2025 Alaska State Antibiogram

The following tables show the proportion of isolates of various bacterial species that tested susceptible to various antibiotics during 2025. These data were aggregated from the antibiograms produced by Alaska hospitals 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 and when at least 30 total isolates are included. 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:**
  - Carbapenem-resistant Enterobacterales (CRE): there were 23 cases of CRE reported in 2025. Two were carbapenemase-producing, which are described in the Region sections.
  - Carbapenem-resistant *Pseudomonas aeruginosa* (CRPA): there were 25 cases of CRPA reported in 2025. None were carbapenemase-producing.
  - Carbapenem-resistant *Acinetobacter baumanii* (CRAB): One cases of CRAB was reported in 2025.
  - *Candida auris:* Two cases of *C. auris* was identified in Alaska residents.
- **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 Fairbanks Memorial Hospital, Yukon-Kuskokwim Delta Regional Hospital, and Maniilaq Health Center.

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

Species	Penicillin	Ampicillin	Oxacillin	Ampicillin-sulbactam	Amoxicillin	Cefazolin	Ceftriaxone	Cefotaxime	Ciprofloxacin	Levofloxacin	Daptomycin	Clindamycin	Erythromycin	Vancomycin	Azithromycin	Gentamicin	Gent Syn	Trimethoprim-sulfamethoxazole	Linezolid	Tetracycline	Nitrofurantoin	Streptomycin Syn
Total *Staphylococcus aureus*	**8%** (158)		**63%** (4126)	**83%** (18)	**83%** (18)	**59%** (2205)	**57%** (400)		**73%** (957)	**72%** (2339)	**99%** (1660)	**86%** (3724)	**57%** (482)	**99%** (4144)	**46%** (73)	**99%** (1902)		**95%** (3745)	**99%** (4140)	**94%** (2557)	**99%** (2464)	
MSSA	**17%** (138)		**S**	**100%** (153)	**100%** (153)		**100%** (367)		**87%** (367)	**91%** (1375)	**100%** (1150)	**86%** (2412)	**64%** (137)	**100%** (2372)	**64%** (137)	**99%** (1094)		**61%** (2428)	**99%** (2305)	**96%** (1364)	**100%** (1285)	
MRSA			**R**						**21%** (71)	**27%** (565)	**99%** (834)	**84%** (1430)	**15%** (71)	**99%** (1482)	**12%** (91)	**99%** (535)		**92%** (1492)	**99%** (1511)	**91%** (769)	**100%** (895)	
Staphylococcus lugdunensis			**90%** (110)						**99%** (69)	**99%** (110)		**96%** (426)	**97%** (385)	**100%** (110)		**99%** (110)		**98%** (59)	**100%** (59)	**91%** (110)		
Coag-negative *Staphylococcus* (inc. *S. epidermidis*)	**9%** (240)		**49%** (1036)	**50%** (138)		**41%** (510)	**41%** (330)		**89%** (588)	**88%** (868)	**100%** (306)	**64%** (850)	**44%** (119)	**99%** (1048)	**44%** (165)	**94%** (612)		**73%** (867)	**99%** (1031)	**85%** (884)	**99%** (607)	
Enterococcus faecalis	**99%** (751)	**99%** (1035)				**R**	**R**	**R**	**92%** (867)	**96%** (1076)	**100%** (439)	**R**		**99%** (1099)		**R**	**87%** (719)	**R**	**99%** (1076)	**31%** (859)	**99%** (894)	**93%** (270)
Enterococcus spp. (inc. *E. faecium*)	**71%** (41)	**51%** (73)							**24%** (41)	**39%** (69)				**72%** (75)			**97%** (39)		**91%** (75)	**51%** (41)	**45%** (40)	
Group B *Streptococcus*	**98%** (136)	**S**					**97%** (65)	**98%** (53)		**99%** (85)		**54%** (134)	**54%** (26)	**100%** (136)					**100%** (69)	**32%** (85)		
Streptococcus pneumoniae (all)	**87%** (93)				**100%** (50)		**98%** (93)			**100%** (220)		**97%** (117)	**85%** (129)	**100%** (220)	**76%** (50)			**82%** (181)	**100%** (127)	**94%** (113)		
S. pneumoniae - non-CSF	**100%** (274)						**100%** (211)					**95%** (147)		**100%** (147)				**84%** (147)	**100%** (147)			
S pneumoniae - meningitis	**90%** (274)						**97%** (264)							**100%** (147)								

Legend:

- The top value in each square is the percent of isolates of that species that tested susceptible to that antibiotic.
- The bottom value in parentheses in each square indicates the number of tested isolates for that species-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 species-antibiotic combination or <30 isolates

Species	Amoxicillin+ clavulanic acid	Ampicillin	Ampicillin+Sulbactam	Piperacillin+Tazobactam	Cefazolin	Ceftriaxone	Ceftazidime	Cefepime	Cefoxitin	Aztreonam	Gentamicin	Tobramycin	Ertapenem	Imipenem	Meropenem	Ciprofloxacin	Levofloxacin	Trimeth+Sulfa	Tetracycline	Nitrofurantoin
Citrobacter freundii	**R**	**R**	**R**	**86%** (42)	**R**	**75%** (84)	**81%** (84)	**100%** (84)	**R**	**87%** (83)	**94%** (84)	**95%** (84)	NED	NED	**99%** (84)	**90%** (83)	**93%** (59)	**86%** (83)	NED	**94%** (71)
Klebsiella aerogenes	**R**	**R**	**R**	**86%** (160)	**R**	**83%** (190)	**86%** (178)	**98%** (190)	**R**	**89%** (122)	**99%** (190)	**100%** (134)	**98%** (48)	**81%** (36)	**100%** (160)	**97%** (190)	**97%** (134)	**97%** (190)	**95%** (56)	**45%** (108)
Enterobacter cloacae	**R**	**R**	**R**	**84%** (328)	**R**	**85%** (98)	**84%** (328)	**98%** (396)	**R**	**84%** (264)	**98%** (396)	**97%** (305)	**97%** (63)	**98%** (63)	**98%** (302)	**97%** (252)	**97%** (251)	**93%** (396)	**94%** (81)	**44%** (277)
Escherichia coli	**84%** (4121)	**59%** (8104)	**70%** (7901)	**96%** (8383)	**92%** (6670)	**94%** (7302)	**96%** (6674)	**97%** (7302)	**99%** (1042)	**97%** (2240)	**92%** (5948)	**97%** (3076)	**99%** (3118)	**100%** (1382)	**99%** (5121)	**83%** (8168)	**95%** (6596)	**82%** (8060)	**82%** (2054)	**97%** (8030)
Klebsiella oxytoca	**93%** (158)		**76%** (321)	**95%** (256)	**75%** (174)	**87%** (338)	**99%** (338)	**99%** (338)	NED	**96%** (208)	**98%** (338)	**98%** (214)	**100%** (115)	**98%** (50)	**100%** (321)	**95%** (321)	**98%** (253)	**93%** (338)	**85%** (86)	**90%** (270)
Klebsiella pneumoniae	**98%** (502)	**R**	**89%** (1087)	**95%** (1182)	**93%** (887)	**95%** (1182)	**96%** (1144)	**96%** (1182)	**97%** (217)	**95%** (740)	**98%** (1182)	**98%** (838)	**99%** (474)	**99%** (277)	**99%** (1010)	**93%** (1125)	**91%** (968)	**93%** (1182)	**89%** (253)	**41%** (1039)
Proteus mirabilis	**99%** (288)	**88%** (567)	**94%** (591)	**100%** (633)	**95%** (484)	**98%** (633)	**98%** (591)	**97%** (644)	**99%** (91)	**99%** (377)	**96%** (633)	**97%** (447)	**99%** (238)		**99%** (544)	**93%** (603)	**95%** (517)	**92%** (603)	**R**	**R**
Pseudomonas aeruginosa	**R**	**R**	**R**	**94%** (842)	**R**	**R**	**93%** (827)	**94%** (840)	**R**	**86%** (107)	**94%** (108)	**94%** (672)	**R**	**95%** (146)	**93%** (734)	**86%** (807)	**82%** (731)	**R**	**R**	**R**
Serratia marcescens	**R**	**R**	**R**	**94%** (87)	**R**	**93%** (121)	**98%** (122)	**100%** (121)	**R**	**99%** (121)	**99%** (122)	**97%** (122)			**99%** (122)	**94%** (121)	**82%** (111)	**100%** (122)		**R**

Legend:

- The top value in each square is the percent of isolates of that species that tested susceptible to that antibiotic.
- The bottom value in parentheses in each square indicates the number of tested isolates for that species-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 species-antibiotic combination or <30 isolates

2025 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 2025. These data were aggregated from the antibiograms produced by Alaska hospitals 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:**
  - Carbapenem-resistant Enterobacterales (CRE): there were 16 cases of CRE reported in Anchorage/Mat-Su residents in 2025.
  - Carbapenem-resistant *Pseudomonas aeruginosa* (CRPA): there were 13 cases of CRPA reported in Anchorage/Mat-Su residents in 2024. None were carbapenemase-producing.
- **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
  - Providence Alaska Medical Center

Species	Penicillin	Ampicillin	Oxacillin	Ceftriaxone	Levofloxacin	Clindamycin	Vancomycin	Gentamicin	Gent Syn	Trimethoprim-sulfamethoxazole	Linezolid	Tetracycline	Nitrofurantoin
Total *Staphylococcus aureus*			**62%** (3120)		**72%** (1449)	**85%** (3036)	**99%** (3120)	**99%** (1382)		**94%** (3120)	**99%** (3053)	**93%** (1382)	**100%** (1649)
MSSA			**S**		**93%** (1008)	**85%** (2005)	**100%** (2005)			**53%** (2005)	**100%** (1938)		**100%** (1040)
MRSA			**R**		**29%** (464)	**83%** (1161)	**99%** (1245)			**91%** (1245)	**99%** (1245)		**100%** (717)
Coag-negative *Staphylococcus*			**60%** (221)		NED	**63%** (221)	**100%** (221)	NED		**82%** (221)	**100%** (221)	NED	NED
Staphylococcus epidermidis			**39%** (222)		**84%** (222)	NED	**100%** (222)	NED		NED	**100%** (222)		
Enterococcus faecalis	NED	**99%** (383)		**R**	**96%** (383)	**R**	**99%** (383)	**R**	**89%** (166)	**R**	**100%** (383)	NED	**99%** (264)
Enterococcus spp. (inc. *E. faecium*)		**42%** (60)		**R**	**35%** (54)	**R**	**65%** (60)	**R**	NED	**R**	**100%** (34)	NED	**45%** (38)
Streptococcus pneumoniae (all)				NED	**100%** (102)		**100%** (102)						
S. pneumoniae - non-CSF	**100%** (187)												
S pneumoniae - meningitis	**92%** (187)			**96%** (187)									

Legend:

- The top value in each square is the percent of isolates of that species that tested susceptible to that antibiotic.
- The bottom value in parentheses in each square indicates the number of tested isolates for that species-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 species-antibiotic combination or <30 isolates

Species	Amoxicillin+ clavulanic acid	Ampicillin	Ampicillin+Sulbactam	Piperacillin+Tazobactam	Cefazolin	Ceftriaxone	Ceftazidime	Cefepime	Aztreonam	Gentamicin	Tobramycin	Meropenem	Ciprofloxacin	Levofloxacin	Trimeth+Sulfa	Nitrofurantoin
Citrobacter freundii	**R**	**R**	**R**	NED	**R**	**76%** (58)	**79%** (58)	**100%** (58)	**84%** (58)	**95%** (58)	**95%** (58)	**98%** (58)	**88%** (58)	**93%** (58)	**83%** (58)	**96%** (48)
Citrobacter spp.	**R**	**R**	**R**		**R**		**92%** (65)	**99%** (78)	NED	**100%** (78)	NED			**96%** (78)		**88%** (56)
Enterobacter cloacae	**R**	**R**	**R**	**80%** (230)	**R**	NED	**81%** (230)	**98%** (230)	**83%** (230)	**98%** (230)	**97%** (230)	**98%** (230)	NED	NED	**91%** (230)	**46%** (147)
Escherichia coli	**85%** (1749)	**56%** (3969)	**68%** (3969)	**95%** (4184)	**91%** (3953)	**92%** (4184)	**95%** (4184)	**96%** (4184)		**91%** (1749)	NED		**81%** (3969)	**101%** (4184)	**79%** (4184)	**97%** (3953)
Klebsiella aerogenes				**81%** (104)		**83%** (104)	**87%** (104)	**100%** (104)	**88%** (104)	**100%** (104)	**100%** (104)	**100%** (104)	**99%** (104)	**98%** (104)	**98%** (104)	NED
Klebsiella oxytoca	**94%** (66)		**82%** (164)	**93%** (164)	**93%** (82)	**94%** (181)	**98%** (181)	**98%** (181)	**95%** (164)	**98%** (181)	**97%** (164)	**100%** (164)	**96%** (164)	**97%** (181)	**95%** (181)	**90%** (131)
Klebsiella pneumoniae	**95%** (239)	**R**	**88%** (588)	**93%** (645)	**92%** (547)	**94%** (645)	**96%** (645)	**96%** (645)	**95%** (588)	**98%** (645)	**98%** (588)	**99%** (588)	**92%** (588)	**90%** (645)	**92%** (645)	**33%** (547)
Proteus mirabilis	**99%** (134)	**88%** (313)	**95%** (313)	**100%** (343)	**95%** (283)	**97%** (343)	**99%** (313)	**99%** (343)	**91%** (313)	**97%** (343)	**98%** (313)	**100%** (313)	**92%** (313)	**96%** (343)	**91%** (313)	**R**
Pseudomonas aeruginosa	**R**	**R**	**R**	**92%** (527)		**R**	**92%** (527)	**93%** (527)			**92%** (527)	**91%** (492)	**85%** (492)	**81%** (527)	**R**	**R**
Serratia marcesens				NED		**94%** (109)	**100%** (109)	**100%** (109)	**100%** (109)	**99%** (109)	**97%** (109)	**99%** (109)	**93%** (109)	**82%** (109)	**100%** (109)	

Legend:

- The top value in each square is the percent of isolates of that species that tested susceptible to that antibiotic.
- The bottom value in parentheses in each square indicates the number of tested isolates for that species-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 species-antibiotic combination or <30 isolates

2025 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 2025. These data were aggregated from the antibiograms produced by Alaska hospitals 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:**
  - Carbapenem-resistant Enterobacterales (CRE): there were 3 cases of CRE reported in Gulf Coast residents in 2025. One was an *E. coli* with both the NDM and OXA-48 genes.
  - Carbapenem-resistant *Pseudomonas aeruginosa* (CRPA): there were 2 cases of CRPA reported in Gulf Coast residents in 2025.
- **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

Species	Penicillin	Ampicillin	Ciprofloxacin	Levofloxacin	Daptomycin	Clindamycin	Vancomycin	Trimethoprim-sulfamethoxazole	Linezolid	Tetracycline	Nitrofurantoin	Rifampin
MRSA			**21%** (68)	**19%** (98)	**99%** (98)	**77%** (98)		**100%** (40)	**100%** (98)	**94%** (98)		**100%** (98)
Enterococcus faecalis	**99%** (258)	**99%** (258)	**84%** (258)	**93%** (258)	**100%** (258)	**R**	**98%** (258)	**R**	**99%** (258)	**29%** (258)	**99%** (247)	NED
Group B *Streptococcus*	**96%** (48)	**98%** (48)		**98%** (48)		**61%** (46)	**100%** (48)		NED	**35%** (48)		

Legend:

- The top value in each square is the percent of isolates of that species that tested susceptible to that antibiotic.
- The bottom value in parentheses in each square indicates the number of tested isolates for that species-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 species-antibiotic combination or <30 isolates

	Amoxicillin+ clavanulanic acid	Ampicillin	Ampicillin+Sulbactam	Piperacillin+Tazobactam	Cefazolin	Ceftriaxone	Ceftazidime	Cefepime	Gentamicin	Tobramycin	Ertapenem	Meropenem	Ciprofloxacin	Trimeth+Sulfa	Nitrofurantoin
Escherichia coli	**77%** (960)	**70%** (960)	**88%** (960)	**99%** (960)	**95%** (960)	**99%** (960)	**99%** (960)	**100%** (960)	**95%** (960)	**96%** (960)	**99%** (960)	**99%** (960)	**88%** (960)	**87%** (960)	**99%** (910)
Proteus mirabilis	**99%** (81)	**85%** (81)	**80%** (81)	**100%** (81)		**99%** (81)	**98%** (81)	**99%** (81)	**96%** (81)	**96%** (81)	**99%** (81)	**99%** (81)	**93%** (81)	**91%** (81)	**R**
Pseudomonas aeruginosa	**R**	**R**	**R**	**98%** (93)	**R**	**R**	**96%** (93)	**90%** (93)	NED	**100%** (93)		**99%** (93)	**85%** (93)	**R**	**R**

Legend:

- The top value in each square is the percent of isolates of that species that tested susceptible to that antibiotic.
- The bottom value in parentheses in each square indicates the number of tested isolates for that species-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 species-antibiotic combination or <30 isolates

2025 Alaska State Antibiogram: **Southeast Region**

The following tables show the proportion of isolates of various bacterial species that tested susceptible to various antibiotics during 2025. These data were aggregated from the antibiograms produced by Alaska hospitals 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:**
  - Carbapenem-resistant Enterobacterales (CRE): there was one case of CRE reported in a Southeast resident in 2025; it was *K. pneumoniae* with an NDM gene.
  - Carbapenem-resistant *Pseudomonas aeruginosa* (CRPA): there was one case of CRPA reported in a Southeast resident in 2025. None were carbapenemase-producing.
- **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
  - Petersburg Medical Center
  - PeaceHealth Ketchikan General Hospital

Species	Oxacillin	Ciprofloxacin	Levofloxacin	Daptomycin	Clindamycin	Erythromycin	Vancomycin	Gentamicin	Trimethoprim-sulfamethoxazole	Linezolid	Tetracycline	Strep Syn	Rifampin
Total *Staphylococcus aureus*	**69%** (121)	**69%** (121)	**69%** (121)	**94%** (18)	**104%** (121)	**56%** (121)	**100%** (121)	**98%** (121)	**91%** (121)	**100%** (121)	**87%** (121)	**100%** (121)	**94%** (18)
MSSA	**S**				**79%** (71)				**97%** (71)		**94%** (71)		
MRSA	**R**			**100%** (39)			**100%** (39)		**90%** (39)		**92%** (39)		
Staphylocccus epidermidis	**59%** (51)						**100%** (51)						
Enterococcus faecalis		**92%** (64)	**92%** (64)		**R**		**100%** (87)	**R**	**R**	**95%** (64)	**30%** (64)	**100%** (64)	

Legend:

- The top value in each square is the percent of isolates of that species that tested susceptible to that antibiotic.
- The bottom value in parentheses in each square indicates the number of tested isolates for that species-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 species-antibiotic combination or <30 isolates

	Amoxicillin+ clavanulanic acid	Ampicillin	Ampicillin+Sulbactam	Piperacillin+Tazobactam	Cefazolin	Ceftriaxone	Ceftazidime	Cefepime	Gentamicin	Tobramycin	Ertapenem	Imipenem	Meropenem	Ciprofloxacin	Levofloxacin	Trimeth+Sulfa
Escherichia coli	**89%** (331)	**62%** (628)	**73%** (425)	**96%** (692)	**92%** (425)	**94%** (692)		**98%** (692)	**95%** (692)	**94%** (331)	**100%** (692)	**100%** (425)	**100%** (331)	**80%** (692)	**80%** (692)	**80%** (692)
Klebsiella pneumoniae		**R**	**83%** (75)	**93%** (113)	**93%** (75)	**93%** (113)	**93%** (75)	**93%** (113)	**98%** (113)	**98%** (48)	**98%** (113)	**99%** (75)		**88%** (113)	**86%** (113)	**94%** (113)
Pseudomonas aeruginosa	**R**	**R**	**R**	**100%** (48)	**R**	**R**	**100%** (36)	**80%** (59)	**94%** (48)		**100%** (48)			**88%** (48)	**90%** (48)	**R**

Legend:

- The top value in each square is the percent of isolates of that species that tested susceptible to that antibiotic.
- The bottom value in parentheses in each square indicates the number of tested isolates for that species-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 species-antibiotic combination or <30 isolates

Alaska statewide invasive bacterial disease surveillance

The Alaska Division of Public Health and U.S. Centers for Disease Control and Prevention Arctic Investigations Program (AIP) maintain statewide laboratory-based surveillance for invasive disease caused by *Haemophilus influenzae, Streptococcus agalactiae* (group B *Streptococcus*), *Streptococcus pyogenes* (group A *Streptococcus*), *Streptococcus pneumoniae*, and *Neisseria meningitidis*. Invasive disease due to each of these five pathogens is a reportable condition in Alaska. The surveillance system objectives are to track the epidemiologic trends of these diseases in Alaska, monitor the emergence of antimicrobial resistance, and monitor the effectiveness of vaccination programs.

Methods

A case was defined as an Alaska resident with *H. influenzae*, *S. agalactiae*, *S. pyogenes*, *S. pneumoniae*, or *N. meningitidis* isolated from or with bacterial DNA detected in a normally sterile site (e.g., blood or cerebrospinal fluid). Hospital-based laboratories statewide notified the Alaska Division of Public Health of a case and sent sterile site isolates to AIP for confirmation, subtyping, and antimicrobial susceptibility testing. For *S. agalactiae*, *S. pyogenes*, and *S. pneumoniae*, antimicrobial susceptibility was estimated using whole genome sequencing. For *H. influenzae*, ETEST was used to determine minimum inhibitory concentration (MIC) for each antibiotic tested. Clinical and Laboratory Standards Institute (CLSI) criteria were used to determine if an isolate was susceptible. Antimicrobial susceptibility testing was not performed for *N. meningitidis*.

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 species-antibiotic combination.
- "—" designates not tested.

Use and limitations

- Healthcare providers should follow national and local treatment guidelines when selecting an antibiotic and consult an infectious disease physician when needed. Pharmacists or antimicrobial stewards should be consulted to answer questions regarding pharmacokinetics and pharmacodynamics for specific drug-bacteria combinations.
- An antibiogram can help inpatient healthcare providers understand antimicrobial resistance patterns for specific bacterial pathogens in Alaska. However, it is always important to take individual patient-level factors into account when selecting empiric therapy.
- When choosing an antibiotic, healthcare providers should consider the patient's age, immune status, and clinical status, as well as the site of infection and drug penetration to that site, recent antimicrobial treatment, and previous history of antimicrobial-resistant infections.
- Antimicrobial susceptibility testing 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.
- Invasive isolates do not necessarily reflect isolates from non-invasive sites or the general community. These data may reflect cultures taken from patients who have experienced treatment failure or who are more seriously ill than the general population.

	Ampicillin	Penicillin	Ceftriaxone	Clindamycin	Erythromycin	Tetracycline	Vancomycin	Trimethoprim-sulfamethoxazole	Levofloxacin	Meropenem	Rifampin
Haemophilus influenzae	54% (50)	--	100% (50)	--	--	--	--	--	--	100% (49)	100% (50)
Streptococcus agalactiae	--	100% (124)	100% (124)	62% (124)	54% (124)	35% (124)	100% (124)	--	--	--	--
Streptococcus pyogenes	--	100% (400)	100% (400)	85% (400)	85% (400)	82% (400)	100% (400)	--	--	--	--
Streptococcus pneumoniae	--	See below	See below	99% (432)	94% (434)	98% (434)	100% (434)	62% (434)	100% (434)	99% (433)	--
S. pneumoniae Meningitis	--	97% (434)	99% (434)	--	--	--	--	--	--	--	--
S. pneumoniae Non-meningitis	--	100% (434)	100% (434)	--	--	--	--	--	--	--	--