

Supplemental Table 1: Bloodstream infection rate stratified by the characteristic of the patient

	event rate (per 100 outpatient years)		
	MSSA	MRSA	all culture positive bacteremia
Age			
<65 years	2.7	2.0	18.2
≥65 years	1.3	1.4	11.7
Gender			
-female	1.9	1.6	15.4
-male	2.3	1.9	15.3
Time on dialysis			
<90 days	4.6	4.3	32.4
91-365 days	2.9	2.5	24.0
>365 days	1.7	1.4	12.2
Race			
-Caucasian	2.0	1.6	15.1
-African American	2.3	2.1	16.9
-other	1.8	1.4	13.4
Cause of ESRD			
-DM	2.0	1.9	15.4
-HTN	2.0	1.8	13.5
-other	2.1	1.7	15.7

Access			
-AVF	0.8	0.5	4.9
-catheter	4.5	4.2	39.5
-graft	1.5	1.2	6.6
Weight			
≤ 70 kg	2.0	1.9	15.8
>70 kg	2.1	1.7	14.8
Fever			
$<100^{\circ}\text{F}$	2.0	1.7	14.9
$\geq 100^{\circ}\text{F}$	27.9	26.1	143.7
Infection			
-community	2.0	1.5	13.7
-nosocomial	2.7	3.7	26.5

Supplemental Table 1: Bloodstream infection rate stratified by the characteristic of the patient

	event rate (per 100 outpatient years)		
	MSSA	MRSA	all culture positive bacteremia
Hemoglobin			
≤11 g/dL	2.9	3.0	22.8
>11 g/dL	1.8	1.3	12.7
Albumin			
<4 g/dL	2.4	2.4	18.9
≥4 g/dL	1.6	0.8	10.1
WBC			
≤7x10 ⁹ cells per L	1.7	1.3	13.1
>7x10 ⁹ cells per L	5.3	4.9	39.0
Creatinine			
≤8 mg/dL	2.0	2.2	17.0
>8 mg/dL	2.1	1.3	13.5
Charlson Score			
≤5 points	2.1	1.5	14.9
>5 points	1.9	2.0	15.7

Cancer

-none	2.1	1.8	15.4
-documented	1.4	1.4	13.0

Chronic lung disease

-none	2.1	1.7	15.2
-documented	1.7	1.9	15.4

CHF

-none	2.1	1.7	15.4
-documented	1.9	1.9	14.9

ESRD end-stage renal disease, DM diabetes, HTN hypertension, AVF arteriovenous fistula,

WBC white blood cell count, CHF congestive heart disease

Bloodstream infection rate by the infecting organism (per 100 outpatient years): 2.1 for methicillin-susceptible *S. aureus*, 1.9 for methicillin-resistant *S. aureus*, 5.9 for coagulase negative staphylococcus, 3.2 for gram-negative rods, 1.6 for enterococcus

Supplemental Table 2a: Number of MSSA bacteremic subjects receiving the specified antibiotic at one week after blood culture collection

	subjects
Vancomycin	2767
First generation cephalosporin	826
Third generation cephalosporin	91
Fourth generation cephalosporin	3
Aminoglycoside	155
Fluoroquinolone	73
Daptomycin	46

Supplemental Table 2b: Number of MRSA bacteremic subjects receiving the specified antibiotic at one week after blood culture collection

	subjects
Vancomycin	2822
First generation cephalosporin	24
Third generation cephalosporin	46
Fourth generation cephalosporin	2
Aminoglycoside	108
Fluoroquinolone	24
Macrolide	2
Daptomycin	91

2.7% of subjects were being treated with multiple antibiotics at one week after blood culture collection. These subjects were assigned to the *vancomycin group* if they were on vancomycin. The remaining subjects were assigned to the *cefazolin group* if they were on cefazolin. Otherwise, patients were assigned to the *other antibiotic group*.

Supplemental Table 3a: Hazard ratios (95% confidence limits) for hospitalization or death from infection in MSSA bacteremic hemodialysis patients, by model parameter

	Hazard Ratio	95% confidence interval
Antibiotic		
-cefazolin (vs vancomycin)	0.62	0.46 – 0.84
-other antibiotic (vs vancomycin)	1.17	0.83 – 1.65
Age (per year)	0.99	0.98 – 1.00
Female (vs male)	1.00	0.81 – 1.24
Time on dialysis (per year)	1.02	0.99 – 1.05
Race		
-African American (vs Caucasian)	0.88	0.70 – 1.11
-other (vs Caucasian)	1.04	0.68 – 1.59
Cause of ESRD		
-DM (vs other)	1.19	0.92 – 1.53
-HTN (vs other)	1.07	0.79 – 1.46
Access		
-AVF (vs graft)	0.41	0.29 – 0.57
-catheter (vs graft)	0.56	0.44 – 0.72
Weight (per kg)	0.99	0.99 – 1.00
Fever (vs no fever)	0.88	0.72 – 1.08

Supplemental Table 3a: Hazard ratios (95% confidence limits) for hospitalization or death from infection in MSSA bacteremic hemodialysis patients, by model parameter

	Hazard Ratio	95% confidence interval
Vancomycin MIC 2 (vs ≤ 1 mcg/mL)*	1.37	0.88 – 2.12
Concurrent aminoglycoside (vs none)	1.36	1.06 – 1.74
Nosocomial infection (vs none)**	1.72	1.18 – 2.51
Laboratory		
-hemoglobin (per g/dL)	0.98	0.91 – 1.05
-albumin (per g/dL)	0.79	0.61 – 1.02
-WBC (per 10^9 cells per L)	1.04	1.00 – 1.08
-creatinine (per mg/dL)	0.99	0.95 – 1.03
Comorbidity		
-Charlson Score (per point)	0.98	0.92 – 1.04
-heart failure (vs none)	1.17	0.93 – 1.48
-chronic lung disease (vs none)	0.86	0.58 – 1.29
-cancer (vs none)	0.87	0.51 – 1.48

ESRD end-stage renal disease, DM diabetes, HTN hypertension, AVF arteriovenous fistula, WBC white blood cell count

*vancomycin minimum inhibitory concentration of the *S. aureus* organism in the blood culture

**patients had a hospitalization for infection in the previous 2 to 30 days before the blood culture collection

Supplemental Table 3b: Hazard ratios (95% confidence limits) for hospitalization or death from infection in MRSA bacteremic hemodialysis patients, by model parameter

	Hazard Ratio	95% confidence interval
Antibiotic		
-vancomycin (vs other antibiotic)	0.51	0.38 – 0.69
-cefazolin (vs other antibiotic)	0.44	0.11 – 1.84
Age (per year)	0.99	0.98 – 1.00
Female (vs male)	0.85	0.69 – 1.04
Time on dialysis (per year)	0.99	0.96 – 1.02
Race		
-African American (vs Caucasian)	0.85	0.69 – 1.06
-other (vs Caucasian)	0.85	0.46 – 1.58
Cause of ESRD		
-DM (vs other)	1.13	0.89 – 1.43
-HTN (vs other)	1.29	0.94 – 1.76
Access		
-AVF (vs graft)	0.45	0.32 – 0.64
-catheter (vs graft)	0.61	0.47 – 0.77
Weight (per kg)	0.99	0.99 – 1.00
Fever (vs no fever)	0.90	0.74 – 1.10

Supplemental Table 3b: Hazard ratios (95% confidence limits) for hospitalization or death from infection in MRSA bacteremic hemodialysis patients, by model parameter

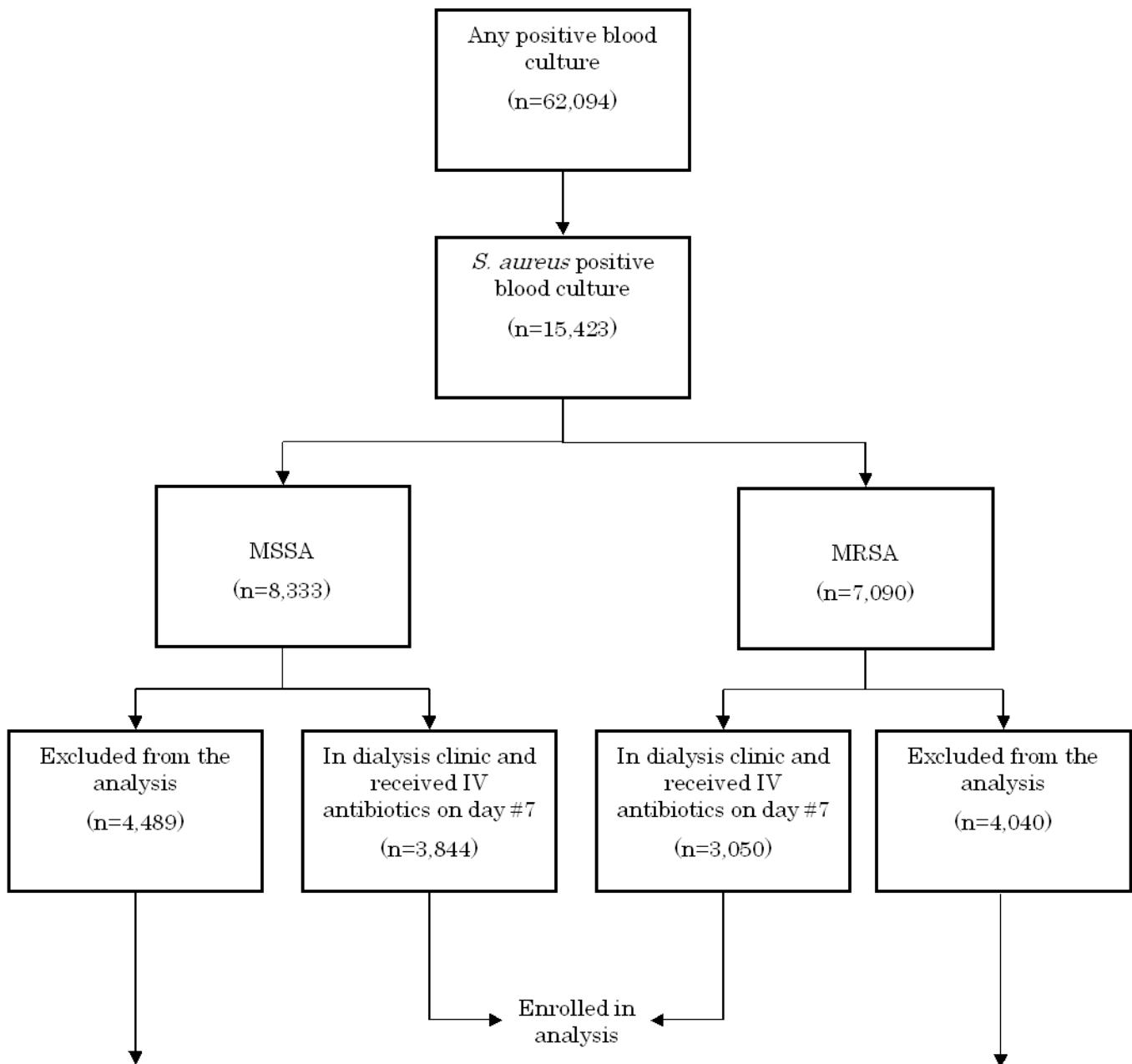
	Hazard Ratio	95% confidence interval
Vancomycin MIC 2 (vs ≤1 mcg/mL)*	1.17	0.83 – 1.66
Concurrent aminoglycoside (vs none)	0.97	0.74 – 1.28
Nosocomial infection (vs none)**	1.59	1.20 – 2.11
Laboratory		
-hemoglobin (per g/dL)	0.90	0.84 – 0.96
-albumin (per g/dL)	0.81	0.64 – 1.01
-WBC (per 10 ⁹ cells per L)	1.03	1.00 – 1.08
-creatinine (per mg/dL)	1.01	0.97 – 1.05
Comorbidity		
-Charlson Score (per point)	1.03	0.98 – 1.09
-heart failure (vs none)	1.08	0.87 – 1.34
-chronic lung disease (vs none)	0.98	0.70 – 1.37
-cancer (vs none)	0.78	0.46 – 1.28

ESRD end-stage renal disease, DM diabetes, HTN hypertension, AVF arteriovenous fistula, WBC white blood cell count

*vancomycin minimum inhibitory concentration of the *S. aureus* organism in the blood culture

**patients had a hospitalization for infection in the previous 2 to 30 days before the blood culture collection

Supplemental Figure 1



Reason for exclusion

- died in the first week (n=171)
- hospitalized in the first week (n=3,418)
 - returned to HD facility (n=2,387)
 - did not return to HD facility (n=1,031)
- delayed antibiotic treatment (n=599)
- transferred out of facility (n=27)
- unknown (n=274)

Reason for exclusion

- died in the first week (n=209)
- hospitalized in the first week (n=3,107)
 - returned to HD facility (n=2,243)
 - did not return to HD facility (n=864)
- delayed antibiotic treatment (n=529)
- transferred out of facility (n=39)
- unknown (n=156)