

Supplementary Table 1: All admissions were divided into diagnosis groups according to the principal diagnosis for the admission. These groups were used to test the association between reason for admission and 30-day readmission. The principal diagnosis groups were generated according to the following diagnoses.

Other Infections	n	%
Gastrointestinal		
Bacterial	34	5.5
Viral	34	5.5
NOS	4	0.7
Septicemia/Bacteremia	104	17.0
Fever	82	13.4
Lower Respiratory		
Bacterial	75	12.2
Viral	58	9.5
NOS	7	1.1
Generalized Viral Syndrome	78	12.7
CNS	2	0.3
Ear, Nose, Throat	54	8.8
Genitourinary	56	9.1
Skin, Muscle, Bone	19	3.1
Fungal Infection	6	0.9
Total	613	
Peritonitis and PD catheter Related Infection or Complication	n	%
TB peritonitis-cult POS	1	0.13
Diphtheritic peritonitis	3	0.40
Generalized peritonitis	16	2.12
Peritoneal abscess	3	0.40
Spontaneous bacterial peritonitis	9	1.19
Other suppurative peritonitis	218	28.84
Other peritonitis	70	9.26
Peritonitis NOS	153	20.24
Cloudy dialysis effluent	2	0.26
Mechanical complication PD catheter	133	17.59
Infect D/T PD catheter	106	14.0
Infect comp med care NEC	42	5.6
Total	756	

<u>HD Access Infection or Complication</u>	<u>n</u>	<u>%</u>
Mechanical complication other vascular device	173	32.89
Mechanical complication device/graft NEC	2	0.38
Infection D/T vascular device	149	28.33
Infection due to device NEC	2	0.38
Complication D/T renal dialysis device	121	23.00
Complication NEC D/T vascular device NEC	18	3.42
Complication NEC D/T device NEC	1	0.19
Infection complicating medical care NEC	1	0.19
<u>Infection D/T CVC</u>	<u>59</u>	<u>11.22</u>

Total **526**

<u>Cardiovascular</u>	<u>n</u>	<u>%</u>
Malignant hypertension	86	10.5
HTN encephalopathy	40	4.86
Hypertension NOS	23	2.79
Secondary Hypertension	29	3.5
Hypertension CKD	625	75.9
Other cardiac dysrhythmias	4	0.49
CHF NOS/Heart failure	10	1.2
Intracerebral hemorrhage	3	0.36
Cerebral thrombus w/ infarct	1	0.12
Cerebral artery occlusion w/ infarct	1	0.12
<u>Transient cerebral ischemia NOS</u>	<u>1</u>	<u>0.12</u>

Total **823**

<u>Complication of Transplanted Kidney</u>	<u>n</u>	<u>%</u>
<u>Comp kidney transplant</u>	<u>203</u>	<u>100.00</u>

Total **203**

<u>All Other Diagnoses</u>	n	%
Endocrine	18	1.0
Hematology	54	2.9
Psychiatric	26	1.4
Neurologic	106	5.6
Vascular/Vasculitis	144	7.6
Cardiac/Respiratory	80	4.2
Renal	1181	62.5
Dermatologic/ Musculoskeletal	29	1.5
Genitourinary	26	1.4
Gastrointestinal/Nutrition	202	10.7
<u>Injury/Complication</u>	25	1.3
Total	1891	

<u>Electrolyte and Fluid Abnormalities</u>	n	%
Disorder phosphorus metabolism	8	2.70
Hypocalcemia	28	9.46
Hypercalcemia	3	1.01
Hyperosmolality	1	0.34
Hyposmolality	14	4.73
Acidosis	2	0.68
Alkalosis	1	0.34
Dehydration	66	22.30
Hypovolemia	5	1.69
Fluid overload	39	13.1
Hyperkalemia	77	26.01
Hypokalemia	6	2.03
Elect/fluid disorder NEC	2	0.68
Orthostatic hypotension	4	1.35
Hemodialysis hypotension	7	2.36
Iatrogenic hypotension NEC	4	1.35
Hypotension NEC/NOS	29	9.7
<u>Abnormal blood chemistry NEC</u>	2	0.11
Total	298	

NEC not elsewhere classified
NOS not otherwise specified

Supplementary Table 2: Patient comorbidities were ascertained from the secondary diagnosis codes and medication charges listed for each admission. Comorbidities were categorized into groups: anemia, electrolyte abnormality, nutritional deficiency, psychiatric diagnosis, bone-mineral disease, and cardiovascular disease. An admission was labeled as having one of the preceding comorbidities if it had either a secondary diagnosis or a medication charge as listed below. If an admission had multiple medication charges or secondary diagnoses within the same category, the comorbidity was only counted once. The total number of comorbidities for each hospitalization was calculated by adding these groups at the admission level. This table lists the secondary diagnoses and medication charges which were used to define co-morbidities for each admission.

Bone Mineral Disease

Medications

Calcitriol	Calcium (acetate) (citrate)
Calcium and vitamin D	Calcium carbonate
Calcium chloride	Calcium gluconate
Cholecalciferol (D3)	Cinacalcet HCl
Ergocalciferol (D2)	Paricalcitol
Sevelamer	

Diagnosis

275.3 Disorder phosphorus metabolism	588.1 Secondary Renal hyperparathyroidism
275.41 Hypocalcemia	275.42 Hypercalcemia
588.0 Renal osteodystrophy	252.08 Hyperparathyroidism NEC
252.1 Hypoparathyroidism	252.8 Hypoparathyroid disorder NEC

Anemia

Medications

erythroproetin	darbapoetin
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Diagnosis

285.9 Anemia NOS	285.29 Anemia chronic disease NEC
285.21 Anemia in CKD	

Psychiatric Diagnosis

Diagnosis

292.81	Drug-induced delirium	296.20	MDD one episode-NOS
296.23	MDD one episode-severe	296.32	Recurrent MDD-mod
296.33	Recurrent MDD-severe	969.0	Episodic mood disorder NOS
300.00	Anxiety state NOS	300.01	Panic dis w/o agoraphobia
300.4	Dysthymic disorder	307.59	Eating disorder NEC
307.81	Tension headache	309.0	Adjustment dis-depressed
309.28	Adjust dis-anxiety/depression	309.4	Adjust dis-emotion/conduct
309.9	Adjustment reaction NOS	311	Depressive disorder NEC
312.9	Conduct disturbance NOS	314.01	ADD child w hyperactivity
300.4	Dysthymic disorder	311	Depressive disorder NEC
799.2	Nervousness	799.22	Irritability

Electrolyte Abnormality

Medications

Sodium polystyrene

Diagnosis

276.0	Hyperosmolality	276.1	Hyposmolality
276.2	Acidosis	276.7	Hyperkalemia
276.8	Hypokalemia	276.9	Elect/fluid disorder NEC
790.6	Abnormal blood chemistry NEC	276.3	Alkalosis
276.6	Fluid overload	276.69	Fluid overload NEC

Nutritional Deficiency

Diagnosis

261	Nutritional marasmus	263.9	Protein-calorie malnutrition NOS
783.3	Feeding problem	783.21	Loss of weight
783.7	Adult failure to thrive	783.41	Failure to thrive
V85.52	BMI 5%-84% for age pediatric		

Cardiovascular Comorbidity

Medications

Amlodipine	Atenolol
Benazepril HCl	Captopril
Carvedilol	Clonidine HCl
Diltiazem HCl	Doxazosin mesylate
Enalapril maleate	Esmolol HCl
Felodipine	Fenoldopam mesylate
Guanfacine HCl	Hydralazine HCl
Isradipine	Labetalol HCl
Lisinopril	Losartan potassium
Metoprolol	Minoxidil
Nadolol	Nesiritide
Nicardipine HCl	Nifedipine
Nitroglycerin	Nitroprusside sodium
Papaverine HCl	Prazosin HCl
Propranolol HCl	Quinapril HCl
Ramipril	Tamsulosin
Timolol maleate	Valsartan
Verapamil HCl	

Diagnosis

401.0 Malignant hypertension	401.9 Hypertension NOS
403.00 Malignant HTN CKD I-IV/NOS	403.01 Malignant HTN CKD V-ESRD
403.11 Benign HTN CKD V-ESRD	403.90 HTN CKD NOS I-IV/NOS
403.91 HTN CKD NOS V-ESRD	404.02 Malignant HTN heart & ESRD w/o HF
404.03 Malignant HTN w HF/CKD	404.91 HTN heart & CKD I-IV w HF
404.92 HTN heart & CKD V-ESRD s HF	404.93 HTN heart & CKD V-ESRD w HF
405.01 Malignant renovascular HTN	405.91 Renovascular HTN NEC
405.99 Secondary HTN NEC & NOS	437.2 HTN encephalopathy

ADD	attention deficit disorder
Dis	disorder
HF	heart failure
HTN	hypertension
MDD	major depressive disorder
NEC	not elsewhere classified
NOS	not otherwise specified
w/	with
w/o	without

Supplement Table 3: The presumed cause of ESRD (underlying renal diagnosis) was identified for a patient by the *ICD-9-CM* admission, principal, or secondary diagnoses codes related to each admission. The underlying renal diagnosis was divided into glomerular or congenital/obstructive disease.

3a: Glomerular Disease

ICD-9-CM	Diagnosis
446.0	Polyarteritis nodosa
446.21	Goodpasture's syndrome
446.4	Wegener's granulomatosis
580	Acute proliferative glomerulonephritis
580.4	Acute rapidly progressive glomerulonephritis
580.9	Acute nephritis NEC
580.9	Acute nephritis NOS
581.0	Nephrotic syndrome w/ lesion proliferative glomerulonephritis
581.1	Epimembranous nephritis
581.3	Minimal change nephrosis
581.89	Nephrotic syndrome NEC
581.9	Nephrotic syndrome NOS
582.1	Chronic membranous nephritis
582.4	Chronic rapid progressive nephritis
582.89	Chronic nephritis NEC
583.1	Membranous nephritis NOS
583.2	Membranoproliferative glomerulonephritis
583.4	Rapidly progressive glomerulonephritis NOS
583.4	Rapidly progressive glomerulonephritis NOS
583.89	Nephritis NEC
583.9	Nephritis w/ lesion NOS
710.0	Systemic lupus erythematosus
581.2	Membranoproliferative nephrosis
580.0	Acute proliferative glomerulonephritis
283.11	Hemolytic-uremic syndrome

3b: Congenital/obstructive Disease

ICD-9-CM	Diagnosis
596.54	Neurogenic bladder NOS
593.89	Renal/ureter disorder NEC
593.89	Renal/ureter disorder NOS
599.69	Urinary obstruction NEC
753.0	Renal agenesis
753.10	Cystic kidney disorder NOS
753.13	PKD-autosomal dominant
753.12	Polycystic kidney NOS
753.14	PKD-autosomal recessive
753.15	Renal dysplasia
753.16	Medullary cystic kidney
753.22	Cong obstruction UVJ
753.19	Cystic kidney disorder NEC
753.29	Renal pelvis/ureter obstruction NEC
753.3	Kidney anomaly NEC
753.6	Congenital urethral stenosis
753.8	Cystourethral anomaly NEC
756.71	Prune belly syndrome

NEC not elsewhere classified

NOS not otherwise specified

w/ with
