2019 Alaska State Antibiogram

The following tables show the proportion of isolates of various bacterial species that tested susceptible to various antibiotics during 2019. These data were aggregated from the antibiograms produced by Alaska hospitals in order to create aggregate regional resistance pattern summaries. These antibiograms can be helpful for health care providers in selecting appropriate empiric antimicrobial therapy for their patients until specific individual laboratory test results are available. They can also be helpful for determining antibiotic stewardship priorities within hospitals and emerging resistance patterns in a broader service area.
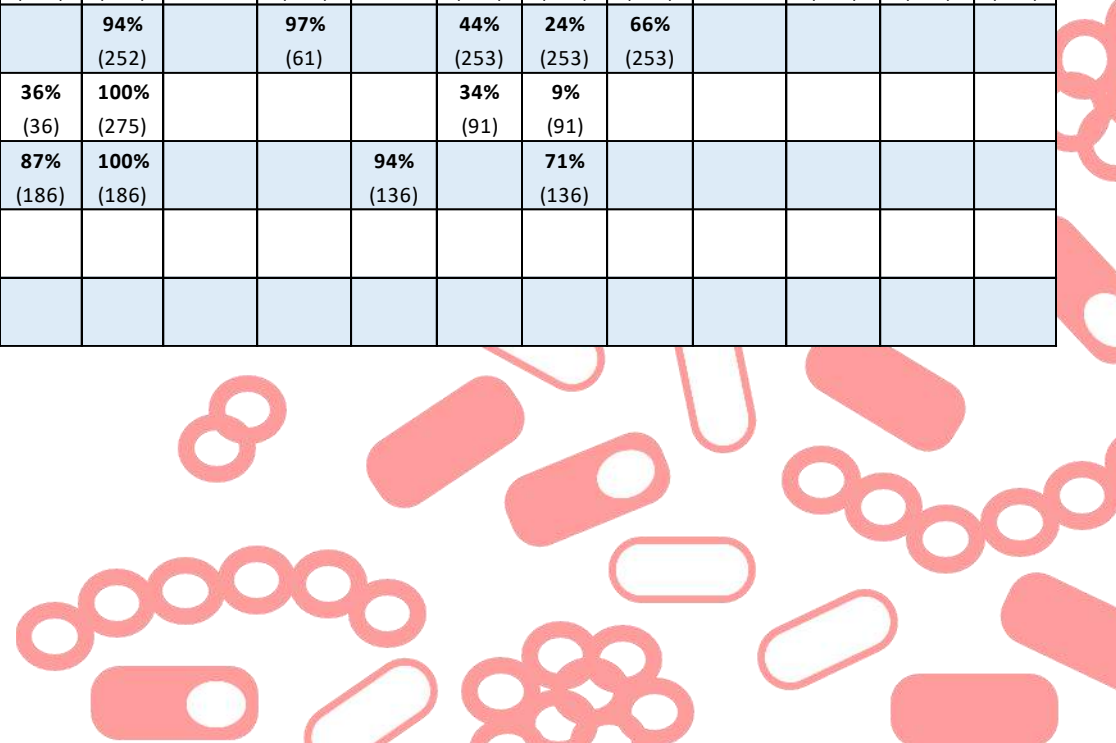
- **Methodology:** Individual hospitals prepared their own facility antibiograms, which were shared with the Alaska Section of Epidemiology. Aggregated susceptibility percentages were calculated as the proportion of all tested isolates for the region that were susceptible. Values are only reported when more than one facility provided data for the given species-antibiotic combination. Intrinsic resistance is indicated with an "R", following the guidance of CLSI document M100-S24. Tribal health facilities and many smaller hospitals customarily include both inpatient and outpatient isolates, while some hospitals may only include inpatients.
- **Multi-Drug Resistant Organisms of Note:**
  - Vancomycin-resistant *Staphylococcus aureus* (VRSA): no cases of VRSA have ever been reported in Alaska. VRSA is reportable to the Alaska Section of Epidemiology.
  - Carbapenem-resistant Enterobacteriaceae (CRE): there were 3 cases of CRE reported in Alaska in 2019. None were carbapenemase-producing.
- **Legend:**
  - The top value in each square is the percent of isolates of that species that tested susceptible to that antibiotic.
  - The lower value in each square indicates the number of tested isolates for that bacteria-antibiotic combination.
  - "R" indicates intrinsic resistance to that antibiotic, while "S" indicates definitional susceptibility.
  - "NED" indicates that there was Not Enough Data to report the value: either only one facility reported data for that drug-bug combination or <30 isolates were tested.
- **Limitations:** Individual facilities often use different methods to test for antimicrobial susceptibility, different methods to build their antibiograms, and different antibiotics in their pharmacies. These factors limit interpretation of these data. Additionally, antimicrobial susceptibility testing done in the laboratory does not always predict how effective that drug will be when used to treat a patient. Data are not stratified by infection site, which influences antibiotic choice and effectiveness.
- **Contributing Facilities:** Thanks to all the hospitals in Alaska for participating in this project to the extent of their ability. These statewide data include all the hospitals used in the Regional Antibiograms, plus Norton Sound Regional Medical Center.

  Important note: This year, a number of facilities did not make antibiograms. The decrease in data means there will not be regional antibiograms for the Northern Region, and there are substantially fewer data points in the Southeast region.

For more information and the methods used for the analyses, please see the "Regional Antibiogram Project — Alaska, 2014–2015" Epidemiology *Bulletin*.

Statewide data

Species	Penicillin	Ampicillin	Oxacillin	Ampicillin-sulbactam	Amoxicillin	Cefazolin	Ceftriaxone	Cefotaxime	Ciprofloxacin	Levofloxacin	Moxifloxacin	Daptomycin	Clindamycin	Erythromycin	Vancomycin	Gentamicin	Gent Syn	Trimethoprim-sulfamethoxazole	Linezolid	Tetracycline	Nitrofurantoin	Quinupristin-dalfopristin	Rifampin	Tigecycline	Strep syn
Total *Staphylococcus aureus*	4% (2539)	0% (292)	62% (5293)	53% (625)	55% (625)	58% (1961)	63% (643)		66% (3318)	69% (5299)	69% (1545)	97% (292)	80% (5273)	48% (3725)	99% (5299)	99% (4440)		98% (4884)	99% (3978)	93% (5299)	100% (4435)	100% (1546)	99% (2007)	100% (1464)	
MSSA	7% (1350)	0% (121)	S	97% (290)	100% (290)	100% (1141)	NED		89% (2088)	92% (2904)	100% (971)	100% (169)	85% (3068)	70% (1888)	100% (3086)	99% (1635)		99% (2937)	99% (2527)	97% (2904)	99% (2923)	100% (972)	94% (1168)		
MRSA	0% (943)	0% (95)	R	0% (60)	0% (60)	NED	0% (235)		29% (1489)	32% (2010)	31% (648)	93% (123)	69% (2216)	10% (1414)	99% (2224)	99% (1708)		97% (2224)	99% (1563)	87% (2010)	98% (1919)	99% (648)	93% (183)		
Staphylococcus lugdunensis	48% (111)		85% (153)						98% (153)	99% (153)			79% (153)	79% (153)	100% (153)	99% (153)		100% (149)	100% (149)	96% (153)	100% (111)		100% (111)		
Coag-negative *Staphylococcus* (inc. *S. epidermidis*)	13% (670)	0% (139)	48% (1144)	44% (136)	43% (136)	41% (269)	48% (241)		76% (779)	78% (1085)	82% (150)	NED	65% (1091)	38% (830)	99% (1142)	88% (816)		58% (1144)	97% (621)	86% (1087)	99% (1076)	100% (141)	99% (362)		
Enterococcus faecalis	99% (881)	99% (909)				R	R	R	87% (611)	94% (860)		100% (143)	R	11% (404)	99% (928)	R	82% (503)	R	97% (651)	26% (697)	99% (914)	R	42% (108)	100% (211)	74% (267)
Enterococcus spp.	90% (253)	90% (253)							62% (210)	67% (253)					94% (252)		97% (61)		44% (253)	24% (253)	66% (253)				
Group B *Streptococcus*	100% (275)	S											49% (275)	36% (36)	100% (275)					34% (91)	9% (91)				
Streptococcus pneumoniae (all)	93% (98)				98% (44)	100% (38)	97% (78)	99% (143)		100% (186)			95% (136)	87% (186)	100% (186)			94% (136)		71% (136)					
S. pneumoniae - non-CSF	80% (295)						99% (270)	99% (295)																	
S pneumoniae - meningitis	76% (292)						93% (270)	95% (295)																	

2019 State Antibiograms- SURVEILLANCE DATA ONLY

Statewide data

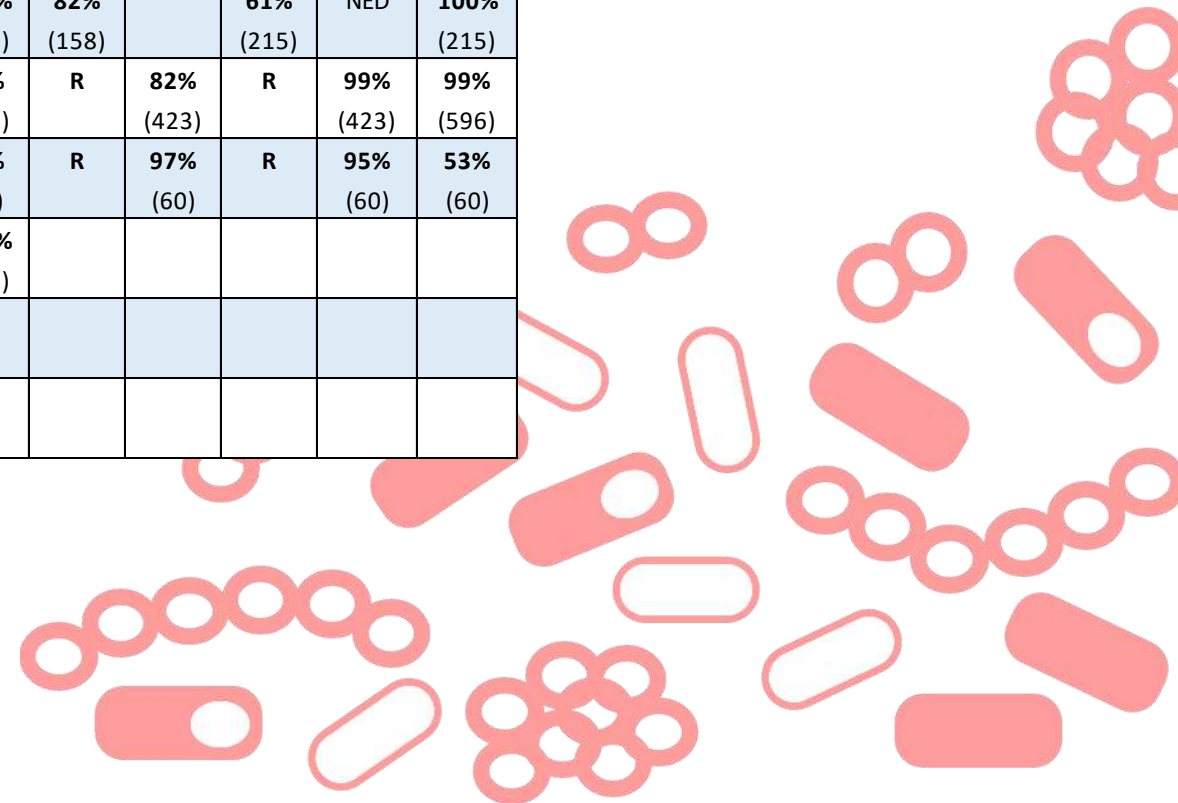| Species	Amoxicillin+ clavulanic acid	Ampicillin	Ampicillin+Sulbactam	Piperacillin+Tazobactam	Cefazolin	Cefuroxime	Ceftriaxone	Ceftazidime	Cefepime	Cefotaxime	Cefotetan	Cefoxitin	Cephalothin	Aztreonam	Gentamicin	Tobramycin	Amikacin	Ertapenem	Imipenem	Meropenem	Ciprofloxacin	Levofloxacin	Trimeth+Sulfa	Tetracycline	Nitrofurantoin
Acinetobacter baumanii			98% (48)	83% (48)				81% (48)							98% (48)	98% (48)					98% (48)	98% (48)	96% (48)		
Citrobacter freundii	R	R	R	92% (93)	R	R	85% (92)	87% (92)	99% (78)	NED	R	R		87% (75)	95% (91)	97% (93)	100% (78)	100% (33)	98% (48)	100% (61)	85% (93)	97% (93)	86% (64)	91% (30)	97% (89)
Klebsiella aerogenes	R	R	R	93% (113)	R	R	88% (113)	87% (99)	100% (83)	47% (53)	R	R		84% (82)	100% (113)	100% (91)	100% (88)	100% (48)	70% (56)	100% (94)	99% (113)	99% (113)	98% (113)	99% (69)	29% (77)
Enterobacter cloacae	R	R	R	87% (350)	R	R	80% (244)	84% (285)	98% (288)	NED	R	R		82% (219)	98% (350)	97% (317)	83% (243)	96% (134)	91% (141)	99% (301)	97% (350)	97% (350)	92% (350)	93% (198)	39% (335)
Escherichia coli	86% (4789)	57% (8962)	64% (7650)	98% (9028)	79% (9395)	88% (4324)	95% (9420)	96% (8139)	97% (7344)	63% (2233)	98% (2222)	93% (4784)	50% (2222)	89% (4470)	93% (9420)	94% (8255)	99% (4242)	99% (4329)	99% (4415)	99% (5937)	86% (9420)	85% (9420)	80% (9420)	80% (4725)	96% (9376)
Klebsiella oxytoca	86% (97)	0% (41)	65% (216)	95% (216)	57% (155)	88% (153)	94% (216)	99% (184)	97% (180)		NED	91% (101)		96% (148)	99% (216)	99% (196)	100% (159)	98% (65)	100% (101)	99% (155)	97% (216)	97% (216)	96% (216)	96% (97)	82% (203)
Klebsiella pneumoniae	98% (468)	R	87% (1174)	98% (1174)	85% (1202)	94% (522)	97% (1206)	98% (1012)	98% (1013)	92% (219)	100% (219)	93% (564)	82% (384)	97% (630)	98% (1206)	98% (1059)	17% (3630)	99% (482)	99% (513)	99% (757)	96% (1206)	97% (1206)	93% (1206)	86% (455)	42% (1187)
Proteus mirabilis	95% (206)	86% (478)	90% (488)	99% (526)	76% (524)	95% (243)	97% (390)	99% (309)	99% (310)	97% (111)	100% (111)	56% (248)	94% (111)	98% (296)	94% (526)	95% (479)	100% (271)	99% (221)	16% (211)	100% (317)	92% (526)	94% (526)	91% (526)	R	R
Pseudomonas aeruginosa	R	R	R	95% (837)	R	R	R	92% (763)	93% (766)	R	R	R		70% (450)	90% (846)	97% (834)	92% (521)	R	86% (329)	94% (591)	87% (846)	83% (846)	R	R	R
Serratia marcescens	R	R	R	85% (82)	R	R	98% (82)	99% (82)	99% (82)		R	R		99% (82)	100% (83)	94% (83)	100% (81)	100% (37)	NED	100% (81)	100% (83)	99% (83)	99% (83)	NED	R
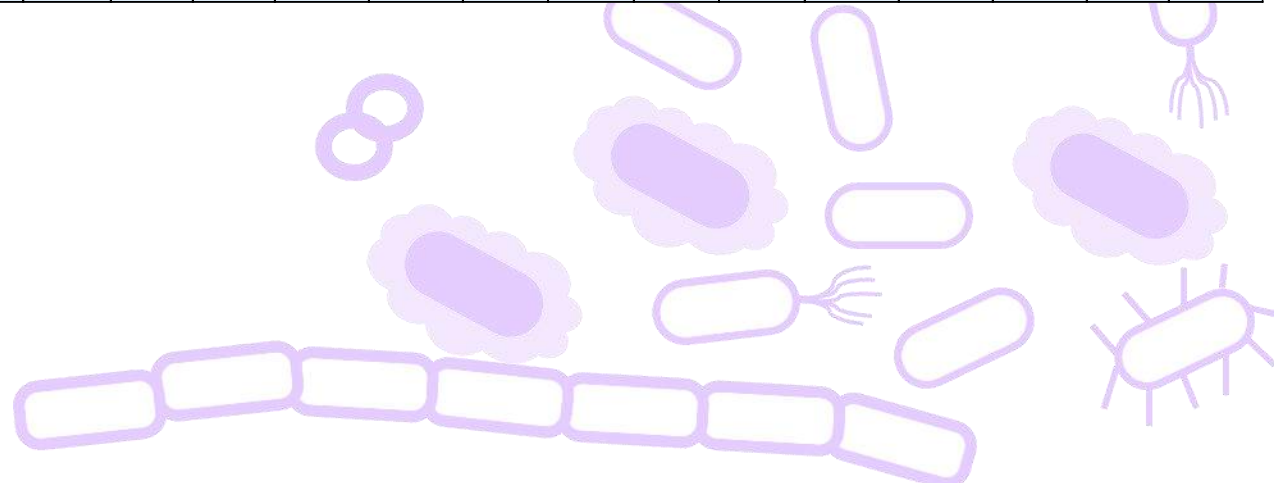
2019 Alaska State Antibiogram: Anchorage-Mat-Su Region

The following tables show the proportion of isolates of various bacterial species that tested susceptible to various antibiotics during 2019. These data were aggregated from the antibiograms produced by Alaska hospitals in order to create aggregate regional resistance pattern summaries. These antibiograms can be helpful for health care providers in selecting appropriate empiric antimicrobial therapy for their patients until specific individual laboratory test results are available. They can also be helpful for determining antibiotic stewardship priorities within hospitals and emerging resistance patterns in a broader service area.

- **Methodology:** Individual hospitals prepared their own facility antibiograms, which were shared with the Alaska Section of Epidemiology. Aggregated susceptibility percentages were calculated as the proportion of all tested isolates for the region that were susceptible. Values are only reported when more than one facility provided data for the given species-antibiotic combination. Intrinsic resistance is indicated with an "R", following the guidance of CLSI document M100-S24.
- **Multi-Drug Resistant Organisms of Note:**
    - Vancomycin-resistant *Staphylococcus aureus* (VRSA): no cases of VRSA have ever been reported in Alaska. VRSA is reportable to the Alaska Section of Epidemiology.
    - Carbapenem-resistant Enterobacteriaceae (CRE): there were 3 cases of CRE in Anchorage/Mat-Su residents in 2019.
- **Legend:**
    - The top value in each square is the percent of isolates of that species that tested susceptible to that antibiotic.
    - The lower value in each square indicates the number of tested isolates for that bacteria-antibiotic combination.
    - "R" indicates intrinsic resistance to that antibiotic, while "S" indicates definitional susceptibility.
    - "NED" indicates that there was Not Enough Data to report the value: either only one facility reported data for that drug-bug combination or <30 isolates were tested.
- **Limitations:** Individual facilities often use different methods to test for antimicrobial susceptibility, different methods to build their antibiograms, and different antibiotics in their pharmacies. These factors limit interpretation of these data. Additionally, antimicrobial susceptibility testing done in the laboratory does not always predict how effective that drug will be when used to treat a patient. Data are not stratified by infection site, which influences antibiotic choice and effectiveness.
- **Contributing Facilities:** Thanks to the following facilities for providing data in support of this project:
    - Alaska Native Medical Center
    - Alaska Regional Hospital
    - Mat-Su Regional Medical Center
    - Providence Alaska Medical Center

Anchorage+ Mat-Su Region

Species	Penicillin	Ampicillin	Oxacillin	Cefazolin	Ceftriaxone	Cefotaxime	Ciprofloxacin	Levofloxacin	Clindamycin	Erythromycin	Vancomycin	Gentamicin	Gent Syn	Trimethoprim-sulfamethoxazole	Linezolid	Nitrofurantoin
Total *Staphylococcus aureus*			60% (3410)	57% (1862)			64% (1862)	67% (3410)	79% (3410)	47% (1862)	100% (3410)	99% (3410)		97% (2995)	100% (2995)	100% (3410)
MSSA	5% (1107)		S	100% (1141)			91% (1323)	94% (2139)	85% (2321)	72% (1141)	100% (2321)	100% (1141)		98% (2321)	100% (1923)	100% (2321)
MRSA			R				26% (1031)	28% (1405)	66% (1619)	10% (817)	100% (1619)	99% (1405)		97% (1619)	100% (1201)	100% (1619)
Coag-negative *Staphylococcus*	NED		43% (477)	NED			NED	71% (420)	57% (477)	NED	100% (477)	84% (420)		47% (477)	NED	99% (477)
Staphylococcus epidermidis	3% (102)		39% (215)	23% (91)			66% (136)	61% (158)	55% (215)	NED	100% (215)	82% (158)		61% (215)	NED	100% (215)
Enterococcus faecalis	99% (596)	99% (596)		R	R	R	89% (311)	93% (528)	R		99% (596)	R	82% (423)	R	99% (423)	99% (596)
Enterococcus faecium	57% (60)	58% (60)		R	R	R	NED	60% (60)	R	NED	78% (60)	R	97% (60)	R	95% (60)	53% (60)
Streptococcus pneumoniae (all)						100% (100)		100% (125)	NED	87% (125)	100% (125)					
S. pneumoniae - non-CSF	80% (295)				99% (270)	99% (295)										
S pneumoniae - meningitis	76% (292)				93% (270)	95% (295)										

2019 State Antibiograms- SURVEILLANCE DATA ONLY

Species	Amoxicillin+ clavulanic acid	Ampicillin	Ampicillin+Sulbactam	Piperacillin+Tazobactam	Cefazolin	Cefuroxime	Cefuroxime-axetil	Ceftriaxone	Ceftazidime	Cefepime	Aztreonam	Gentamicin	Tobramycin	Amikacin	Meropenem	Ciprofloxacin	Levofloxacin	Trimeth+Sulfa	Tetracycline	Nitrofurantoin
Acinetobacter baumanii			98% (46)	85% (46)					83% (46)			98% (46)	98% (46)		98% (46)	98% (46)	98% (46)	96% (46)		
Citrobacter freundii	R	R	R	91% (74)	R	R		84% (74)	85% (74)	99% (74)	86% (74)	95% (74)	99% (74)	100% (61)	100% (61)	82% (74)	96% (74)	82% (45)	NED	96% (74)
Enterobacter cloacae	R	R	R	83% (253)	R	R		79% (154)	82% (214)	99% (253)	81% (214)	98% (253)	98% (253)	81% (214)	99% (253)	96% (253)	98% (253)	94% (253)	93% (138)	43% (253)
Escherichia coli	85% (2838)	56% (4559)	63% (5017)	97% (5017)	90% (5017)	86% (3296)	78% (3723)	93% (5017)	96% (4181)	96% (5017)	88% (4181)	92% (5017)	94% (5017)	99% (3723)	100% (4559)	83% (5017)	83% (5017)	81% (5017)	81% (2838)	97% (5017)
Klebsiella aerogenes				91% (80)				84% (80)	85% (80)	100% (80)	85% (80)	100% (80)	100% (80)	100% (80)	100% (80)	99% (80)	99% (80)	99% (80)		
Klebsiella oxytoca	86% (92)		69% (175)	94% (175)	47% (115)	90% (112)	95% (123)	94% (175)	99% (143)	97% (175)	97% (143)	99% (175)	99% (155)	100% (123)	99% (155)	97% (175)	97% (175)	96% (175)	97% (92)	83% (175)
Klebsiella pneumoniae	96% (311)	R	86% (729)	98% (729)	95% (392)	92% (535)	86% (729)	96% (616)	98% (729)	98% (616)	97% (729)	98% (648)	97% (648)	15% (3535)	100% (648)	96% (729)	96% (729)	92% (729)	84% (311)	43% (729)
Proteus mirabilis	94% (143)	85% (279)	90% (327)	99% (327)	94% (327)	96% (191)		98% (191)	100% (150)	99% (191)	99% (286)	94% (327)	94% (327)	100% (238)	100% (279)	92% (327)	94% (327)	91% (327)	R	R
Pseudomonas aeruginosa	R	R	R	94% (630)				R	90% (547)	92% (562)	68% (402)	89% (630)	96% (630)	92% (479)	94% (562)	87% (630)	82% (630)	R	R	R
Serratia marcesens				85% (81)				99% (81)	99% (81)	99% (81)		100% (81)	94% (81)	100% (81)	100% (81)	99% (81)	99% (81)	99% (81)		
Stenotrophomonas maltophilia									47% (32)								100% (32)	97% (32)		

2019 State Antibiograms- SURVEILLANCE DATA ONLY
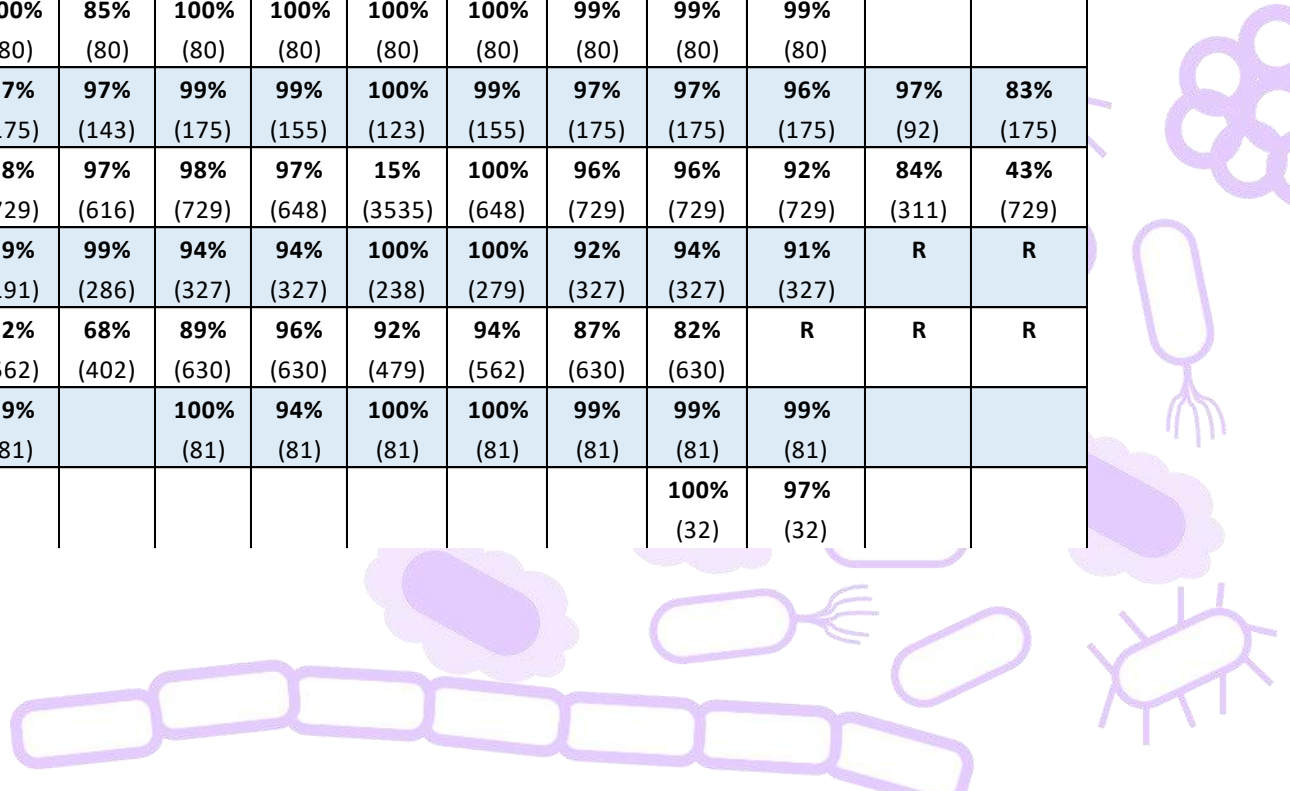
2019 Alaska State Antibiogram: Gulf Coast Region

The following tables show the proportion of isolates of various bacterial species that tested susceptible to various antibiotics during 2019. These data were aggregated from the antibiograms produced by Alaska hospitals in order to create aggregate regional resistance pattern summaries. These antibiograms can be helpful for health care providers in selecting appropriate empiric antimicrobial therapy for their patients until specific individual laboratory test results are available. They can also be helpful for determining antibiotic stewardship priorities within hospitals and emerging resistance patterns in a broader service area.

- **Methodology:** Individual hospitals prepared their own facility antibiograms, which were shared with the Alaska Section of Epidemiology. Aggregated susceptibility percentages were calculated as the proportion of all tested isolates for the region that were susceptible. Values are only reported when more than one facility provided data for the given species-antibiotic combination. Intrinsic resistance is indicated with an "R", following the guidance of CLSI document M100-S24.
- **Multi-Drug Resistant Organisms of Note:**
    - Vancomycin-resistant *Staphylococcus aureus* (VRSA): no cases of VRSA have ever been reported in Alaska. VRSA is reportable to the Alaska Section of Epidemiology.
    - Carbapenem-resistant Enterobacteriaceae (CRE): there were no cases of CRE in a Gulf Coast resident in 2019.
- **Legend:**
    - The top value in each square is the percent of isolates of that species that tested susceptible to that antibiotic.
    - The lower value in each square indicates the number of tested isolates for that bacteria-antibiotic combination.
    - "R" indicates intrinsic resistance to that antibiotic, while "S" indicates definitional susceptibility.
    - "NED" indicates that there was Not Enough Data to report the value: either only one facility reported data for that drug-bug combination or <30 isolates were tested.
- **Limitations:** Individual facilities often use different methods to test for antimicrobial susceptibility, different methods to build their antibiograms, and different antibiotics in their pharmacies. These factors limit interpretation of these data. Additionally, antimicrobial susceptibility testing done in the laboratory does not always predict how effective that drug will be when used to treat a patient. Data are not stratified by infection site, which influences antibiotic choice and effectiveness.
- **Contributing Facilities:** Thanks to the following facilities for providing data in support of this project:
    - Central Peninsula Hospital
    - South Peninsula Hospital
    - Providence Valdez Medical Center

Gulf Coast Region data

Species	Penicillin	Ampicillin	Oxacillin	Ciprofloxacin	Levofloxacin	Clindamycin	Erythromycin	Vancomycin	Gentamicin	Trimethoprim-sulfamethoxazole	Linezolid	Tetracycline	Nitrofurantoin	Rifampin
Total *Staphylococcus aureus*	9% (338)		62% (350)	63% (356)	64% (356)	82% (331)	43% (331)	100% (356)	99% (146)	99% (356)	99% (338)	94% (356)	100% (159)	97% (338)
MSSA	16% (196)		S	84% (208)	85% (208)	88% (191)	65% (191)	100% (208)	98% (86)	99% (208)	99% (196)	96% (208)	100% (91)	100% (196)
MRSA	0% (125)		R	29% (131)	31% (131)	73% (123)	7% (123)	100% (131)	100% (43)	98% (131)	99% (125)	91% (131)	100% (51)	92% (125)
Staphyloccus epidermidis	10% (147)		50% (149)	68% (147)	69% (147)	72% (120)	38% (120)	100% (149)	84% (67)	60% (149)	99% (147)	89% (149)	100% (94)	99% (147)
Enterococcus faecalis	100% (219)	100% (219)		84% (219)	96% (219)	R	7% (85)	100% (219)	R	R	91% (219)	23% (219)	100% (206)	NED
Group B *Streptococcus*	100% (40)	S			97% (35)	43% (40)	36% (36)	100% (40)			100% (35)	26% (35)		
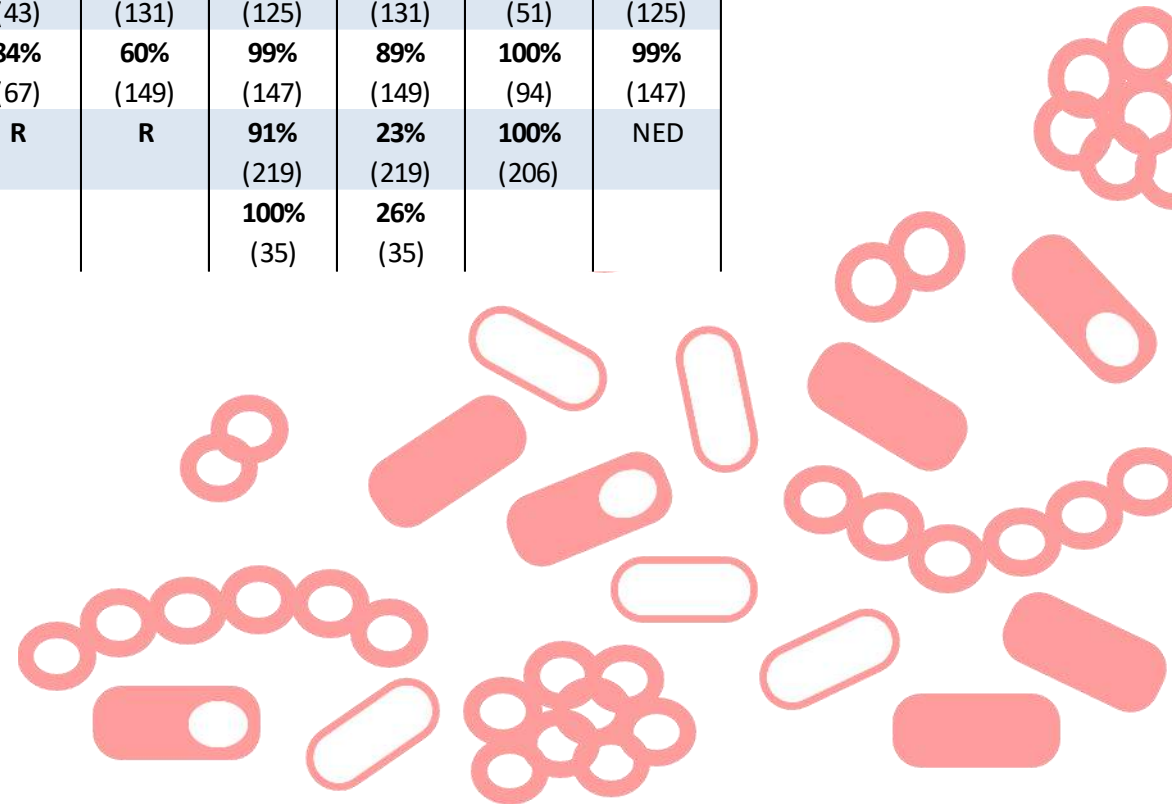
Gulf Coast Region data

	Amoxicillin+ clavanulanic acid	Ampicillin	Ampicillin+Sulbactam	Piperacillin+Tazobactam	Cefazolin	Cefuroxime	Ceftriaxone	Ceftazidime	Cefepime	Gentamicin	Tobramycin	Imipenem	Ciprofloxacin	Levofloxacin	Trimeth+Sulfa	Nitrofurantoin
Escherichia coli	88% (64)	58% (583)	66% (583)	99% (583)	91% (583)	95% (519)	96% (583)	98% (560)	100% (64)	95% (583)	90% (583)	100% (583)	89% (583)	89% (583)	83% (583)	99% (543)
Klebsiella pneumoniae	100% (13)	R	88% (108)	100% (108)	98% (104)			100% (104)	NED	100% (108)	100% (108)		98% (108)	98% (108)	96% (108)	46% (89)
Proteus mirabilis		72% (39)	79% (39)	100% (39)	78% (37)	88% (33)	92% (39)	95% (37)	NED	92% (39)	90% (39)		87% (39)	90% (39)	79% (39)	R
Pseudomonas aeruginosa	R	R	R	100% (47)	R	R	R	98% (47)	100% (47)	91% (47)	100% (47)	98% (47)	91% (47)	91% (47)	R	R

2019 State Antibiograms- SURVEILLANCE DATA ONLY
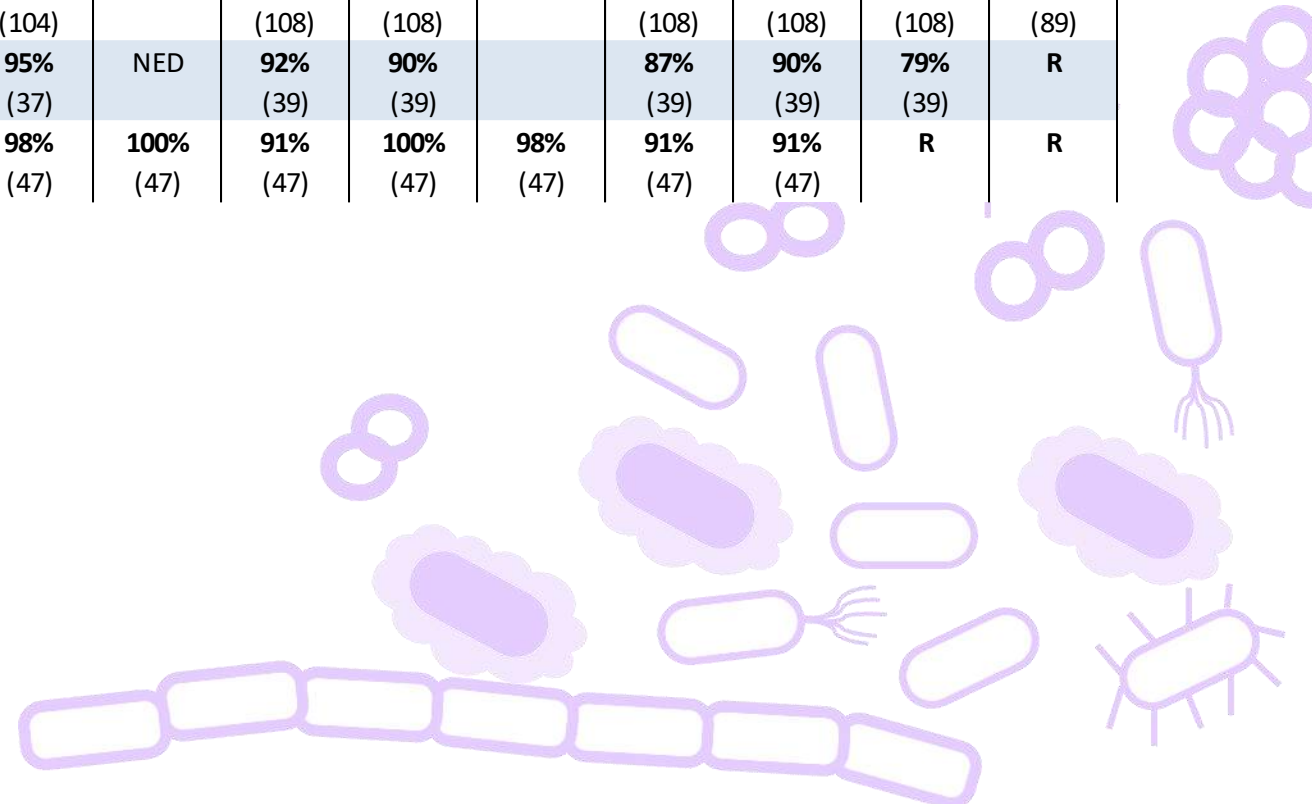
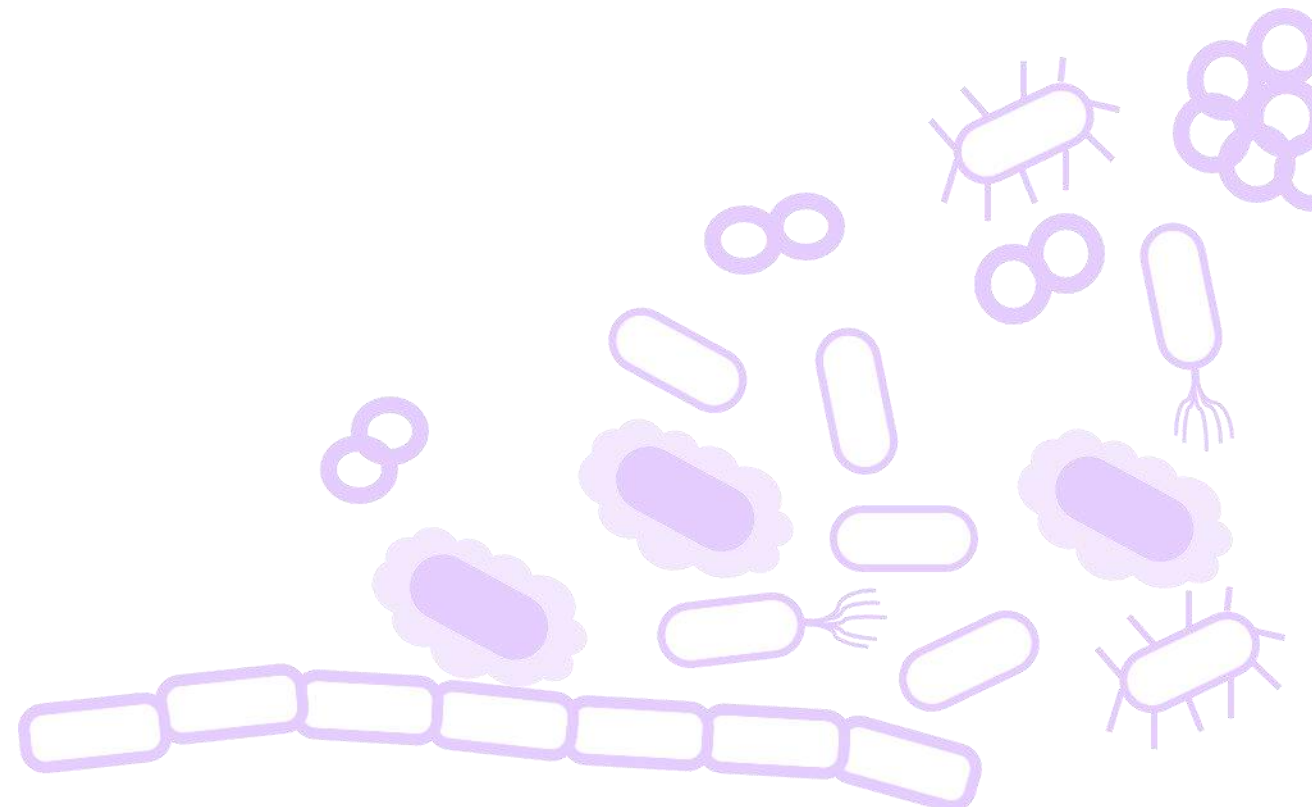# 2019 Alaska State Antibiogram: Interior Region

The following tables show the proportion of isolates of various bacterial species that tested susceptible to various antibiotics during 2019. These data were aggregated from the antibiograms produced by Alaska hospitals in order to create aggregate regional resistance pattern summaries. These antibiograms can be helpful for health care providers in selecting appropriate empiric antimicrobial therapy for their patients until specific individual laboratory test results are available. They can also be helpful for determining antibiotic stewardship priorities within hospitals and emerging resistance patterns in a broader service area.

- **Methodology:** Individual hospitals prepared their own facility antibiograms, which were shared with the Alaska Section of Epidemiology. Aggregated susceptibility percentages were calculated as the proportion of all tested isolates for the region that were susceptible. Values are only reported when more than one facility provided data for the given species-antibiotic combination. Intrinsic resistance is indicated with an "R", following the guidance of CLSI document M100-S24.
- **Multi-Drug Resistant Organisms of Note:**
    - Vancomycin-resistant *Staphylococcus aureus* (VRSA): no cases of VRSA have ever been reported in Alaska. VRSA is reportable to the Alaska Section of Epidemiology.
    - Carbapenem-resistant Enterobacteriaceae (CRE): there were no cases of CRE in a Interior resident in 2019.
- **Legend:**
    - The top value in each square is the percent of isolates of that species that tested susceptible to that antibiotic.
    - The lower value in each square indicates the number of tested isolates for that bacteria-antibiotic combination.
    - "R" indicates intrinsic resistance to that antibiotic, while "S" indicates definitional susceptibility.
    - "NED" indicates that there was Not Enough Data to report the value: either only one facility reported data for that drug-bug combination or <30 isolates were tested.
- **Limitations:** Individual facilities often use different methods to test for antimicrobial susceptibility, different methods to build their antibiograms, and different antibiotics in their pharmacies. These factors limit interpretation of these data. Additionally, antimicrobial susceptibility testing done in the laboratory does not always predict how effective that drug will be when used to treat a patient. Data are not stratified by infection site, which influences antibiotic choice and effectiveness.
- **Contributing Facilities:** Thanks to the following facilities for providing data in support of this project:
    - Fairbanks Memorial Hospital
    - Bassett Army Community Hospital

Interior Region data Species	Penicillin	Ampicillin	Cefotaxime	Ceftriaxone	Cefuroxime	Oxacillin	Ciprofloxacin	Levofloxacin	Clindamycin	Erythromycin	Vancomycin	Trimethoprim-sulfamethoxazole	Tetracycline	Nitrofurantoin
Coag-negative *Staphylococcus*						55% (251)	78% (251)	78% (251)	69% (251)	45% (251)	99% (251)	56% (251)	83% (251)	99% (251)

2019 State Antibiograms- SURVEILLANCE DATA ONLY

Interior Region data Species	Amoxicillin+ clavulanic acid	Ampicillin	Piperacillin+Tazobactam	Cefazolin	Ceftriaxone	Gentamicin	Ciprofloxacin	Levofloxacin	Trimeth+Sulfa	Nitrofurantoin	Tobramycin
Escherichia coli		64% (1647)	NED	27% (1647)	97% (1647)	95% (1647)	90% (1647)	90% (1647)	96% (1647)	91% (1647)	95% (1647)
Klebsiella spp.			96% (165)	33% (197)	98% (197)	98% (197)	98% (197)	98% (197)	93% (197)	31% (197)	99% (197)

2019 Alaska State Antibiogram: Southeast Region

The following tables show the proportion of isolates of various bacterial species that tested susceptible to various antibiotics during 2019. These data were aggregated from the antibiograms produced by Alaska hospitals in order to create aggregate regional resistance pattern summaries. These antibiograms can be helpful for health care providers in selecting appropriate empiric antimicrobial therapy for their patients until specific individual laboratory test results are available. They can also be helpful for determining antibiotic stewardship priorities within hospitals and emerging resistance patterns in a broader service area.

- **Methodology:** Individual hospitals prepared their own facility antibiograms, which were shared with the Alaska Section of Epidemiology. Aggregated susceptibility percentages were calculated as the proportion of all tested isolates for the region that were susceptible. Values are only reported when more than one facility provided data for the given species-antibiotic combination. Intrinsic resistance is indicated with an "R", following the guidance of CLSI document M100-S24.
- **Multi-Drug Resistant Organisms of Note:**
    - Vancomycin-resistant *Staphylococcus aureus* (VRSA): no cases of VRSA have ever been reported in Alaska. VRSA is reportable to the Alaska Section of Epidemiology.
    - Carbapenem-resistant Enterobacteriaceae (CRE): there were no cases of CRE reported in a Southeast resident in 2019.
- **Legend:**
    - The top value in each square is the percent of isolates of that species that tested susceptible to that antibiotic.
    - The lower value in each square indicates the number of tested isolates for that bacteria-antibiotic combination.
    - "R" indicates intrinsic resistance to that antibiotic, while "S" indicates definitional susceptibility.
    - "NED" indicates that there was Not Enough Data to report the value: either only one facility reported data for that drug-bug combination or <30 isolates were tested.
- **Limitations:** Individual facilities often use different methods to test for antimicrobial susceptibility, different methods to build their antibiograms, and different antibiotics in their pharmacies. These factors limit interpretation of these data. Additionally, antimicrobial susceptibility testing done in the laboratory does not always predict how effective that drug will be when used to treat a patient. Data are not stratified by infection site, which influences antibiotic choice and effectiveness.
- **Contributing Facilities:** Thanks to the following facilities for providing data in support of this project:
    - Bartlett Regional Hospital
   - PeaceHealth Ketchikan Medical Center

Southeast Region data

Species	Ampicillin	Oxacillin	Ciprofloxacin	Levofloxacin	Clindamycin	Erythromycin	Vancomycin	Trimethoprim-sulfamethoxazole	Tetracycline	Nitrofurantoin
Total *Staphylococcus aureus*		69% (356)	71% (356)	71% (356)	83% (356)	51% (356)	100% (356)	94% (356)	96% (356)	100% (356)
Enterococcus faecalis	100% (53)		87% (53)	87% (53)	R	9% (53)	100% (53)	R		94% (53)

Southeast Region data — Species	Ampicillin	Piperacillin+Tazobactam	Cefazolin	Ceftriaxone	Ceftazidime	Cefepime	Cefoxitin	Gentamicin	Tobramycin	Ertapenem	Ciprofloxacin	Levofloxacin	Trimeth+Sulfa	Nitrofurantoin
Escherichia coli	57% (719)	98% (719)	93% (719)	96% (719)	97% (719)	99% (719)	94% (719)	95% (719)	96% (719)	100% (719)	90% (719)	89% (719)	79% (719)	97% (719)
Klebsiella pneumoniae	R	97% (92)	95% (92)	93% (92)	93% (92)	97% (92)	96% (92)	98% (92)	97% (92)	100% (92)	92% (92)	92% (92)	91% (92)	40% (92)
Proteus mirabilis	97% (36)	100% (36)	97% (36)	100% (36)	100% (36)	100% (36)	97% (36)	97% (36)	97% (36)	100% (36)	94% (36)	94% (36)	94% (36)	R
Pseudomonas aeruginosa	R	97% (39)		R	90% (39)	90% (39)		100% (39)	100% (39)		85% (39)	82% (39)	R	

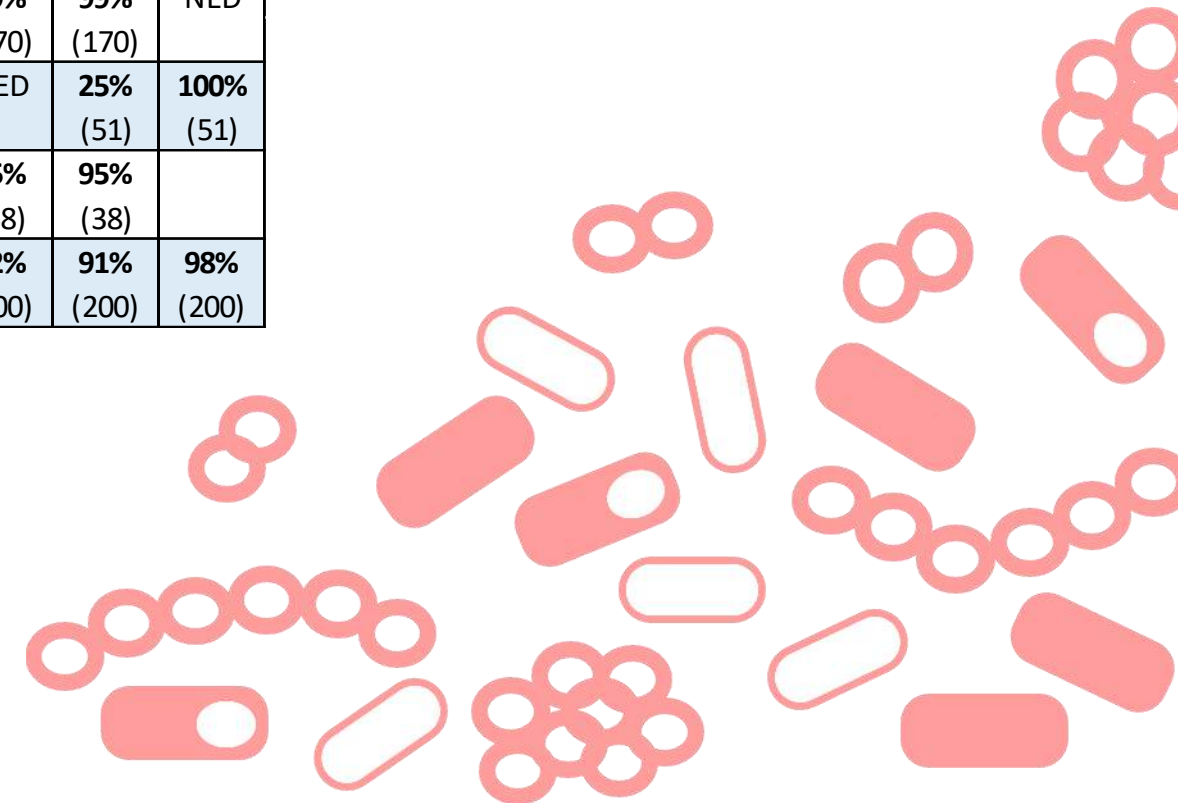2019 State Antibiograms- SURVEILLANCE DATA ONLY
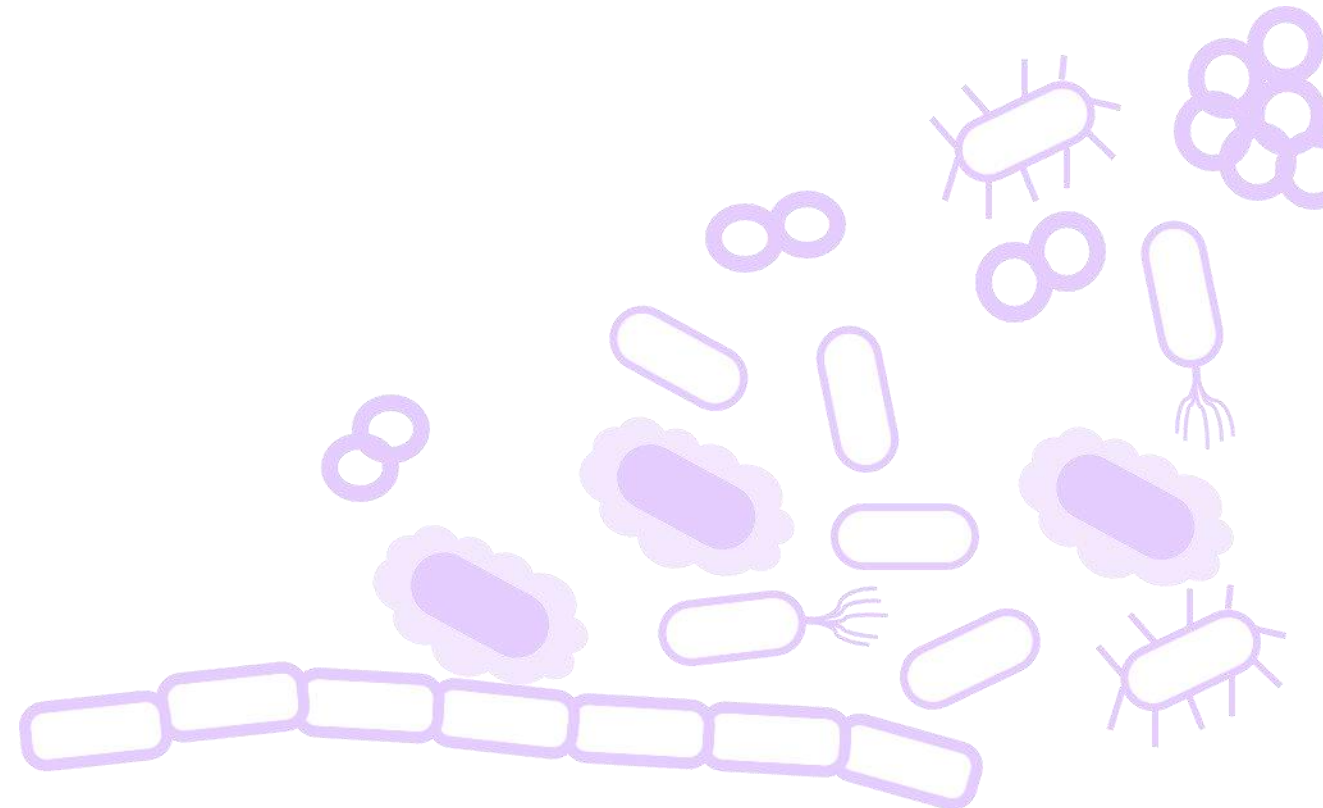
2019 Alaska State Antibiogram: Southwest Region

The following tables show the proportion of isolates of various bacterial species that tested susceptible to various antibiotics during 2019. These data were aggregated from the antibiograms produced by Alaska hospitals in order to create aggregate regional resistance pattern summaries. These antibiograms can be helpful for health care providers in selecting appropriate empiric antimicrobial therapy for their patients until specific individual laboratory test results are available. They can also be helpful for determining antibiotic stewardship priorities within hospitals and emerging resistance patterns in a broader service area.

- **Methodology:** Individual hospitals prepared their own facility antibiograms, which were shared with the Alaska Section of Epidemiology. Aggregated susceptibility percentages were calculated as the proportion of all tested isolates for the region that were susceptible. Values are only reported when more than one facility provided data for the given species-antibiotic combination. Intrinsic resistance is indicated with an "R", following the guidance of CLSI document M100-S24.
- **Multi-Drug Resistant Organisms of Note:**
  - Vancomycin-resistant *Staphylococcus aureus* (VRSA): no cases of VRSA have ever been reported in Alaska. VRSA is reportable to the Alaska Section of Epidemiology.
  - Carbapenem-resistant Enterobacteriaceae (CRE): there were no cases of CRE reported in a Southwest resident in 2019.
- **Legend:**
  - The top value in each square is the percent of isolates of that species that tested susceptible to that antibiotic.
  - The lower value in each square indicates the number of tested isolates for that bacteria-antibiotic combination.
  - "R" indicates intrinsic resistance to that antibiotic, while "S" indicates definitional susceptibility.
  - "NED" indicates that there was Not Enough Data to report the value: either only one facility reported data for that drug-bug combination or <30 isolates were tested.
- **Limitations:** Individual facilities often use different methods to test for antimicrobial susceptibility, different methods to build their antibiograms, and different antibiotics in their pharmacies. These factors limit interpretation of these data. Additionally, antimicrobial susceptibility testing done in the laboratory does not always predict how effective that drug will be when used to treat a patient. Data are not stratified by infection site, which influences antibiotic choice and effectiveness.
- **Contributing Facilities:** Thanks to the following facilities for providing data in support of this project:
  - Kanakanak Hospital
  - Yukon-Kuskokwim Delta Regional Hospital

Southwest Region data

Species	Penicillin	Cefotaxime	Ceftriaxone	Cefuroxime	Oxacillin	Levofloxacin	Clindamycin	Erythromycin	Vancomycin	Trimethoprim-sulfamethoxazole	Tetracycline	Nitrofurantoin
Total *Staphylococcus aureus*	9% (532)		NED		68% (532)	80% (532)	92% (532)	54% (532)	99% (532)	100% (532)	99% (532)	100% (509)
MSSA	13% (362)				S	95% (362)	94% (362)	74% (362)	100% (362)	100% (362)	99% (362)	100% (362)
MRSA	NED				R	50% (170)	90% (170)	11% (170)	99% (170)	99% (170)	99% (170)	NED
Enterococcus faecalis	98% (51)					98% (51)	NED	42% (51)	100% (51)	NED	25% (51)	100% (51)
Streptococcus pneumoniae	92% (38)	97% (35)	97% (38)	100% (38)		100% (38)	97% (38)	89% (38)	100% (38)	95% (38)	95% (38)	
Coagulase-negative *Staph*	16% (200)				53% (200)	93% (200)	75% (200)	39% (200)	99% (200)	82% (200)	91% (200)	98% (200)

Southwest Region data / Species	Amoxicillin+ clavulanic acid	Ampicillin	Piperacillin+Tazobactam	Cefazolin	Ceftriaxone	Gentamicin	Ciprofloxacin	Levofloxacin	Trimeth+Sulfa	Tetracycline	Nitrofurantoin
Enterobacter cloacae	0% (33)	0% (33)	100% (33)	0% (33)	85% (33)	97% (33)	100% (33)	100% (33)	94% (33)	100% (33)	39% (33)
Escherichia coli	89% (1165)	50% (1165)	99% (1165)	91% (1165)	97% (1165)	92% (1165)	85% (1165)	85% (1165)	71% (1165)	77% (1165)	98% (1165)
ESBL *E. coli*	80% (40)	0% (40)	98% (40)	0% (40)	0% (40)	83% (40)	45% (40)	45% (40)	43% (40)	38% (40)	100% (40)
Klebsiella pneumoniae	98% (66)	0% (66)	97% (66)	92% (66)	97% (66)	100% (66)	100% (66)	100% (66)	98% (66)	89% (66)	53% (66)
Proteus mirabilis	100% (47)	91% (47)	100% (47)	96% (47)	96% (47)	96% (47)	98% (47)	98% (47)	94% (47)	0% (47)	0% (47)