

Microorganisms Identified in Central Line-Associated Blood Stream Infections in Intensive Care Units in Illinois Hospitals

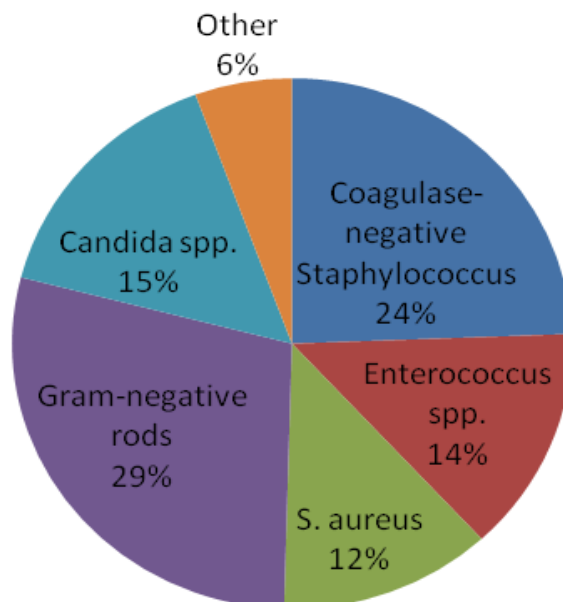
1/01/2010-12/31/2010

A variety of organisms are found to contribute to central line-associated bloodstream infections (CLABSIs). Below is a chart showing the organisms identified in such infections in intensive care units (ICUs) in Illinois in 2010. Note that some infections have more than one organism present. Out of 553 microorganisms identified in 535 central line-associated bloodstream infections, the most common were *Enterococcus* spp., coagulase-negative *Staphylococcus* and *Candida* spp. MRSA accounted for 5.6% of these infections.

Pathogen	Number of Isolates	Percent of Infections
Coagulase-negative <i>Staphylococcus</i> (CNS)	135	24.4
Methicillin-resistant <i>Staphylococcus aureus</i> (MRSA)	31	5.6
Methicillin-susceptible <i>Staphylococcus aureus</i> (MSSA)	32	5.8
<i>Enterococcus</i> species	76	13.7
Vancomycin-resistant <i>Enterococcus</i> (VRE)	29	
Vancomycin-susceptible <i>Enterococcus</i>	44	
Other <i>Enterococcus</i> (Vancomycin susceptibility unknown or intermediate)	3	
<i>Candida</i> species	85	15.4
<i>C. albicans</i>	42	
Other <i>Candida</i> species	43	
<i>Enterobacter</i> species	34	6.1
<i>Klebsiella</i> species	32	5.8
<i>Pseudomonas</i> species	26	4.7
<i>Acinetobacter</i> species	21	3.8

<i>Escherichia coli</i>	16	2.9
Other gram-negative rods	29	5.2
Other pathogens	36	6.5
Total	553	100

Microorganisms Identified in CLABSI in Illinois ICUs, 2010



When hospital laboratories identify microorganisms that cause CLABSIs and other infections, they perform testing to determine which antibiotics will work against the identified microorganisms. A summary table with this information is called an antibiogram.

More information about antibiograms and their uses is available here:

<http://www.cdc.gov/abcs/reports-findings/downloads/antibiogram-method.pdf>

More information about antibiotic resistance is available here:

<http://www.cdc.gov/drugresistance/index.html>

The following two tables are antibiograms containing information about microorganisms that caused CLABSIs in Illinois ICUs in 2010.

Antibiogram of blood isolates from central line-associated bloodstream infections in intensive care unit patients in Illinois acute care hospitals, 2010*

Percent susceptible (# tested)

Table 1. Gram negative

	Amikacin	Cefepime	Ceftazidime	Ceftriaxone	Ciprofloxacin	Imipenem	Levofloxacin	Meropenem	Ampicillin/ Sulbactam	Gentamicin	Piperacillin	Tobramycin
<i>Acinetobacter baumannii</i>	17 (12)	17 (12)	30 (10)		20 (10)	30 (10)	8 (13)		27 (11)	19 (16)		38 (16)
<i>Escherichia coli</i>	100 (11)	75 (12)		64 (14)								
<i>Enterobacter cloacae</i>	86 (16)	96 (23)	72 (18)	82 (22)	89 (19)	100 (19)	85 (13)					
<i>Klebsiella pneumoniae</i>	86 (14)	63 (19)	73 (15)	68 (19)	80 (15)	79 (14)	56 (16)	82 (11)				
<i>Pseudomonas aeruginosa</i>	75 (16)	71 (17)	60 (15)		50 (16)	67 (18)	56 (18)	85 (13)			62 (13)	

*Bug-drug combinations with ≥10 tested

Antibiogram of blood isolates from central line-associated bloodstream infections in intensive care unit patients in Illinois acute care hospitals, 2010*

Percent susceptible (# tested)

Table 2. Gram positive

	Ampicillin	Daptomycin	Linezolid	Penicillin G	Vancomycin	Oxacillin	Levofloxacin	Clindamycin	Erythromycin	Gentamicin	Trimethoprim/ Sulfamethoxazole	Rifampin	Tetracycline
<i>Staphylococcus</i> coagulase negative					100 (68)								
<i>Enterococcus</i> <i>faecium</i>	8 (25)		94 (18)	14 (14)	15 (26)								
<i>Enterococcus</i> <i>faecalis</i>	97 (33)			84 (19)	97 (38)								
<i>Staphylococcus</i> <i>aureus</i>		100 (13)	100 (33)		100 (68)	51 (63)		54 (61)	45 (53)	96 (56)	100 (60)	95 (42)	
<i>Staphylococcus</i> <i>epidermidis</i>					100 (56)	18 (11)	10 (10)	8 (13)	0 (12)	50 (10)	45 (11)	100 (11)	90 (10)

* Bug-drug combinations with ≥10 tested