Title: Utilization of deep learning for subphenotype identification in sepsis-associated acute kidney injury

Supplemental Material

Supplemental Table 1: Top 20 primary discharge diagnosis for the three subphenotypes.

Supplemental Table 2: List of all laboratory features, P values, and percent missing for the three subphenotypes.

Supplemental Table 3: Patient characteristics of patients identified but urine output (UO) only, serum creatinine (S. Cr) only, or by both urine output and creatinine.

Supplemental Table 1: Top 20 primary discharge diagnosis for the three subphenotypes.

Subphenotype 1		Subphenotype 2		Subphenotype 3	
Diagnosis	Percent	Diagnosis	Percent	Diagnosis	Percent
Unspecified septicemia	25.6	Unspecified septicemia	22.8	Unspecified septicemia	18.2
Acute respiratory failure	4.0	Septicemia due to escherichia coli [E. coli]	4.2	Acute and subacute necrosis of liver	2.7
Septicemia due to escherichia coli [E. coli]	2.4	Methicillin susceptible Staphylococcus aureus septicemia	3.4	Septicemia due to escherichia coli [E. coli]	2.3
Other postoperative infection	2.4	Other septicemia due to gram-negative organisms	3.2	Other postoperative infection	2.1
Methicillin susceptible Staphylococcus aureus septicemia	2.4	Other postoperative infection	2.5	Acute pancreatitis	2.1
Pneumonitis due to inhalation of food or vomitus	2.2	Streptococcal septicemia	2.3	Methicillin susceptible Staphylococcus aureus septicemia	1.7
Streptococcal septicemia	1.7	Infection and inflammatory reaction due to other vascular device, implant, and graft	2.0	Acute respiratory failure	1.7
Acute and chronic respiratory failure	1.7	Pneumonitis due to inhalation of food or vomitus	1.5	Subendocardial infarction, initial episode of care	1.5
Subendocardial infarction, initial episode of care	1.7	Human immunodeficiency virus [HIV] disease	1.4	Congestive heart failure, unspecified	1.4
Other septicemia due to gram-negative organisms	1.7	Acute respiratory failure	1.4	Streptococcal septicemia	1.4
Acute pancreatitis	1.6	Other specified septicemias	1.4	Other septicemia due to gram-negative organisms	1.4
Intracerebral hemorrhage	1.6	Pneumonia, organism unspecified	1.4	Infection and inflammatory reaction due to cardiac device, implant, and graft	1.2
Infection and inflammatory reaction due to other vascular device, implant, and graft	1.4	Pneumococcal septicemia [Streptococcus pneumoniae septicemia]	1.3	Alcoholic cirrhosis of liver	1.2
Acute and subacute bacterial endocarditis	1.1	Acute kidney failure, unspecified	1.3	Acute and subacute bacterial endocarditis	1.2

Bacteremia	1.1	Infection and inflammatory reaction due to cardiac device, implant, and graft	1.1	Other specified septicemias	1.2
Pneumonia, organism unspecified	1.1	Acute myeloid leukemia, without mention of having achieved remission	1.1	Complications of transplanted liver	1.2
Congestive heart failure, unspecified	1.0	Subendocardial infarction, initial episode of care	1.1	Poisoning by aromatic analgesics, not elsewhere classified	1.2
Methicillin resistant Staphylococcus aureus septicemia	0.9	Septicemia due to anaerobes	1.0	Malignant neoplasm of head of pancreas	1.1
Septicemia due to anaerobes	0.8	Acute and subacute bacterial endocarditis	0.9	Cirrhosis of liver without mention of alcohol	1.1
Coronary atherosclerosis of native coronary artery	0.8	Acute and subacute necrosis of liver	0.9	Infection and inflammatory reaction due to other vascular device, implant, and graft	1.1

Supplemental Table 2: List of all laboratory features, P values, and percent missing for the three subphenotypes.

NAME	p	Percent missing in Subphenotype1	Percent missing in Subphenotype2	Percent missing in Subphenotype3
Anion Gap (Blood)	0.000	0.1	0.0	0.0
Bicarbonate (Blood)	0.000	0.0	0.0	0.0
Creatinine (Blood)	0.000	0.0	0.0	0.0
Phosphate (Blood)	0.000	0.6	0.3	0.0
Asparate Aminotransferase (AST) (Blood)	0.000	22.3	8.7	0.9
Hematocrit (Blood)	0.000	0.0	0.0	0.0
Platelet Count (Blood)	0.000	0.0	0.0	0.0
Red Blood Cells (Blood)	0.000	0.0	0.1	0.0
Base Excess (Blood)	0.000	24.4	11.6	0.9
Calculated Total CO2 (Blood)	0.000	24.4	11.6	0.9
Lactate (Blood)	0.000	15.3	6.7	2.1
pCO2 (Blood)	0.000	24.4	11.6	0.9
pH (Blood)	0.000	21.6	9.1	0.9
PTT (Blood)	0.000	2.0	0.7	0.0
Bilirubin, Total (Blood)	0.000	21.9	8.9	0.8
Alanine Aminotransferase (ALT) (Blood)	0.000	22.2	8.8	0.9
Hemoglobin (Blood)	0.000	0.0	0.0	0.0
Hemoglobin (Blood)	0.000	0.0	0.0	0.0
RDW (Blood)	0.000	0.0	0.1	0.0
INR(PT) (Blood)	0.000	1.7	0.6	0.0
Urea Nitrogen (Blood)	0.000	0.0	0.0	0.0
PT (Blood)	0.000	1.7	0.6	0.0
Calcium, Total (Blood)	0.000	0.7	0.4	0.2
Chloride (Blood)	0.000	0.0	0.0	0.0
MCHC (Blood)	0.000	0.0	0.1	0.0
White Blood Cells (Blood)	0.000	0.0	0.0	0.0
Sodium (Blood)	0.000	0.0	0.0	0.0
MCH (Blood)	0.000	0.0	0.1	0.0
Neutrophils (Blood)	0.000	11.7	8.7	9.7
Lactate Dehydrogenase (LD) (Blood)	0.000	46.3	24.7	13.8
Potassium (Blood)	0.000	0.1	0.0	0.0
Fibrinogen, Functional (Blood)	0.000	79.5	51.9	26.1
Basophils (Blood)	0.000	11.7	8.7	9.7
Creatine Kinase (CK) (Blood)	0.000	35.2	30.1	23.6
Free Calcium (Blood)	0.000	50.2	29.9	9.5
Chloride, Whole Blood (Blood)	0.000	73.2	64.6	43.0

Creatine Kinase, MB Isoenzyme (Blood)	0.000	53.4	45.8	39.4
Calculated Bicarbonate, Whole Blood (Blood)	0.000	89.3	87.4	82.3
Uric Acid (Blood)	0.000	96.4	87.8	88.5
Oxygen (Blood)	0.000	54.4	43.2	23.5
MCV (Blood)	0.000	0.0	0.1	0.0
Albumin (Blood)	0.000	30.7	13.4	5.5
Temperature (Blood)	0.000	47.1	30.8	18.2
Lymphocytes (Blood)	0.000	11.7	8.7	9.7
CK-MB Index (Blood)	0.000	87.5	80.5	70.9
Bands (Blood)	0.000	49.1	26.8	27.3
Eosinophils (Blood)	0.000	11.7	8.7	9.7
PEEP (Blood)	0.000	63.2	53.7	34.4
Metamyelocytes (Blood)	0.000	62.6	35.9	36.2
Potassium, Whole Blood (Blood)	0.000	51.6	43.5	20.0
Bilirubin, Direct (Blood)	0.000	90.6	74.8	63.9
Urea Nitrogen, Urine (Urine)	0.000	83.4	65.0	62.9
Bilirubin, Indirect (Blood)	0.000	91.2	76.1	67.0
Specific Gravity (Urine)	0.000	16.4	9.1	12.4
Lipase (Blood)	0.000	52.1	36.2	19.8
Glucose (Blood)	0.000	0.0	0.0	0.0
Glucose (Blood)	0.000	0.0	0.0	0.0
Granulocyte Count (Blood)	0.000	98.9	91.6	94.4
Troponin T (Blood)	0.000	59.3	57.0	52.4
Haptoglobin (Blood)	0.000	89.3	73.7	75.0
Amylase (Blood)	0.000	62.0	45.7	25.6
Alkaline Phosphatase (Blood)	0.000	23.5	9.5	0.9
Osmolality, Urine (Urine)	0.000	81.5	57.8	53.5
Myelocytes (Blood)	0.000	62.6	35.8	36.2
D-Dimer (Blood)	0.000	96.0	87.9	83.8
D-Dimer (Blood)	0.000	96.0	87.9	83.8
Vancomycin (Blood)	0.000	67.7	55.7	41.5
Tidal Volume (Blood)	0.000	62.0	52.6	30.0
Sodium, Whole Blood (Blood)	0.000	69.5	61.8	37.7
Cortisol (Blood)	0.000	79.7	65.8	67.1
Alveolar-arterial Gradient (Blood)	0.000	77.7	69.9	53.0
Osmolality, Measured (Blood)	0.000	92.3	86.6	87.0
Required O2 (Blood)	0.000	77.7	69.9	53.0
Hematocrit, Calculated (Blood)	0.000	68.4	57.7	31.4
Monocytes (Blood)	0.000	11.7	8.7	9.7
Iron (Blood)	0.000	84.5	77.9	74.7

Nucleated Red Cells (Blood)	0.000	96.0	84.4	79.5
Cholesterol, HDL (Blood)	0.000	92.6	93.0	91.4
Transferrin (Blood)	0.000	85.5	78.1	75.5
Iron Binding Capacity, Total (Blood)	0.000	85.5	78.1	75.5
Magnesium (Blood)	0.000	0.2	0.1	0.0
Total Protein, Pleural (Pleural)	0.000	96.9	96.2	94.1
LD, Body Fluid (Other Body Fluid)	0.001	99.4	99.3	99.5
Ferritin (Blood)	0.001	86.5	80.3	80.6
O2 Flow (Blood)	0.001	85.0	82.8	74.1
Lymphocytes, Percent (Blood)	0.001	99.5	98.1	97.6
Carboxyhemoglobin (Blood)	0.001	97.1	96.5	93.2
pO2 (Blood)	0.002	24.4	11.6	0.9
tacroFK (Blood)	0.002	99.0	97.6	96.8
Immunoglobulin A (Blood)	0.004	98.4	95.8	95.0
WBC Count (Blood)	0.004	99.5	98.1	97.6
Cyclosporin (Blood)	0.004	99.6	98.1	97.6
Total Protein, CSF (Cerebrospinal Fluid (CSF))	0.005	96.4	95.5	96.8
Total Protein, Urine (Urine)	0.007	96.3	90.6	91.1
Thyroxine (T4) (Blood)	0.007	98.5	96.8	97.1
Immunoglobulin G (Blood)	0.008	98.3	93.9	93.0
Cholesterol Ratio (Total/HDL) (Blood)	0.008	92.6	93.2	91.4
Glucose (Urine)	0.008	88.7	86.7	87.6
Cholesterol, Total (Blood)	0.009	92.3	92.0	90.2
Glucose, Body Fluid (Other Body Fluid)	0.011	99.5	99.2	99.7
Immunoglobulin M (Blood)	0.011	98.8	96.2	95.3
Lactate Dehydrogenase, CSF (Cerebrospinal Fluid (CSF))	0.012	99.3	98.7	98.8
Amylase, Ascites (Ascites)	0.015	99.4	97.7	95.5
Other Cells (Blood)	0.016	99.7	97.3	98.0
Creatinine, Pleural (Pleural)	0.016	99.6	99.3	99.2
Rapamycin (Blood)	0.017	99.7	99.7	99.5
Chloride, Urine (Urine)	0.020	91.2	76.8	77.6
Protein/Creatinine Ratio (Urine)	0.021	96.5	91.3	92.4
Globulin (Blood)	0.024	98.0	94.5	94.1

Epithelial Cells (Urine)	0.026	57.5	47.2	48.5
Triglycerides (Blood)	0.027	87.6	83.9	78.5
Acetaminophen (Blood)	0.034	98.8	98.2	95.8
C3 (Blood)	0.039	99.4	97.1	95.8
Phenobarbital (Blood)	0.040	99.5	99.6	99.8
Monos (Other Body Fluid)	0.040	96.7	94.3	95.2
CD3 Cells, Percent (Blood)	0.040	99.6	98.4	97.7
Other Cell (Other Body Fluid)	0.045	98.8	97.8	98.9
Digoxin (Blood)	0.047	93.3	95.0	93.9
Tissue Transglutaminase Ab, IgA (Blood)	0.049	99.8	99.6	99.7
Cholesterol, Pleural (Pleural)	0.049	99.5	99.2	99.4
Oxygen Saturation (Blood)	0.049	52.0	37.2	14.4
Bilirubin, Total, Ascites (Ascites)	0.051	99.7	98.6	95.6
Creatinine, Body Fluid (Other Body Fluid)	0.055	99.9	99.5	99.7
Phenytoin (Blood)	0.061	94.3	96.4	97.7
Thyroxine (T4), Free (Blood)	0.062	95.2	93.1	93.5
Phenytoin, Free (Blood)	0.065	99.7	99.3	99.5
Absolute CD8 Count (Blood)	0.070	99.6	98.4	97.9
Parathyroid Hormone (Blood)	0.071	99.3	97.8	96.8
Protein (Urine)	0.074	53.9	43.3	41.8
Transitional Epithelial Cells (Urine)	0.075	98.6	97.2	97.1
Absolute Lymphocyte Count (Blood)	0.077	99.5	98.1	97.6
C4 (Blood)	0.079	99.4	97.0	95.9
Glucose, Pleural (Pleural)	0.084	97.1	96.6	95.6
Glucose, Ascites (Ascites)	0.087	99.5	95.8	93.2
pCO2, Body Fluid (Other Body Fluid)	0.088	99.9	99.9	99.8
% Hemoglobin A1c (Blood)	0.089	93.5	94.4	93.5
Polys (Other Body Fluid)	0.092	96.7	94.3	95.2
RBC (Urine)	0.096	62.9	50.2	53.5
Ammonia (Blood)	0.096	97.8	92.3	85.3
Creatinine, Ascites (Ascites)	0.097	99.7	98.8	97.9
Sedimentation Rate (Blood)	0.098	91.5	91.1	92.3
Amylase, Body Fluid (Other Body Fluid)	0.103	99.1	99.1	98.3

Prostate Specific Antigen (Blood)	0.103	99.7	99.3	97.6
WBC, Joint Fluid (Joint Fluid)	0.107	99.2	98.5	99.4
Total Protein, Body Fluid (Other Body Fluid)	0.110	99.4	99.0	99.2
Hematocrit, Pleural (Pleural)	0.111	99.6	99.5	98.9
Creatinine, Urine (Urine)	0.113	71.3	44.1	39.8
pH (Urine)	0.115	14.6	7.6	11.4
pH (Urine)	0.115	14.6	7.6	11.4
WBC, Pleural (Pleural)	0.115	96.7	96.1	93.8
Reticulocyte Count, Automated (Blood)	0.116	94.0	85.6	85.5
Vitamin B12 (Blood)	0.128	92.6	88.4	90.5
Amylase, Pleural (Pleural)	0.133	98.9	98.6	97.1
NTproBNP (Blood)	0.133	88.2	90.3	92.6
Basophils (Other Body Fluid)	0.135	99.9	99.8	99.8
RBC, Pleural (Pleural)	0.136	96.9	96.3	93.9
Cholesterol, LDL, Calculated (Blood)	0.141	93.1	93.5	91.7
Polys (Ascites)	0.142	99.1	92.3	86.8
Beta-2 Microglobulin (Blood)	0.143	99.9	99.5	99.5
Reticulocyte Count, Manual (Blood)	0.146	99.2	97.6	97.3
Blasts (Blood)	0.152	99.9	97.6	99.1
RBC, Ascites (Ascites)	0.168	99.1	92.3	87.3
Folate (Blood)	0.171	94.7	88.7	93.0
Rheumatoid Factor (Blood)	0.173	99.2	99.2	99.5
Hematocrit, Other Fluid (Other Body Fluid)	0.177	99.7	99.5	98.9
24 hr Creatinine (Urine)	0.188	99.4	99.5	99.8
Alpha-Fetoprotein (Blood)	0.194	99.4	96.9	93.5
Carbamazepine (Blood)	0.196	99.7	99.7	99.8
Atypical Lymphocytes (Pleural)	0.198	99.8	99.9	99.8
Troponin I (Blood)	0.204	96.2	96.2	94.1
Protein S, Functional (Blood)	0.208	99.9	99.8	99.5
Absolute CD4 Count (Blood)	0.216	99.5	98.1	97.7
Granular Casts (Urine)	0.217	95.2	89.8	90.8
Thrombin (Blood)	0.224	99.8	99.2	98.2
Absolute CD3 Count (Blood)	0.230	99.6	98.4	97.7
Urine Volume (Urine)	0.239	99.3	99.3	99.1
C-Reactive Protein (Blood)	0.247	91.0	90.1	91.7

Gentamicin (Blood)	0.251	96.5	96.0	93.8
Anticardiolipin Antibody IgM (Blood)	0.255	99.7	99.3	98.3
Bands (Pleural)	0.256	99.6	99.6	99.1
Albumin, Body Fluid (Other Body Fluid)	0.257	99.5	99.4	99.8
Eosinophils (Pleural)	0.257	99.4	99.2	98.8
Protein C, Antigen (Blood)	0.259	99.9	99.9	99.7
Thyroglobulin (Blood)	0.259	99.9	99.9	99.8
Promyelocytes (Blood)	0.259	99.1	95.6	95.9
pH (Other Body Fluid)	0.265	97.6	97.5	97.3
Lactate Dehydrogenase, Pleural (Pleural)	0.265	96.9	96.4	94.2
NRBC (Other Body Fluid)	0.271	99.9	99.9	99.8
Sodium, Urine (Urine)	0.277	75.7	52.1	49.4
Phosphate, Urine (Urine)	0.279	99.6	97.5	96.7
Methemoglobin (Blood)	0.281	97.3	96.9	93.5
Macrophage (Other Body Fluid)	0.296	98.1	96.5	96.7
Human Chorionic Gonadotropin (Blood)	0.304	99.9	99.8	99.7
WBC, Ascites (Ascites)	0.305	99.1	92.3	86.8
Thyroid Stimulating Hormone (Blood)	0.307	77.9	74.9	74.2
Lithium (Blood)	0.316	99.4	99.8	99.7
Lymphocytes (Pleural)	0.321	96.7	96.1	93.8
Monos (Pleural)	0.321	96.7	96.1	93.8
Albumin, Ascites (Ascites)	0.326	99.7	97.8	96.2
Monocytes (Ascites)	0.340	99.1	92.3	86.8
Total Protein, Ascites (Ascites)	0.344	99.3	94.3	90.3
Cellular Cast (Urine)	0.346	99.8	99.4	99.4
Calculated TBG (Blood)	0.349	99.9	99.7	99.4
Uptake Ratio (Blood)	0.349	99.9	99.7	99.4
RBC, Other Fluid (Other Body Fluid)	0.354	98.1	96.4	96.8
Lymphocytes (Joint Fluid)	0.355	99.2	98.6	99.4
WBC, Other Fluid (Other Body Fluid)	0.356	97.9	96.3	96.5
Plasma Cells (Blood)	0.358	99.7	99.3	99.2
Macrophages (Pleural)	0.361	97.8	97.5	96.4
WBC, CSF (Cerebrospinal Fluid (CSF))	0.366	96.3	95.3	96.8
Gastrin (Blood)	0.368	99.9	99.9	99.8
NRBC (Pleural)	0.368	99.9	99.9	99.8
Lactate Dehydrogenase, Ascites (Ascites)	0.379	99.5	95.3	92.1

RBC, Joint Fluid (Joint Fluid)	0.386	99.3	98.7	99.4
Factor VIII (Blood)	0.396	99.9	99.8	99.2
Bands (Cerebrospinal Fluid (CSF))	0.408	99.7	99.5	99.7
Sodium, Body Fluid (Other Body Fluid)	0.411	99.9	99.8	99.7
Antithrombin (Blood)	0.414	99.9	99.9	99.5
Bilirubin, Total, Body Fluid (Other Body Fluid)	0.418	99.9	99.5	98.9
Homocysteine (Blood)	0.425	99.9	99.8	99.5
Potassium, Urine (Urine)	0.441	89.5	73.8	72.6
Mesothelial Cells (Pleural)	0.457	98.1	97.4	96.7
Urobilinogen (Urine)	0.473	70.2	66.2	60.0
Triglycerides, Pleural (Pleural)	0.478	99.4	99.4	99.7
Mesothelial Cell (Ascites)	0.496	99.5	94.8	92.0
Glucose, CSF (Cerebrospinal Fluid (CSF))	0.502	96.4	95.6	97.0
Mesothelial cells (Other Body Fluid)	0.506	99.7	98.7	98.3
Bilirubin, Total, Pleural (Pleural)	0.509	99.9	99.8	99.1
Valproic Acid (Blood)	0.518	98.4	99.4	99.4
Calcium, Urine (Urine)	0.519	99.5	98.5	98.5
NonSquamous Epithelial Cell (Urine)	0.522	99.9	99.7	99.8
Other (Pleural)	0.537	99.1	99.2	98.8
Gamma Glutamyltransferase (Blood)	0.566	98.6	96.9	96.4
Lymphocytes (Ascites)	0.584	99.1	92.3	86.8
Urine Casts, Other (Urine)	0.600	99.9	99.5	99.5
RBC, CSF (Cerebrospinal Fluid (CSF))	0.601	96.3	95.4	96.8
Polys (Joint Fluid)	0.607	99.2	98.6	99.4
Macrophage (Ascites)	0.609	99.4	94.7	91.2
Hyaline Casts (Urine)	0.611	87.0	79.6	83.2
Calculated Thyroxine (T4) Index (Blood)	0.617	99.9	99.8	99.4
Tobramycin (Blood)	0.625	99.8	99.4	99.5
Albumin, Pleural (Pleural)	0.638	99.0	98.3	98.2
Bands (Joint Fluid)	0.649	99.9	99.7	99.8
Macrophage (Cerebrospinal Fluid (CSF))	0.658	99.1	98.9	99.5
CA-125 (Blood)	0.662	99.7	99.6	99.1

Chloride, Body Fluid (Other Body Fluid)	0.664	99.9	99.8	99.7
Uric Acid, Urine (Urine)	0.670	99.7	98.8	98.6
Ethanol (Blood)	0.689	98.8	98.5	98.9
CD4/CD8 Ratio (Blood)	0.690	99.6	98.4	97.9
Macrophage (Joint Fluid)	0.713	99.7	99.6	99.8
Monocytes (Joint Fluid)	0.733	99.2	98.6	99.4
Polys (Cerebrospinal Fluid (CSF))	0.736	96.3	95.3	96.8
Ketone (Urine)	0.738	85.1	85.3	85.5
Monocytes (Cerebrospinal Fluid (CSF))	0.761	96.3	95.3	96.8
Potassium, Body Fluid (Other Body Fluid)	0.763	99.9	99.8	99.7
Atypical Lymphocytes (Blood)	0.766	62.6	35.7	36.2
CD8 Cells, Percent (Blood)	0.770	99.6	98.4	97.9
Carcinoembyronic Antigen (CEA) (Blood)	0.786	99.4	97.8	95.6
WBC Casts (Urine)	0.802	99.9	99.8	99.4
Albumin/Creatinine, Urine (Urine)	0.806	99.5	98.6	98.8
Magnesium, Urine (Urine)	0.809	99.7	99.2	99.1
Prolactin (Blood)	0.814	99.9	99.7	99.4
Eosinophils (Ascites)	0.816	99.9	98.9	97.3
Polys (Pleural)	0.820	96.7	96.1	93.8
Renal Epithelial Cells (Urine)	0.822	99.5	99.8	99.2
Phenytoin, Percent Free (Blood)	0.827	99.7	99.3	99.5
Lymphs (Cerebrospinal Fluid (CSF))	0.830	96.3	95.3	96.8
Protein C, Functional (Blood)	0.845	99.8	99.8	99.4
Bands (Other Body Fluid)	0.849	99.8	99.5	99.5
CD4 Cells, Percent (Blood)	0.854	99.5	98.1	97.7
Anticardiolipin Antibody IgG (Blood)	0.893	99.7	99.3	98.3
Triiodothyronine (T3) (Blood)	0.912	98.8	97.5	98.2
Lymphocytes (Other Body Fluid)	0.921	96.7	94.3	95.2
Hypersegmented Neutrophils (Blood)	0.926	99.9	99.3	99.4
WBC (Urine)	0.947	63.1	51.0	52.0
Albumin, Urine (Urine)	0.948	99.5	98.6	98.8
Eosinophils (Other Body Fluid)	0.982	99.0	98.7	99.2
Protein, Total (Blood)	0.989	95.4	89.8	89.2

Supplemental Table 3: Patient characteristics of patients identified but urine output (UO) only, serum creatinine (S. Cr) only, or by both urine output and creatinine.

	UO **N=1851**	**S.Cr** **N=424**	**UO + S.Cr** **N=1726**	**p-value**
Age, median (IQR)	68 (57-79)	62 (48-75)	66 (55-77)	<0.001
Female (%)	842 (45)	168 (40)	704 (41)	0.007
Race/Ethnicity				0.03
Black	149 (8)	42 (10)	146 (8)	
White	1381 (75)	304 (72)	1259 (73)	
Asian	24 (1)	13 (3)	39 (2)	
Hispanic	46 (2)	19 (5)	55 (3)	
Missing/Other	251 (14)	46 (11)	227 (13)	
Comorbidities				
Hypertension	936 (51)	175 (41)	854 (50)	0.002
Congestive Heart Failure	673 (36)	118 (28)	677 (39)	<0.001
Diabetes Mellitus	566 (31)	118 (28)	575 (33)	0.05
Chronic Lung Disease	445 (24)	58 (14)	333 (19)	<0.001
Liver Disease	210 (11)	55 (13)	331 (19)	<0.001
Peripheral Vascular Disease	178 (10)	51 (12)	201 (12)	0.1
HIV	22 (1)	17 (4)	27 (2)	<0.001
Chronic Kidney Disease	233 (13)	76 (18)	403 (23)	<0.001