2020 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 8 cases of CRE reported in Alaska in 2020. 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	Clindamycin	Erythromycin	Vancomycin	Gentamicin	Gent Syn	Trimethoprim-sulfamethoxazole	Linezolid	Tetracycline	Nitrofurantoin	Quinupristin-dalfopristin	Rifampin
Total *Staphylococcus aureus*	**13%** (1236)		**65%** (4875)	**53%** (557)	**59%** (185)	**58%** (2103)	**65%** (560)		**66%** (2002)	**69%** (3695)	**91%** (167)	**80%** (5200)	**47%** (1583)	**99%** (5285)	**99%** (3076)		**98%** (5285)	**99%** (3844)	**96%** (4863)	**97%** (4427)	**100%** (167)	**99%** (899)
MSSA	**19%** (759)	**0%** (76)	**S**	**99%** (294)	**100%** (371)	**100%** (1250)	**99%** (368)		**84%** (1092)	**89%** (2190)		**88%** (2381)	**73%** (735)	**99%** (3092)	**99%** (1789)		**98%** (3092)	**99%** (2434)	**97%** (2854)	**100%** (2584)		**100%** (551)
MRSA	**2%** (246)		**R**			NED			**37%** (659)	**34%** (1332)		**66%** (2105)	**11%** (612)	**99%** (2116)	**99%** (1140)		**98%** (2116)	**99%** (1550)	**96%** (1902)	**99%** (1761)		**99%** (246)
Staphylococcus lugdunensis			**76%** (41)						**95%** (41)	**100%** (41)		**73%** (41)	**73%** (41)	**100%** (41)	**100%** (41)		**100%** (37)	**100%** (37)	**100%** (41)			
Coag-negative *Staphylococcus* (inc. *S. epidermidis*)	**15%** (432)		**48%** (1030)	**44%** (154)	**51%** (106)	**40%** (449)	**44%** (252)		**80%** (638)	**82%** (794)		**65%** (953)	**36%** (451)	**99%** (1030)	**93%** (602)		**74%** (1025)	**99%** (583)	**86%** (968)	**99%** (969)		**99%** (276)
Enterococcus faecalis	**99%** (733)	**99%** (1103)				**R**	**R**	**R**	**91%** (632)	**93%** (1034)		**R**	**11%** (163)	**99%** (1126)	**R**	**87%** (371)	**R**	**94%** (825)	**29%** (979)	**98%** (1111)	**R**	**45%** (91)
Enterococcus spp.	**97%** (268)	**97%** (240)							**90%** (210)	**88%** (234)				**97%** (290)		NED		**98%** (98)	**41%** (234)	**91%** (236)		
Group B *Streptococcus*	**100%** (166)	**S**								**100%** (112)		**45%** (206)	**38%** (74)	**100%** (166)								
Streptococcus pneumoniae (all)	**94%** (253)						**98%** (278)	**100%** (111)		**98%** (316)		**90%** (278)	**88%** (172)	**99%** (363)			**78%** (278)		**87%** (214)			
S. pneumoniae - oral	**87%** (155)																					
S. pneumoniae - non-CSF	**99%** (162)						**100%** (115)	**100%** (98)														
S pneumoniae - meningitis	**82%** (238)						**93%** (191)	**97%** (111)														

2020 State Antibiograms- SURVEILLANCE DATA ONLY

Statewide data

Species	Amoxicillin+ clavulanic acid	Ampicillin	Ampicillin+Sulbactam	Piperacillin+Tazobactam	Cefazolin	Cefuroxime	Ceftriaxone	Ceftazidime	Cefepime	Cefoxitin	Aztreonam	Gentamicin	Tobramycin	Amikacin	Ertapenem	Imipenem	Meropenem	Ciprofloxacin	Levofloxacin	Trimeth+Sulfa	Tetracycline	Nitrofurantoin
Citrobacter freundii	**R**	**R**	**R**	**93%** (129)	**R**	**R**	**90%** (129)	**90%** (125)	**100%** (116)	**R**	**83%** (77)	**96%** (129)	**95%** (129)	**100%** (84)		**100%** (52)	**100%** (58)	**97%** (96)	**90%** (129)	**87%** (129)		**84%** (106)
Klebsiella aerogenes	**R**	**R**	**R**	**91%** (141)	**R**	**R**	**90%** (141)	**88%** (95)	**100%** (89)	**R**	**86%** (79)	**100%** (141)	**100%** (86)	**100%** (51)			**100%** (134)	**99%** (141)	**99%** (141)	**71%** (141)	**98%** (80)	**38%** (92)
Enterobacter cloacae	**R**	**R**	**R**	**83%** (331)	**R**	**R**	**79%** (331)	**86%** (256)	**96%** (271)	**R**	**85%** (177)	**99%** (331)	**98%** (287)	**100%** (124)		**95%** (66)	**98%** (264)	**98%** (288)	**89%** (331)	**94%** (331)	**94%** (168)	**32%** (312)
Enterobacter spp.				**91%** (85)			**81%** (85)	**87%** (85)	**100%** (85)			**94%** (85)						**98%** (85)	**98%** (85)	**95%** (85)		**35%** (85)
Escherichia coli	**88%** (4654)	**59%** (9525)	**66%** (8303)	**98%** (9575)	**85%** (8522)	**91%** (1933)	**95%** (9370)	**97%** (7641)	**93%** (8134)	**95%** (2016)	**95%** (2061)	**94%** (9967)	**91%** (8845)	**99%** (2746)	**100%** (1908)	**100%** (3632)	**100%** (5841)	**87%** (8681)	**86%** (9926)	**80%** (9526)	**77%** (4222)	**98%** (9750)
ESBL E. coli	NED		NED	**95%** (42)								**88%** (42)				NED	**100%** (24)	**45%** (42)	**45%** (42)	**48%** (42)		**98%** (40)
Klebsiella oxytoca	**97%** (74)	**0%** (41)	**72%** (187)	**96%** (187)	**42%** (149)	**97%** (75)	**96%** (187)	**98%** (186)	**100%** (147)		**97%** (146)	**99%** (187)	**98%** (152)	**100%** (113)	**100%** (1)	**100%** (41)	**100%** (111)	**98%** (187)	**98%** (187)	**96%** (187)		**74%** (175)
Klebsiella pneumoniae	**97%** (437)	**R**	**88%** (976)	**97%** (976)	**95%** (928)	**95%** (225)	**96%** (816)	**98%** (785)	**98%** (776)		**96%** (476)	**99%** (976)	**97%** (842)	**99%** (432)	**100%** (128)	**99%** (288)	**99%** (636)	**97%** (831)	**96%** (976)	**93%** (976)	**90%** (364)	**39%** (966)
Klebsiella spp.	**81%** (31)			**96%** (187)					**98%** (187)			**100%** (187)	**99%** (187)		**99%** (187)	**98%** (187)		**98%** (187)	**98%** (187)	**95%** (187)		
Proteus mirabilis	**95%** (284)	**86%** (561)	**91%** (566)	**99%** (608)	**88%** (569)	**96%** (115)	**98%** (532)	**98%** (493)	**99%** (497)	**95%** (127)	**99%** (267)	**95%** (608)	**95%** (548)	**100%** (195)	**99%** (140)	**38%** (175)	**100%** (230)	**93%** (537)	**94%** (608)	**90%** (571)	**R**	**R**
Pseudomonas aeruginosa	**R**	**R**	**R**	**96%** (771)	**R**	**R**	**R**	**94%** (669)	**93%** (657)	**R**	**74%** (294)	**92%** (771)	**98%** (729)	**96%** (326)	**R**	**84%** (238)	**97%** (495)	**90%** (669)	**86%** (771)	**R**	**R**	**R**
Serratia marcescens	**R**	**R**	**R**	**79%** (75)	**R**	**R**	**96%** (77)	**99%** (76)	**100%** (77)	**R**	**99%** (75)	**99%** (77)	**91%** (77)				**100%** (75)	**99%** (77)	**99%** (77)	**99%** (77)	NED	**R**
Haemophilus influenzae		**58%** (40)					**100%** (74)												**100%** (113)	**74%** (113)		

2020 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 2 cases of CRE in Anchorage/Mat-Su residents in 2020.
- **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
  - Maple Springs Long-Term Care
  - JBER Hospital

Anchorage+ Mat-Su Region

Species	Penicillin	Ampicillin	Oxacillin	Cefazolin	Ceftriaxone	Cefotaxime	Ciprofloxacin	Levofloxacin	Clindamycin	Erythromycin	Vancomycin	Gentamicin	Gent Syn	Trimethoprim-sulfamethoxazole	Linezolid	Tetracycline	Nitrofurantoin
Total *Staphylococcus aureus*			**61%** (3242)	**55%** (1540)			**62%** (551)	**65%** (1866)	**76%** (3456)	**46%** (501)	**100%** (3456)	**99%** (1866)		**97%** (3456)	**100%** (2533)	**96%** (3034)	**100%** (3456)
MSSA			**S**	**100%** (879)			**91%** (211)	**92%** (1047)	**87%** (1254)	**75%** (187)	**100%** (1949)	**98%** (1047)		**97%** (1949)	**100%** (1553)	**97%** (1711)	**100%** (1946)
MRSA			**R**				**28%** (217)	**26%** (774)	**61%** (1531)	**13%** (235)	**100%** (1532)	**98%** (774)		**97%** (1532)	**100%** (1082)	**96%** (1318)	**99%** (1530)
Coag-negative *Staphylococcus*			**45%** (395)	**33%** (190)			NED	**74%** (159)	**59%** (395)	**34%** (142)	**100%** (395)	**92%** (253)		**70%** (395)	**100%** (191)	**83%** (333)	**99%** (395)
Staphylococcus epidermidis			**31%** (127)						**54%** (127)	NED	**100%** (127)	**78%** (65)		**54%** (127)	NED		**100%** (127)
Streptococcus agalacticae	**100%** (78)							**100%** (78)	**47%** (118)		**100%** (78)						
Enterococcus faecalis	**37%** (1276)	**99%** (686)		**R**	**R**	**R**	**96%** (273)	**92%** (619)	**R**		**99%** (684)	**R**	**87%** (331)	**R**	**100%** (470)	**28%** (537)	**98%** (686)
Streptococcus pneumoniae (all)	**94%** (197)				**99%** (229)	**100%** (111)		**98%** (261)	**88%** (223)	**89%** (117)	**100%** (308)			**75%** (223)		**84%** (159)	
S. pneumoniae - oral	**89%** (111)																
S. pneumoniae - non-CSF	**100%** (111)																
S pneumoniae - meningitis	**82%** (238)				**93%** (191)	**97%** (111)											

Anchorage+ Mat-Su Region

Species	Amoxicillin+ clavulanic acid	Ampicillin	Ampicillin+Sulbactam	Piperacillin+Tazobactam	Cefazolin	Cefuroxime	Ceftriaxone	Ceftazidime	Cefepime	Aztreonam	Gentamicin	Tobramycin	Amikacin	Imipenem	Meropenem	Ciprofloxacin	Levofloxacin	Trimeth+Sulfa	Tetracycline	Nitrofurantoin
Citrobacter freundii	**R**	**R**	**R**	**92%** (114)	**R**	**R**	**89%** (114)	**90%** (110)	**100%** (114)	**83%** (77)	**96%** (114)	**95%** (114)	**100%** (71)	**100%** (37)	**100%** (58)	**98%** (81)	**89%** (114)	**87%** (114)	NED	**82%** (95)
Enterobacter cloacae	**R**	**R**	**R**	**83%** (220)	**R**	**R**	**78%** (220)	**85%** (177)	**98%** (220)	**85%** (177)	**100%** (220)	**97%** (220)	NED		**99%** (220)	**100%** (177)	**98%** (220)	**94%** (220)	**93%** (124)	**35%** (220)
Escherichia coli	**86%** (2209)	**57%** (4672)	**64%** (5114)	**97%** (5114)	**81%** (5114)	**90%** (1097)	**94%** (5114)	**97%** (4452)	**90%** (5114)	**95%** (2061)	**94%** (5114)	**87%** (5114)	**100%** (2250)	**100%** (638)	**100%** (4034)	**84%** (3828)	**84%** (5114)	**74%** (4714)	**74%** (2415)	**97%** (5114)
Klebsiella aerogenes				**86%** (79)			**86%** (79)	**86%** (79)	**100%** (79)	**86%** (79)	**100%** (79)	**100%** (79)			**100%** (79)	**99%** (79)	**99%** (79)	**100%** (79)		
Klebsiella oxytoca	**97%** (74)		**71%** (147)	**96%** (147)	**37%** (109)		**96%** (147)	**99%** (146)	**100%** (147)	**97%** (146)	**99%** (147)	**97%** (112)	NED		**100%** (111)	**97%** (147)	**97%** (147)	**95%** (147)	NED	**71%** (147)
Klebsiella pneumoniae	**87%** (210)	**R**	**87%** (627)	**96%** (627)	**94%** (621)		**95%** (561)	**97%** (476)	**98%** (561)	**96%** (476)	**98%** (627)	**96%** (575)	**100%** (338)	**100%** (72)	**100%** (503)	**96%** (482)	**96%** (627)	**92%** (627)	**92%** (231)	**36%** (627)
Proteus mirabilis	**94%** (143)	**86%** (297)	**93%** (340)	**99%** (340)	**95%** (338)	**96%** (80)	**98%** (306)	**98%** (267)	**99%** (306)	**99%** (267)	**96%** (340)	**96%** (340)	**100%** (160)		**100%** (135)	**92%** (269)	**92%** (340)	**91%** (303)	**R**	**R**
Pseudomonas aeruginosa	**R**	**R**	**R**	**95%** (503)			**R**	**92%** (401)	**92%** (422)	**72%** (255)	**93%** (503)	**98%** (503)	**96%** (287)	**93%** (45)	**96%** (420)	**90%** (401)	**83%** (503)	**R**	**R**	**R**
Serratia marcesens				**79%** (75)			**96%** (76)	**99%** (75)	**100%** (76)	**99%** (75)	**99%** (76)	**91%** (76)			**100%** (75)	**99%** (76)	**99%** (76)	**99%** (76)		

2020 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 4 cases of CRE in Gulf Coast residents in 2020.
- **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
  - Cordova Community 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)
Staphylocccus 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	Ertapenem	Imipenem	Ciprofloxacin	Levofloxacin	Trimeth+Sulfa	Tetracycline	Nitrofurantoin
Escherichia coli	**88%** (394)	**61%** (913)	**65%** (913)	**99%** (913)	**91%** (913)		**96%** (913)	**98%** (890)	**100%** (394)	**96%** (913)	**92%** (913)	**100%** (64)	**100%** (583)	**88%** (913)	**88%** (913)	**83%** (913)		**99%** (873)
Klebsiella pneumoniae	**97%** (64)	**R**	**86%** (159)	**99%** (159)	**99%** (155)	**99%** (146)	**100%** (159)	**100%** (155)	**100%** (64)	**99%** (159)	**99%** (159)		**100%** (108)	**98%** (159)	**99%** (159)	**96%** (159)		**54%** (140)
Proteus mirabilis		**69%** (58)	**76%** (58)	**99%** (58)	**73%** (56)	**92%** (52)	**95%** (58)	**96%** (56)	NED	**84%** (58)	**83%** (58)			**90%** (58)	**91%** (58)	**74%** (58)	**R**	**R**
Pseudomonas aeruginosa	**R**	**R**	**R**	**99%** (71)	**R**	**R**	**R**	**94%** (71)	**96%** (71)	**90%** (71)	**99%** (71)		**98%** (47)	**93%** (71)	**94%** (71)	**R**	**R**	**R**

2020 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 2020.
- **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
  - Tanana Chiefs Conference

Interior Region data **Species**	Penicillin	Ampicillin	Cefotaxime	Ceftriaxone	Cefuroxime	Oxacillin	Ciprofloxacin	Levofloxacin	Clindamycin	Erythromycin	Vancomycin	Gentamicin	Trimethoprim-sulfamethoxazole	Linezolid	Tetracycline	Nitrofurantoin
Total *S. aureus*						**85%** (447)	**70%** (643)	**72%** (643)	**85%** (643)	**46%** (643)	**99%** (643)	**100%** (643)	**98%** (643)	**99%** (643)	**95%** (643)	
MSSA						**S**	**89%** (382)	**90%** (382)	**88%** (382)	**71%** (382)	**99%** (382)	**100%** (382)	**99%** (382)	**98%** (382)	**96%** (382)	
MRSA						**R**	**42%** (261)	**47%** (261)	**80%** (261)	**10%** (261)	**99%** (261)	**100%** (261)	**98%** (261)	**100%** (261)	**95%** (261)	
Enterococcus spp.	**100%** (244)						**93%** (190)	**95%** (190)			**100%** (244)				**37%** (190)	**98%** (190)

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)

2020 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 2020.
- **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	Penicillin	Ampicillin	Oxacillin	Ciprofloxacin	Levofloxacin	Clindamycin	Vancomycin	Gentamicin	Trimethoprim-sulfamethoxazole	Tetracycline	Nitrofurantoin	Rifampin
Total *Staphylococcus aureus*	**18%** (424)		**72%** (424)	**72%** (424)	**73%** (424)	**86%** (424)	**100%** (424)	**99%** (424)	**97%** (424)	**95%** (424)	**100%** (424)	**100%** (424)
Enterococcus faecalis		**100%** (108)		**92%** (108)	**92%** (108)	**R**	**100%** (108)	**R**	**R**	**21%** (108)	**99%** (108)	

Southeast Region data **Species**	Ampicillin	Piperacillin+Tazobactam	Cefazolin	Ceftriaxone	Ceftazidime	Cefepime	Cefoxitin	Gentamicin	Tobramycin	Ertapenem	Imipenem	Ciprofloxacin	Levofloxacin	Trimeth+Sulfa	Nitrofurantoin
Enterobacter cloacae complex	R	NED	R	**87%** (38)	**89%** (38)	**87%** (38)		**100%** (38)	**100%** (38)		**97%** (38)	**89%** (38)	**89%** (38)	**87%** (38)	**29%** (38)
Escherichia coli	**64%** (883)	**99%** (883)	**95%** (883)	**94%** (286)	**97%** (883)	**95%** (883)	**96%** (286)	**96%** (883)	**97%** (883)	**100%** (286)		**91%** (883)	**90%** (883)	**85%** (883)	**97%** (883)
Klebsiella pneumoniae	R	**99%** (113)	**98%** (113)	**97%** (113)	**99%** (113)	**99%** (113)	**#DIV/0!** (0)	**100%** (113)	**99%** (113)	**100%** (113)		**96%** (113)	**96%** (113)	**95%** (113)	**38%** (113)
Proteus mirabilis	**95%** (57)	**100%** (57)	**100%** (57)	**100%** (57)	**100%** (57)	**100%** (57)	**93%** (15)	**96%** (57)	**96%** (57)	**100%** (57)		**93%** (57)	**93%** (57)	**91%** (57)	**R**
Pseudomonas aeruginosa	**R**	**97%** (66)		**R**	**94%** (66)	**94%** (66)		**98%** (66)	**97%** (66)		**97%** (66)	**91%** (66)	**88%** (66)	**R**	

2020 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 2020.
- **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	Amoxicillin-clavanulate	Ampicillin	Cefazolin	Oxacillin	Levofloxacin	Clindamycin	Vancomycin	Trimethoprim-sulfamethoxazole	Tetracycline	Nitrofurantoin
Total *Staphylococcus aureus*		NED	**67%** (437)	**67%** (437)	**83%** (437)	**95%** (378)	**99%** (437)	**99%** (437)	**97%** (437)	NED
MSSA	**100%** (295)	NED	**100%** (295)	**S**	**94%** (295)	**96%** (295)	**100%** (295)	**99%** (295)	**98%** (295)	NED
MRSA		NED		**R**	NED	**92%** (142)	**100%** (142)	**99%** (142)	**98%** (142)	NED
Enterococcus faecalis		**99%** (83)			NED		**100%** (83)		**31%** (83)	**100%** (83)
Coagulase-negative *Staph*			**44%** (187)	**44%** (187)	**91%** (187)	**66%** (153)	**95%** (187)	**78%** (187)	**91%** (187)	**100%** (187)

Southwest Region data **Species**	Amoxicillin+ clavulanic acid	Ampicillin	Piperacillin+Tazobactam	Cefazolin	Ceftriaxone	Ceftazidime	Gentamicin	Ciprofloxacin	Levofloxacin	Trimeth+Sulfa	Tetracycline	Nitrofurantoin	Meropenem
Enterobacter cloacae			**86%** (44)		**75%** (44)		**95%** (44)	**98%** (44)	**98%** (44)	**95%** (44)	**95%** (44)	NED	**98%** (44)
Escherichia coli	**88%** (1122)	**52%** (1122)	**98%** (1122)	**90%** (1122)	**96%** (1122)		**92%** (1122)	**84%** (1122)	**85%** (1122)	**77%** (1122)	**81%** (1122)	**98%** (1122)	**100%** (1122)
Klebsiella aerogenes			**98%** (55)		**98%** (55)		**100%** (55)	**100%** (55)	**100%** (55)	**25%** (55)		**52%** (52)	**100%** (55)
Klebsiella pneumoniae	**96%** (82)		**96%** (82)		**93%** (82)		**98%** (82)	**99%** (82)	**98%** (82)	**95%** (82)	**89%** (82)	**46%** (82)	**98%** (82)
Proteus mirabilis	**97%** (60)	**88%** (60)	**98%** (60)	**90%** (60)	NED		**97%** (60)	**97%** (60)	**98%** (60)	**97%** (60)			**100%** (82)
Pseudomonas aeruginosa			**100%** (42)			**100%** (42)	**74%** (42)	**93%** (42)	**90%** (42)				**98%** (42)