple imputation by chained equations (MICE) which fits a series of regression models for each missing variable conditional upon a range of variables. Variables were included if they would theoretically have a relationship with either the global item on the overall quality of care or survey response or were included in subsequent models. These included: all variables included for non-response weighting, in addition to all bereaved family survey items (including three survey items related to benefits not included in as outcomes in our analyses), HIV, peripheral vascular disease, cerebrovascular disease, cardiopulmonary disease, rheumatic disease, metastatic solid tumor, debility or failure to thrive, interaction term between hospice services at death and palliative care consultation in last 90 days, cardiopulmonary resuscitation, feeding tube placement, and quintiles of response probability. MICE was performed with 20 burn-in iterations and 30 imputations. Trace plots of the iterations were examined for convergence and the fraction of missing information and Monte Carlo Error of the estimates were examined to ensure efficiency and reproducibility of all analyzed imputed data.²⁴

Supplemental Table 1. Unadjusted proportions of end-of-life treatment patterns for overall cohort

Treatment	%					
High Intensity Treatment						
2+ wks in hospital in last 90 d	54					
ICU admission in last 30 d	47					
Intensive procedure in last 30 d	34					
Setting of death						
Intensive care unit	31					
Acute ward	27					
Nursing Home	16					
Hospice & palliative care unit	26					
Palliative & hospice care						
Palliative care consult in last 90 d	38					
Hospice services at time of death	36					

N = 9,993

Supplemental Table 2. Association of dialysis treatment status with end-of-life treatment patterns

Treatment		Unadjusted			Adjusted ^a	
Dialysis Treatment Status	N = 9,993		N = 9,993			
	%	Risk Difference,	P	%	Risk Difference,	P value
		(95% CI)	value		(95% CI)	
High Intensity Treatment						
2+ wks in hospital in last 90 d						
No dialysis	43.7	Reference		47.4	Reference	
Acute dialysis	72.2	28.5 (25.3 to 31.8)	< 0.001	68.4	21.0 (18.1 to 23.8)	< 0.001
Maintenance dialysis	58.1	14.4 (12.0 to 16.9)	< 0.001	53.4	5.9 (3.3 to 8.6)	< 0.001
ICU admission in last 30 d						
No dialysis	39.6	Reference		44.0	Reference	
Acute dialysis	64.4	24.8 (21.5 to 28.1)	< 0.001	58.1	14.1 (10.9 to 17.3)	< 0.001
Maintenance dialysis	54.0	14.4 (11.8 to 17.0)	< 0.001	48.9	4.9 (2.4 to 7.4)	< 0.001
Intensive procedure in last 30 d						
No dialysis	24.3	Reference		29.0	Reference	
Acute dialysis	57.2	32.9 (29.6 to 36.2)	< 0.001	50.2	21.2 (18.3 to 24.1)	< 0.001
Maintenance dialysis	41.8	17.5 (15.3 to 19.7)	< 0.001	35.5	6.5 (4.4 to 8.7)	< 0.001
Death in intensive care unit						
No dialysis	22.6	Reference		26.8	Reference	
Acute dialysis	48.8	26.2 (23.0 to 29.4)	< 0.001	41.5	14.6 (11.9 to 17.4)	< 0.001
Maintenance dialysis	38.4	15.8 (13.3 to 18.2)	< 0.001	32.9	6.0 (3.6 to 8.4)	< 0.001
Palliative and Hospice Care						
Palliative care consult in last 90						
d						
No dialysis	39.2	Reference		38.7	Reference	
Acute dialysis	35.5	-3.7 (-7.2 to -0.2)	0.04	37.6	-1.1 (-4.2 to 2.0)	0.50
Maintenance dialysis	37.4	-1.9 (-4.5 to 0.8)	0.17	37.5	-1.2 (-3.9 to 1.5)	0.39
Hospice services at time of						
death						
	40.0	Reference		39.2	Reference	
No dialysis	42.9			37.2	Reference	
No dialysis Acute dialysis	25.1	-17.8 (-20.9 to -14.6)	< 0.001	30.3	-8.9 (-12.0 to -5.8)	< 0.001

Logistic regression with no dialysis group as the reference group, standard errors adjusted for facility-level clustering; presented are the predicted probabilities over the distribution of covariates in the analytic sample, 95% CI and *P* values are for the differences in predicted probabilities; "model adjusted for race, age, gender, next of kin, region, facility complexity, year of death, and Charlson individual comorbidities.

Supplemental Table 3. Comparison of respondent & non-respondent characteristics

Variables	Respondents	Non- Respondents	P value
Total (%)	5,435 (54)	4,558 (46)	-
Dialysis Treatment Status		, ,	< 0.001
No dialysis	58	51	
Acute dialysis	11	12	
Maintenance dialysis	31	36	
Age, Mean (SD), y	77 (11)	74 (11)	< 0.001
Age group, %			< 0.001
<65	17	23	
65-74	23	27	
75-84	31	27	
85+	29	22	
Male sex, %	98	97	0.07
Race, %			< 0.001
Black	22	29	
White	76	69	
Other	2	3	
Next of Kin, %			< 0.001
Spouse/partner	47	32	
Child	31	40	
Sibling	10	12	
Other	12	16	
Comorbidities, %			
Diabetes Mellitus ^a	63	65	0.04
Congestive Heart Failure	67	65	0.02
Myocardial Infarction	28	27	0.35
Emphysema	54	56	0.09
Cirrhosis ^a	17	21	< 0.001
Cerebrovascular Disease	32	33	0.54
Peripheral Vascular Disease ^b	42	43	0.47
Dementia ^b	22	20	0.03
Cancer ^a	36	35	0.21
Region, %			0.17
New England	3	3	
Mid Atlantic	15	15	
East North Central	13	12	
West North Central	9	8	
South Atlantic	23	23	
East South Central	8	8	
West South Central	11	11	
Mountain	7	7	
Pacific	11	13	
Facility Complexity, %			< 0.001
High (Level 1a, 1b, 1c)	86	89	
Low (Level 2, 3)	14	11	

^aincludes both Charlson diagnostic categories of mild and severe; ^bdiagnostic categories expanded (Supplemental Appendix 1)

Supplemental Table 4. Unadjusted proportions for most favorable responses on Bereaved Family Survey for overall cohort

	% Most	% Missing
	Favorable	of $N = 5,435$
	Responsea	
Overall rating of patient's care in the last month of life, %	55	2
Staff willing to take time to listen, %	71	3
Staff provided the treatment that patient and family wanted, %	77	4
Staff were kind, caring, respectful, %	80	2
Staff kept patient and family informed, %	67	2
Personal care needs were taken care of, %	63	5
Provided patient and family spiritual support, %	59	4
Provided patient and family emotional support before death, %	60	3
Provided patient and family emotional support after death, %	66	4
Staff alerted family before the patient's death, %	81	9
Patient did not have pain, %	13	9
Patient usually not uncomfortable from pain, %b	50	17

^aDichotomized as most favorable response vs. all other responses; ^bpain item was dichotomized as "always" or "usually" vs. all other responses (including patients who did not have pain)

Supplemental Table 5. Association of dialysis treatment status with most favorable responses on Bereaved

Family Survey, additionally adjusted for end-of-life treatment patterns

Family Survey, additionally adjusted for end-of-life treat	1 1		ת 1
Bereaved Family Survey Item ^a	%	Risk Difference,	P value
Dialysis Treatment Status Excellent overall care		(95% CI)	
No dialysis	54.3	Reference	
· · · · · · · · · · · · · · · · · · ·	54.8	0.6 (-4.5 to 5.6)	0.83
Acute dialysis	51.1	-3.2 (-6.7 to 0.3)	
Maintenance dialysis Always took time to listen	31.1	-3.2 (-0.7 to 0.3)	0.07
No dialysis	70.7	Reference	
Acute dialysis	71.5	0.8 (-3.2 to 4.8)	0.69
Maintenance dialysis	67.4	-3.3 (-6.3 to -0.2)	0.09
Always gave wanted medication and treatment	07.4	-3.3 (-0.3 10 -0.2)	0.04
	76.1	Reference	
No dialysis	_		0.04
Acute dialysis	76.5	0.4 (-3.5 to 4.3)	0.84
Maintenance dialysis	73.6	-2.6 (-5.5 to 0.4)	0.09
Always kind, caring, respectful	80.3	Reference	
No dialysis	_		0.80
Acute dialysis	80.0	-0.3 (-4.5 to 3.9)	0.89
Maintenance dialysis	77.1	-3.2 (-6.4 to -0.0)	0.048
Always informed patient and family	(()	D - f	
No dialysis	66.0	Reference	0.40
Acute dialysis	67.9	1.9 (-2.5 to 6.2)	0.40
Maintenance dialysis	64.3	-1.7 (-4.9 to 1.6)	0.31
Always attended to personal care needs	62.1	D . C	
No dialysis	63.1	Reference	0.01
Acute dialysis	59.6	-3.5 (-9.0 to 1.9)	0.21
Maintenance dialysis	60.3	-2.7 (-6.3 to 0.8)	0.13
Always gave enough spiritual support	50.2	D. C	
No dialysis	59.2	Reference	0.62
Acute dialysis	57.9	-1.4 (-6.8 to 4.1)	0.63
Maintenance dialysis	56.8	-2.5 (-5.9 to 0.9)	0.15
Always gave enough emotional support before death	50.7	D. C	
No dialysis	59.7	Reference	0.16
Acute dialysis	56.3	-3.4 (-8.1 to 1.3)	0.16
Maintenance dialysis	58.8	-0.9 (-4.5 to 2.6)	0.62
Always gave enough emotional support after death		D 6	
No dialysis	65.4	Reference	0.50
Acute dialysis	66.8	1.4 (-3.9 to 6.6)	0.60
Maintenance dialysis	64.3	-1.1 (-4.9 to 2.6)	0.56
Alerted family before the patient's death	1 02 0		
No dialysis	82.0	Reference	
Acute dialysis	80.1	-1.9 (-6.4 to 2.6)	0.41
Maintenance dialysis	78.4	-3.6 (-6.8 to -0.4)	0.03
Patient's usually not uncomfortable from pain ^b			
No dialysis	49.1	Reference	
Acute dialysis	52.9	3.8 (-1.2 to 8.9)	0.14
Maintenance dialysis	47.2	-1.9 (-5.5 to 1.7)	0.31

Logistic regression with no dialysis group as the reference, standard errors adjusted for facility-level clustering; presented are predicted probabilities over the distribution of covariates in the respondent sample, 95% CI and *P* values are for differences in predicted probabilities; model adjusted for race, age, gender, next of kin, region, facility complexity, year of death, Charlson individual comorbidities, 2+ wks spent in hospital in last 90 d, ICU admission in last 30 d, intensive procedure in last 30 d, setting of death (ICU, acute ward, nursing home, inpatient or palliative care unit), palliative care services in last 90 d, hospice services at time of death, weighted for unit non-response, and missing items were imputed; "dichotomized as most favorable response vs. all other responses bpain was dichotomized as "never" or "sometimes" vs. "always" or "usually"

To address the possibility that survival bias may impact our findings, we additionally performed a sensitivity analysis for the relationship between the end-of-life treatment patterns, dialysis treatment status, and most favorable response on the BFS. We restricted the cohort entry to begin the same date as when Bereaved Family results were available (October 1, 2009). This sensitivity analysis included 5,971 cohort members, of whom 3,935 (66%) did not receive dialysis, 863 (14%) received acute dialysis and 1,173 (20%) received maintenance dialysis. The median time from cohort entry to death was 20.0 months (IQR, 8.2 to 35.0) for those treated with maintenance dialysis, 3.6 months (IQR, 0.7 to 12.3) for those who received acute dialysis, and 3.5 months (IQR, 0.4 to 14.0) for those not treated with dialysis. For maintenance dialysis, the median time from onset of end-stage kidney disease to the date of death was 16.2 months (IQR, 7.3 to 31.0). Overall, 3,227 (54%) completed the survey. Tables S6-S7 include the results from the sensitivity analysis.

Supplemental Table 6. Sensitivity analysis of association of end-of-life treatment and dialysis treatment status with excellent overall care: cohort entry after September 2009

Freatment ^a Unadjusted		Adjusted				
	$(N=3,072)^{\rm b}$		$(N=3,227)^{b,c}$			
	Yes	Risk Difference,	P	Yes	Risk Difference,	P
	(%)	(95% CI)	value	(%)	(95% CI)	value
Dialysis Treatment Status						
No Dialysis	51.0	Reference		55.8	Reference	
Acute dialysis	48.8	-2.2 (-7.9 to 3.6)	0.46	53.4	-2.5 (-8.0 to 3.1)	0.38
Maintenance dialysis	42.7	-8.2 (-12.9 to -3.6)	< 0.001	51.2	-4.5 (-9.4 to 0.3)	0.06
High Intensity Treatment						
2+ wks in hospital in last 90						
d						
No	60.1	Reference		57.6	Reference	
Yes	51.5	-8.6 (-12.0 to -5.3)	< 0.001	51.7	-5.8 (-9.6 to -2.1)	0.002
ICU admission in last 30 d						
No	58.1	Reference		55.5	Reference	
Yes	53.4	-4.7 (-8.2 to -1.2)	0.009	53.5	-2.0 (-5.7 to 1.8)	0.31
Intensive procedure in last						
30 d						
No	58.3	Reference		56.0	Reference	
Yes	50.5	-7.7 (-11.9 to -3.6)	< 0.001	51.5	-4.5 (-8.8 to -0.2)	0.04
Death in intensive care unit						
No	58.4	Reference		56.3	Reference	
Yes	49.3	-9.2 (-13.4 to -5.0)	< 0.001	50.5	-5.8 (-10.4 to -1.3)	0.01
Palliative and Hospice Care						
Palliative care consult in last						
90 d						
No	54.3	Reference		52.9	Reference	
Yes	58.2	3.9 (0.6 to 7.1)	0.02	56.7	3.8 (0.3 to 7.2)	0.03
Hospice services at time of						
death						
No	50.0	Reference		49.4	Reference	
Yes	64.5	14.5 (10.3 to 18.6)	< 0.001	62.8	13.4 (9.0 to 17.8)	< 0.001

Logistic regression with no dialysis as reference group for acute and maintenance dialysis and no receipt as reference group for endof-life treatment variables, standard errors adjusted for facility-level clustering; presented are the predicted probabilities over the
distribution of covariates in the respondent sample, 95% CI and *P* values are for the differences in predicted probabilities;
adichotomized as "excellent" vs. all other responses; benominators differ between unadjusted and adjusted models; cmissing items
were imputed, model adjusted for race, age, gender, next of kin, region, facility complexity, year of death, and individual Charlson
comorbidities, standard errors adjusted for facility-level clustering, weighted for unit non-response.

Supplemental Table 7. Sensitivity analysis of association of dialysis treatment status with most favorable response on Bereaved Family Survey individual items: cohort entry after September 2009

Bereaved Family Survey	rvey Unadjusted $N = 3,227$ Capacity Survey individual items: cohort entry after September 2009 Adjusted $N = 3,227$ Capacity Survey)c		
Item ^a	%	Risk Difference,	P	%	Risk Difference,	,
Dialysis Treatment Status	/0	(95% CI)	value	/0	(95% CI)	value
Always took time to listen		(7370 CI)	varue		(7570 CI)	varue
No dialysis	73.6	Reference		71.2	Reference	
Acute dialysis	69.3	-4.2 (-9.1 to 0.7)	0.09	70.7	-0.5 (-5.6 to 4.6)	0.85
Maintenance dialysis	65.1	-8.5 (-13.4 to -3.5)	< 0.001	65.7	-5.5 (-11.0 to 0.0)	0.05
Always gave wanted medication			<0.001	05.7	-3.3 (-11.0 to 0.0)	0.03
No dialysis	79.0	Reference		76.3	Reference	
Acute dialysis	72.6	-6.4 (-10.6 to -2.1)	0.003	74.6	-1.7 (-6.3 to 2.8)	0.46
Maintenance dialysis	71.8	-7.2 (-11.3 to -3.1)	< 0.001	72.3	-4.0 (-9.0 to 1.0)	0.11
Always kind, caring, respectfu		7.2 (11.3 to 3.1)	10.001	72.5	1.0 ().0 to 1.0)	0.11
No dialysis	82.9	Reference		80.5	Reference	
Acute dialysis	76.9	-6.0 (-10.6 to -1.4)	0.01	78.1	-2.4 (-7.3 to 2.5)	0.34
Maintenance dialysis	75.4	-7.5 (-11.9 to -3.1)	< 0.001	76.7	-3.8 (-8.6 to 1.0)	0.13
Always informed patient and		, 10 (111) 10 011)		, , , ,	210 (010 10 210)	
No dialysis	69.3	Reference		66.8	Reference	
Acute dialysis	65.9	-3.4 (-8.1 to 1.4)	0.17	67.7	0.9 (-4.2 to 5.9)	0.74
Maintenance dialysis	62.7	-6.5 (-11.4 to -1.7)	0.008	65.1	-1.7 (-6.9 to 3.5)	0.52
Always attended to personal c					/	
No dialysis	65.9	Reference		63.0	Reference	
Acute dialysis	58.9	-7.1 (-13.4 to -0.7)	0.03	58.9	-4.2 (-10.9 to 2.6)	0.23
Maintenance dialysis	57.2	-8.7 (-14.0 to -3.5)	0.001	60.8	-2.3 (-7.7 to 3.2)	0.42
Always gave enough spiritual	support	;				
No dialysis	65.9	Reference		60.2	Reference	
Acute dialysis	58.9	-7.1 (-13.4 to -0.7)	0.05	57.7	-2.5 (-8.9 to 3.9)	0.45
Maintenance dialysis	57.2	-8.7 (-14.0 to -3.5)	< 0.001	55.7	-4.5 (-9.3 to 0.2)	0.06
Always gave enough emotiona	l suppoi	rt before death				
No dialysis	63.3	Reference		60.2	Reference	
Acute dialysis	52.9	-10.4 (-15.9 to -	< 0.001	54.8	-5.5 (-11.2 to 0.3)	0.06
		4.9)				
Maintenance dialysis	54.2	-9.1 (-13.9 to -4.3)	< 0.001	56.6	-3.6 (-8.7 to 1.5)	0.17
Always gave enough emotiona						
No dialysis	68.7	Reference		66.6	Reference	
Acute dialysis	62.7	-6.0 (-11.4 to -0.6)	0.03	65.2	-1.4 (-7.4 to 4.6)	0.65
Maintenance dialysis	63.3	-5.4 (-10.5 to -0.3)	0.04	65.2	-1.4 (-6.7 to 3.9)	0.61
Alerted family before the patient's death						
No dialysis	82.6	Reference		82.6	Reference	
Acute dialysis	82.0	-0.6 (-4.9 to 3.7)	0.77	82.8	0.3 (-4.5 to 5.0)	0.92
Maintenance dialysis	80.1	-2.6 (-6.5 to 1.4)	0.20	79.4	-3.1 (-7.6 to 1.3)	0.17
Patient's usually not uncomfo				1.5 -		
No dialysis	51.0	Reference		48.3	Reference	
Acute dialysis	48.8	-2.2 (-7.9 to 3.6)	0.46	51.9	3.6 (-3.0 to 10.2)	0.28
Maintenance dialysis	42.7	-8.2 (-12.9 to -3.6)	< 0.001	46.7	-1.7 (-6.8 to 3.5)	0.53

Logistic regression with no dialysis group as the reference, standard errors adjusted for facility-level clustering; presented are the predicted probabilities over the distribution of covariates in the respondent sample; 95% CI and P values are for differences in the predicted probabilities; adichotomized as most favorable response vs. all other responses, benominators vary due to missing items (Supplemental Table 3), 'missing items were imputed, model adjusted for race, age, gender, next of kin, region, facility complexity, year of death, and individual Charlson comorbidities, and weighted for unit non-response. Pain was dichotomized as "never" or "sometimes" vs. "always" or "usually"

Supplemental Table 8. Demographic and clinical characteristics of those who died in VA inpatient

settings vs. non-VA inpatient or community settings.

Total (%) 10,800 (20) 43,522 (80) Age, Mean (SD), y 75 (11) 76 (11) Age group, % 20 17 65-74 26 23 75-84 29 31 85+ 25 28 Male sex, % 98 98 Race, % 98 98 Race, % 25 20 White 72 77 Other 2 2 Unknown 1 1 Dialysis Treatment Status, % No dialysis 53 42 Acute dialysis 11 4 Maintenance dialysis 36 53	settings vs. non-va inpatient of community se		Died in Non-VA
Total (%) 10,800 (20) 43,522 (80) Age, Mean (SD), y 75 (11) 76 (11) Age group, %		Died in VA	Inpatient or
Age, Mean (SD), y 75 (11) 76 (11) Age group, % 20 17 65-74 26 23 75-84 29 31 85+ 25 28 Male sex, % 98 98 Race, % 98 98 Race, % 25 20 White 72 77 Other 2 2 Unknown 1 1 Dialysis Treatment Status, % 53 42 No dialysis 53 42 Acute dialysis 36 53 Comorbidities, % 53 42 Diabetes ^a 64 66 Congestive Heart Failure 66 69 Myocardial Infarction 27 29 Chronic Obstructive Pulmonary Disease 54 50 Liver Disease ^a 19 15 Cerebrovascular Disease 32 33 Peripheral Vascular Disease ^b 42 46 Dementia ^b 21 21	Variables	Inpatient Settings	Community Settings
Age group, % <65 20 17 65-74 26 23 75-84 29 31 85+ 25 28 Male sex, % 88 Race, % Black 25 20 White 72 77 Other 2 2 Unknown 1 1 Dialysis Treatment Status, % No dialysis 53 42 Acute dialysis 11 4 Maintenance dialysis 53 Comorbidities, % Diabetes ^a 64 66 Congestive Heart Failure 66 Congestive Heart Failure 66 Myocardial Infarction 27 29 Chronic Obstructive Pulmonary Disease 54 50 Liver Disease ^a 19 15 Cerebrovascular Disease 42 46 Dementia ^b 21 21	Total (%)	10,800 (20)	43,522 (80)
<65	Age, Mean (SD), y	75 (11)	76 (11)
65-74 26 23 75-84 29 31 85+ 25 28 Male sex, % 98 98 Race, % 98 98 Black 25 20 White 72 77 Other 2 2 Unknown 1 1 Dialysis Treatment Status, % 1 4 No dialysis 53 42 Acute dialysis 36 53 Comorbidities, % 53 53 Comorbidities, % 64 66 Diabetesa 64 66 Congestive Heart Failure 66 69 Myocardial Infarction 27 29 Chronic Obstructive Pulmonary Disease 54 50 Liver Diseasea 19 15 Cerebrovascular Disease 32 33 Peripheral Vascular Diseaseb 42 46 Dementiab 21 21	Age group, %		
75-84 29 31 85+ 25 28 Male sex, % 98 98 Race, % 98 98 Black 25 20 White 72 77 Other 2 2 Unknown 1 1 Dialysis Treatment Status, % 53 42 No dialysis 53 42 Acute dialysis 36 53 Comorbidities, % 53 53 Comorbidities, % 64 66 Diabetes ^a 64 66 Congestive Heart Failure 66 69 Myocardial Infarction 27 29 Chronic Obstructive Pulmonary Disease 54 50 Liver Disease ^a 19 15 Cerebrovascular Disease 32 33 Peripheral Vascular Disease ^b 42 46 Dementia ^b 21 21	<65	20	17
85+ 25 28 Male sex, % 98 98 Race, %	65-74	26	23
Male sex, % 98 98 Race, % 25 20 White 72 77 Other 2 2 Unknown 1 1 Dialysis Treatment Status, % 53 42 No dialysis 53 42 Acute dialysis 11 4 Maintenance dialysis 36 53 Comorbidities, % 50 53 Diabetesa 64 66 Congestive Heart Failure 66 69 Myocardial Infarction 27 29 Chronic Obstructive Pulmonary Disease 54 50 Liver Diseasea 19 15 Cerebrovascular Disease 32 33 Peripheral Vascular Diseaseb 42 46 Dementiab 21 21	75-84	29	31
Race, % 25 20 Black 25 20 White 72 77 Other 2 2 Unknown 1 1 Dialysis Treatment Status, % 8 No dialysis 53 42 Acute dialysis 11 4 Maintenance dialysis 36 53 Comorbidities, % 50 53 Diabetes ^a 64 66 Congestive Heart Failure 66 69 Myocardial Infarction 27 29 Chronic Obstructive Pulmonary Disease 54 50 Liver Disease ^a 19 15 Cerebrovascular Disease 32 33 Peripheral Vascular Disease ^b 42 46 Dementia ^b 21 21	85+	25	28
Black 25 20 White 72 77 Other 2 2 Unknown 1 1 Dialysis Treatment Status, % 53 42 No dialysis 53 42 Acute dialysis 36 53 Comorbidities, % 53 53 Comorbidities, % 64 66 Diabetesa 64 66 Congestive Heart Failure 66 69 Myocardial Infarction 27 29 Chronic Obstructive Pulmonary Disease 54 50 Liver Diseasea 19 15 Cerebrovascular Disease 32 33 Peripheral Vascular Diseaseb 42 46 Dementiab 21 21	Male sex, %	98	98
White 72 77 Other 2 2 Unknown 1 1 Dialysis Treatment Status, % 8 No dialysis 53 42 Acute dialysis 11 4 Maintenance dialysis 36 53 Comorbidities, % 50 53 Diabetesa 64 66 Congestive Heart Failure 66 69 Myocardial Infarction 27 29 Chronic Obstructive Pulmonary Disease 54 50 Liver Diseasea 19 15 Cerebrovascular Disease 32 33 Peripheral Vascular Diseaseb 42 46 Dementiab 21 21	Race, %		
Other 2 2 Unknown 1 1 Dialysis Treatment Status, % No dialysis 53 42 Acute dialysis 11 4 Maintenance dialysis 36 53 Comorbidities, % Diabetes ^a 64 66 Congestive Heart Failure 66 69 Myocardial Infarction 27 29 Chronic Obstructive Pulmonary Disease 54 50 Liver Disease ^a 19 15 Cerebrovascular Disease 32 33 Peripheral Vascular Disease 42 46 Dementia ^b 21 21	Black	25	20
Unknown 1 1 Dialysis Treatment Status, % 53 42 No dialysis 53 42 Acute dialysis 11 4 Maintenance dialysis 36 53 Comorbidities, % 50 53 Diabetesa 64 66 Congestive Heart Failure 66 69 Myocardial Infarction 27 29 Chronic Obstructive Pulmonary Disease 54 50 Liver Diseasea 19 15 Cerebrovascular Disease 32 33 Peripheral Vascular Diseaseb 42 46 Dementiab 21 21	White	72	77
Dialysis Treatment Status, % 53 42 No dialysis 53 42 Acute dialysis 11 4 Maintenance dialysis 36 53 Comorbidities, % 50 53 Diabetesa 64 66 Congestive Heart Failure 66 69 Myocardial Infarction 27 29 Chronic Obstructive Pulmonary Disease 54 50 Liver Diseasea 19 15 Cerebrovascular Disease 32 33 Peripheral Vascular Diseaseb 42 46 Dementiab 21 21	Other	2	2
No dialysis 53 42 Acute dialysis 11 4 Maintenance dialysis 36 53 Comorbidities, % 53 53 Diabetesa 64 66 Congestive Heart Failure 66 69 Myocardial Infarction 27 29 Chronic Obstructive Pulmonary Disease 54 50 Liver Diseasea 19 15 Cerebrovascular Disease 32 33 Peripheral Vascular Diseaseb 42 46 Dementiab 21 21	Unknown	1	1
Acute dialysis 11 4 Maintenance dialysis 36 53 Comorbidities, % 53 Diabetesa 64 66 Congestive Heart Failure 66 69 Myocardial Infarction 27 29 Chronic Obstructive Pulmonary Disease 54 50 Liver Diseasea 19 15 Cerebrovascular Disease 32 33 Peripheral Vascular Diseaseb 42 46 Dementiab 21 21	Dialysis Treatment Status, %		
Maintenance dialysis 36 53 Comorbidities, % 53 Diabetesa 64 66 Congestive Heart Failure 66 69 Myocardial Infarction 27 29 Chronic Obstructive Pulmonary Disease 54 50 Liver Diseasea 19 15 Cerebrovascular Disease 32 33 Peripheral Vascular Diseaseb 42 46 Dementiab 21 21	No dialysis	53	42
Comorbidities, % 64 66 Diabetesa 64 66 Congestive Heart Failure 66 69 Myocardial Infarction 27 29 Chronic Obstructive Pulmonary Disease 54 50 Liver Diseasea 19 15 Cerebrovascular Disease 32 33 Peripheral Vascular Diseaseb 42 46 Dementiab 21 21	Acute dialysis	11	4
Diabetes ^a 64 66 Congestive Heart Failure 66 69 Myocardial Infarction 27 29 Chronic Obstructive Pulmonary Disease 54 50 Liver Disease ^a 19 15 Cerebrovascular Disease 32 33 Peripheral Vascular Disease ^b 42 46 Dementia ^b 21 21	Maintenance dialysis	36	53
Congestive Heart Failure6669Myocardial Infarction2729Chronic Obstructive Pulmonary Disease5450Liver Diseasea1915Cerebrovascular Disease3233Peripheral Vascular Diseaseb4246Dementiab2121	Comorbidities, %		
Myocardial Infarction2729Chronic Obstructive Pulmonary Disease5450Liver Diseasea1915Cerebrovascular Disease3233Peripheral Vascular Diseaseb4246Dementiab2121	Diabetes ^a	64	66
Chronic Obstructive Pulmonary Disease5450Liver Diseasea1915Cerebrovascular Disease3233Peripheral Vascular Diseaseb4246Dementiab2121	Congestive Heart Failure	66	69
Liver Diseasea1915Cerebrovascular Disease3233Peripheral Vascular Diseaseb4246Dementiab2121	Myocardial Infarction	27	29
Cerebrovascular Disease3233Peripheral Vascular Diseaseb4246Dementiab2121	Chronic Obstructive Pulmonary Disease	54	50
Peripheral Vascular Diseaseb4246Dementiab2121		19	15
Dementia ^b 21 21	Cerebrovascular Disease	32	33
	Peripheral Vascular Disease ^b	42	46
Cancer ^a 36 28	Dementia ^b	21	21
	Cancer ^a	36	28

^aIncludes both Charlson diagnostic categories of mild and severe; ^bdiagnostic categories expanded (Supplemental Appendix 1)