

Year 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 2023

MSH All Specimens: % Susceptibility

Gram Negative Organisms

Organism	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	# isolates
<b>E. coli (excluding ESBL)</b>											1069	1055	995	923	1035	1144	1234		
Ampicillin											58	58	57	57	61	58	60		
Amoxicillin/Clavulanic acid												84	82	82	86	85	95		
Cefazolin											96	94	91	92	90	92	93		
Ceftriaxone											98	98	98	98	98	97	97		
Ceftazidime											98	98	98	98	98	97	97		
Piperacillin/Tazobactam											95	96	96	96	96	97	99		
Ertapenem											100	100	100	100	100	100	100		
Meropenem											100	100	100	100	100	100	100		
Gentamicin											91	92	92	93	91	92	92		
Tobramycin											91	93	93	94	93	93	99		
Amikacin											100	100	100						
Trimethoprim/Sulfamethoxazole											78	78	80	79	82	79	80		
Ciprofloxacin											83	85	84	70	73	71	79		
<b>E. coli (ESBL)</b>																	149	176	
Ampicillin																	0	0	
Amoxicillin/Clavulanic acid																	59	92	
Cefazolin																	0	0	
Ceftriaxone																	0	0	
Ceftazidime																	9	6	
Piperacillin/Tazobactam																	88	97	
Ertapenem																	99	100	
Meropenem																	100	100	
Gentamicin																	77	74	
Tobramycin																	70	82	
Trimethoprim/Sulfamethoxazole																	52	50	
Ciprofloxacin																	15	12	
<b>E. coli (including ESBL)</b>		857	902	946	1120	1061	1178	1232	1263	1497	640	1187	1167	1151	1056	1144	1,282	1399	
Ampicillin	61	64	63	59	58	58	55	56	52	55	57	52	52	50	50	55	51	53	
Amoxicillin/Clavulanic acid																	82	80	
Cefazolin	91	91	92	87	89	87	87	87	87	87	94	86	84	79	80	81	81	81	
Ceftriaxone	96	97	97	92	94	91	93	90	90	90	97	88	89	84	86	88	86	85	
Ceftazidime		96	97	92	94	91	93	90	91	90	97	88	88	85	89	90	87	86	
Piperacillin/Tazobactam		99	99	91	95	100	89	89	88	88	96	95	95	95	96	96	96	99	
Ertapenem											100	100	100	100	100	100	100	100	
Meropenem			100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	
Gentamicin	94	94	93	91	91	92	90	89	89	89	91	89	90	90	91	89	90	89	
Tobramycin	93	94	92	91	91	91	89	89	87	89	92	88	90	89	91	90	90	97	
Amikacin											100	100	100	100					
Trimethoprim/Sulfamethoxazole	79	74	80	79	78	76	76	75	73	76	78	74	75	75	75	79	76	77	
Ciprofloxacin	87	89	85	80	83	82	82	80	80	80	84	77	80	77	65	67	65	71	
Piperacillin		72	69																
Imipenem		100																	

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**PLEASE NOTE**  
 Exercise caution in interpretation if fewer than 30 organisms are reported for a given species. It is recommended that at least 30 organism isolates are present for a given reporting period in order to perform valid statistical comparisons.



Year	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	# isolates
<i>Enterobacter spp</i>		27	40	43	39	53	59	69	50	93	39	56	74	70	63	62	57	66	
Ampicillin	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	
Amoxicillin/Clavulanic acid													3	1	0	2	0	2	
Cefazolin	R	R	R	R	R	R	R	R	R	R	5	R	R	R	R	R	R	R	
Ceftriaxone		85	85	86	85	80	81	82	75	81	79	70	74	72	67	74	67	82	
Ceftazidime		85	85	86	85	80	78	81	73	81	79	70	77	81	71	76	72	85	
Piperacillin/Tazobactam		89	90	86	87	100	84	82	73	78	82	69	78	80	73	76	72	86	
Ertapenem											90	98	91	92	82	79	89	96	
Meropenem			100	100	97	100	100	100	98	100	100	100	99	100	100	100	100	98	
Gentamicin		93	100	100	93	98	94	97	100	99	97	95	100	97	100	100	100	98	
Tobramycin		90	100	100	95	100	94	97	96	98	99	97	95	100	97	100	100	98	
Amikacin											100	100	100	100					
Trimethoprim/Sulfamethoxazole		83	96	95	86	90	94	92	94	98	97	95	96	96	97	92	94	98	95
Ciprofloxacin		90	93	100	95	95	93	90	96	98	96	95	96	97	97	97	97	98	98
Piperacillin			85	82															
Imipenem			100																
<i>Proteus mirabilis</i>		65	64	84	72	104	84	86	95	98	58	84	94	115	103	85	135	143	
Ampicillin			75	86	83	72	75	76	76	79	79	81	87	77	82	83	74	75	77
Amoxicillin/Clavulanic acid														99	98	95	95	88	97
Cefazolin			86	95	95	94	87	90	89	91	86	93	94	84	88	85	92	91	88
Ceftriaxone			98	100	96	99	96	96	97	100	97	95	98	95	100	98	99	96	95
Ceftazidime			98	100	95	99	96	96	97	100	97	95	98	94	98	98	98	96	95
Piperacillin/Tazobactam			100	100	99	99	100	100	98	100	96	98	99	99	100	98	100	99	100
Ertapenem											100	100	100	100	100	100	100	100	
Meropenem				100	100	100	100	100	100	100	100	100	100	100	100	99	100	99	
Gentamicin			91	94	99	96	95	96	92	96	90	91	94	89	95	89	96	93	95
Tobramycin			91	95	99	97	97	95	91	97	92	91	95	93	97	94	99	95	97
Amikacin											100	99	100	100					
Trimethoprim/Sulfamethoxazole			85	86	87	79	83	81	90	88	86	78	88	85	86	89	81	87	83
Ciprofloxacin			92	92	89	81	84	85	92	91	90	91	92	93	87	80	87	90	83
Piperacillin			89	97															
<i>Pseudomonas aeruginosa</i>		74	86	71	102	92	89	84	106	129	84	160	147	160	165	168	165	184	
Ampicillin	R	R	R	R	R	R	R	R	R	R									
Amoxicillin/Clavulanic acid													R	R	R	R	R	R	
Cefazolin	R	R	R	R	R	R	R	R	R	R									
Ceftriaxone		R	R	R	R	R	R	R	R	R									
Ceftazidime		84	81	82	84	91	90	87	91	88	87	89	89	93	91	90	91	95	
Piperacillin/Tazobactam		97	99	91	88	90	92	81	84	80	92	94	92	96	92	93	93	98	
Ertapenem																			
Meropenem			81	82	90	93	91	90	93	94	92	96	90	88	92	92	92	98	
Gentamicin		93	91	80	79	74	80	92	92	95	94	96	97	98	97	99	98	100	
Tobramycin		98	96	96	88	90	98	98	100	100	98	99	100	99	99	99	99	100	
Amikacin											96	99	99	97					
Trimethoprim/Sulfamethoxazole	R	R	R	R	R	R	R	R	R	R									
Ciprofloxacin		62	74	65	72	71	78	82	88	96	89	95	92	91	94	91	89	89	96
Piperacillin			93	98															

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Year	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	
<i>Citrobacter freundii</i> complex											8	26	29	32	27	26	22	26	# isolates
Ampicillin												R	R	R	R	R	R	R	
Amoxicillin/Clavulanic acid													0	9	8	0	0	4	
Cefazolin												R	R	R	R	R	R	R	
Ceftriaxone											75	69	86	63	76	68	59	65	
Ceftazidime											75	69	86	69	75	68	59	69	
Piperacillin/Tazobactam											75	72	86	77	89	68	68	86	
Ertapenem											100	96	100	100	95	100	94	100	
Meropenem											100	100	100	100	96	100	100	96	
Gentamicin											100	100	100	94	96	88	100	88	
Tobramycin											100	96	100	91	96	92	100	88	
Amikacin											100	100	100	100					
Trimethoprim/Sulfamethoxazole											100	92	97	91	85	85	100	85	
Ciprofloxacin											100	92	100	91	81	92	100	84	
<i>Klebsiella oxytoca</i>											-	39	38	36	28	53	47	46	# isolates
Ampicillin											6	R	R	R	R	R	R	R	
Amoxicillin/Clavulanic acid													82	94	85	92	91	98	
Cefazolin											69	79	73	76	64	50	72	70	
Ceftriaxone											75	92	89	92	93	94	94	96	
Ceftazidime											94	100	95	94	100	96	98	98	
Piperacillin/Tazobactam											75	92	87	94	93	98	94	98	
Ertapenem											100	100	100	100	100	100	100	100	
Meropenem											100	100	100	100	100	100	100	100	
Gentamicin											100	100	97	97	100	98	98	100	
Tobramycin											100	100	97	97	100	96	98	100	
Amikacin											100	100	97	100					
Trimethoprim/Sulfamethoxazole											94	100	97	100	93	96	94	98	
Ciprofloxacin											100	100	95	97	96	98	94	93	
<i>Klebsiella spp</i>		144	130	175	175	219	195	210	254	255								# isolates	
Ampicillin	R	R	R	R	R	R	R	R	R	R									
Cefazolin	87	92	86	92	92	91	91	94	90	85									
Ceftriaxone	96	99	95	96	97	96	96	97	96	92									
Gentamycin	93	99	95	99	98	97	97	98	98	96									
Tobramycin	92	95	94	98	98	96	97	97	98	95									
Trimethoprim/Sulfamethoxazole	86	94	96	94	95	90	92	92	93	89									
Ciprofloxacin	90	94	95	94	95	94	97	95	96	93									
Ceftazidime		99	97	96	97	97	96	97	96	92									
Piperacillin/Tazobactam		97	96	96	96	100	94	95	94	88									
Meropenem			100	100	100	99	99	100	100	99									
Piperacillin		73	71																
Imipenem		100																	
<i>Citrobacter spp</i>																		# isolates	
Ampicillin	R																		
Cefazolin	40																		
Ceftriaxone																			
Gentamycin	95																		
Tobramycin	95																		
Trimethoprim/Sulfamethoxazole	90																		
Ciprofloxacin	85																		

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<i>Serratia marcescens</i>		7	7																
Ampicillin	R	R	R																
Cefazolin	R	R	R																
Ceftriaxone		100	100																
Gentamycin		100	100	100															
Tobramycin		100	100	86															
Trimethoprim/Sulfamethoxazole		100	100	100															
Ciprofloxacin		80	100	100															
Piperacillin			100	100															
Piperacillin/Tazobactam			100	100															
Meropenem				100															
Ceftazidime			100	100															
Imipenem			100																

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Year	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	
<b>Coagulase Negative Staph</b>		24	49	42	55	50	52	60	52	73									# isolates
Penicillin	14	12	18	19	20	14	R	R	R	R									
Cloxacillin	53	63	54	40	55	33	62	51	46	51									
Cefazolin	53	63	54	40	55	33	62	51	46	51									
Clindamycin	63	54	38	65	72	50	63	61	64	67									
Erythromycin	63	54	38	40	50	37	48	40	45	37									
Trimethoprim/Sulfamethoxazole	96																		
Vancomycin	100	100	100	98	100	100	100	100	100	100									
<b>Enterococcus Species</b>											166	279	292	293	318	352	327	396	# isolates
Ampicillin											86	84	88	88	87	85	88	91	
Amoxicillin/Clavulanic acid																			
Cloxacillin																			
Cefazolin																			
Clindamycin																			
Erythromycin																			
Trimethoprim/Sulfamethoxazole																			
Ciprofloxacin											73	72	74	75	80	77	80	86	
Tetracycline											28	31	30	32	28	23	28	29	
Rifampin																			
Vancomycin											97	98	99	99	100	100	100	100	
<b>Enterococcus faecalis</b>																			# isolates
Ampicillin													53	70	57	79	60	90	
Amoxicillin/Clavulanic acid													100	100	98	100	100	99	
Cloxacillin																			
Cefazolin																			
Clindamycin																			
Erythromycin																			
Trimethoprim/Sulfamethoxazole																			
Ciprofloxacin													81	84	82	67	88	93	
Tetracycline													38	29	28	30	39	31	
Rifampin																			
Vancomycin													100	100	100	100	100	100	
<b>Enterococcus faecium</b>																			# isolates
Ampicillin													18	18	16	34	24	21	
Amoxicillin/Clavulanic acid													0	0	0	0	0	5	
Cloxacillin																			
Cefazolin																			
Clindamycin																			
Erythromycin																			
Trimethoprim/Sulfamethoxazole																			
Ciprofloxacin													17	0	0	0	10	18	
Tetracycline													78	44	47	21	38	43	
Rifampin																			
Vancomycin													100	100	100	100	100	100	

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