

Antibiotikaresistens i Dalarna 2023

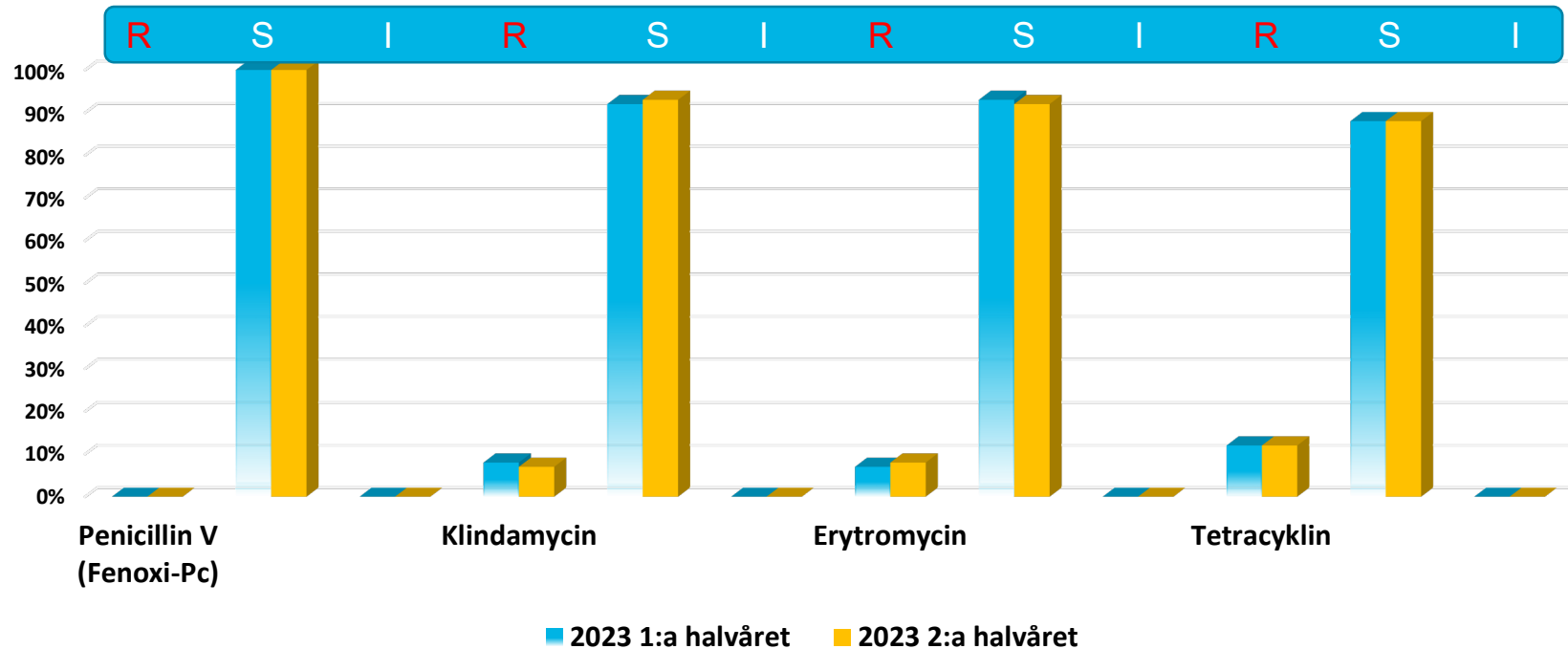
Klinisk Mikrobiologi
Falu lasarett

Betahemolyserande streptokocker grupp A (GAS)

NPH- och svalgodling

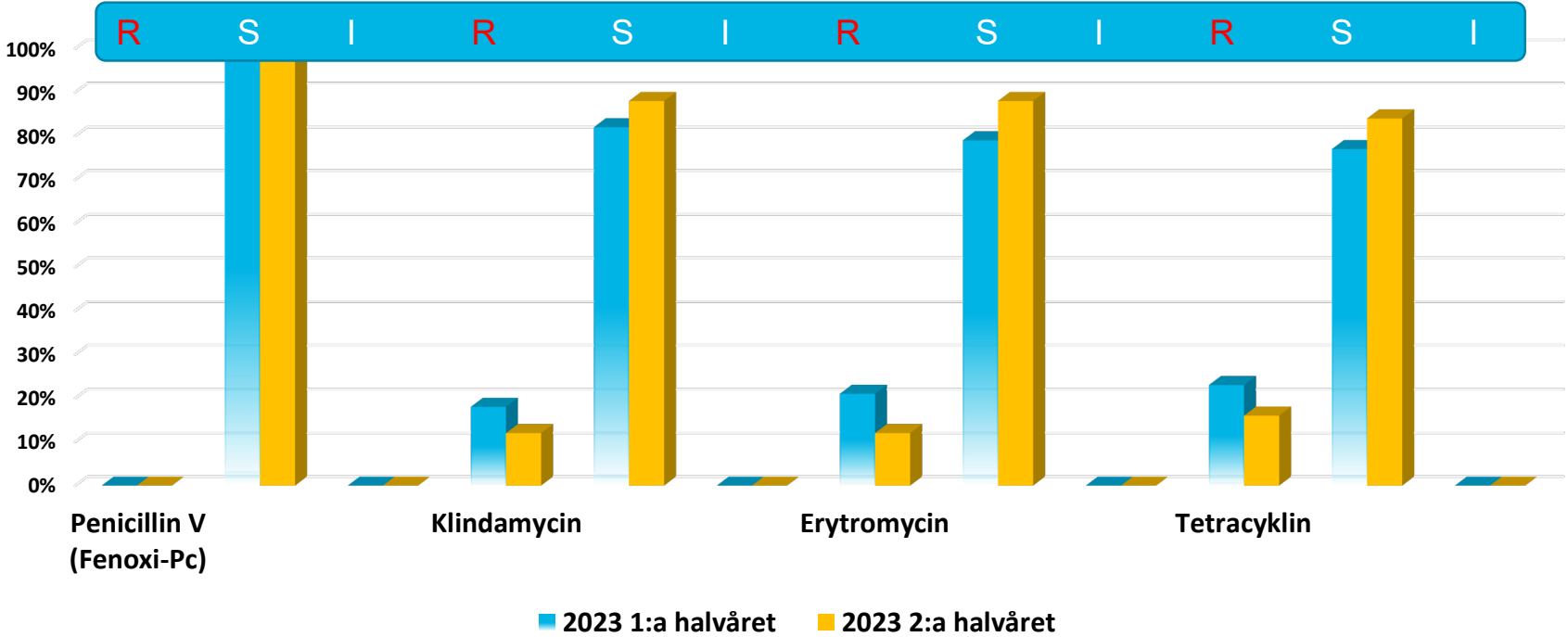


| ÅrPeriod | Penicillin V (Fenoxi-Pc) | | | Klindamycin | | | Erytromycin | | | Tetracyklin | | | Pos/ Antal prover | Andel pos. prov |
|-------------------|--------------------------|------|----|-------------|-----|----|-------------|-----|----|-------------|-----|----|-------------------|-----------------|
| | R | S | I | R | S | I | R | S | I | R | S | I | | |
| 2023 1:a halvåret | 0% | 100% | 0% | 8% | 92% | 0% | 7% | 93% | 0% | 12% | 88% | 0% | 152/3125 | 4,9 |
| 2:a halvåret | 0% | 100% | 0% | 7% | 93% | 0% | 8% | 92% | 0% | 12% | 88% | 0% | 148/3019 | 4,9 |



Betahemolyserande streptokocker grupp C/G, NPH- och svalgodling

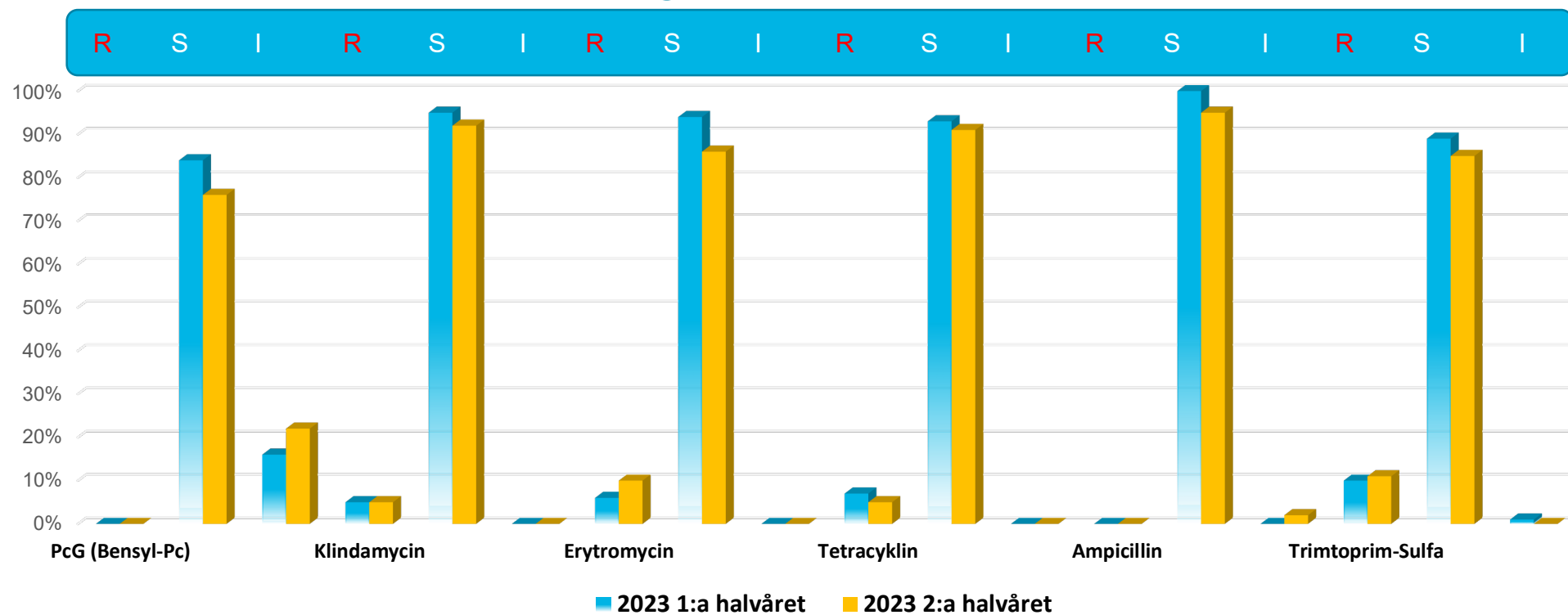
| År/Period | Andel Resistens | Andel Känslig | Andel Intermediär | Andel Resistens | Andel Känslig | Andel Intermediär | Andel Resistens | Andel Känslig | Andel Intermediär | Andel Resistens | Andel Känslig | Andel Intermediär | Pos/Antal prover | Andel pos. prov |
|-------------------|--------------------------|---------------|-------------------|-----------------|---------------|-------------------|-----------------|---------------|-------------------|-----------------|---------------|-------------------|------------------|-----------------|
| | Penicillin V (Fenoxi-Pc) | | | Klindamycin | | | Erytromycin | | | Tetracyklin | | | | |
| | R | S | I | R | S | I | R | S | I | R | S | I | | |
| 2023 1:a halvåret | 0% | 100% | 0% | 18% | 82% | 0% | 21% | 79% | 0% | 23% | 77% | 0% | 67/3125 | 2,1 |
| 2:a halvåret | 0% | 100% | 0% | 12% | 88% | 0% | 12% | 88% | 0% | 16% | 84% | 0% | 51/3019 | 1,7 |



Streptococcus pneumoniae

NPH odling

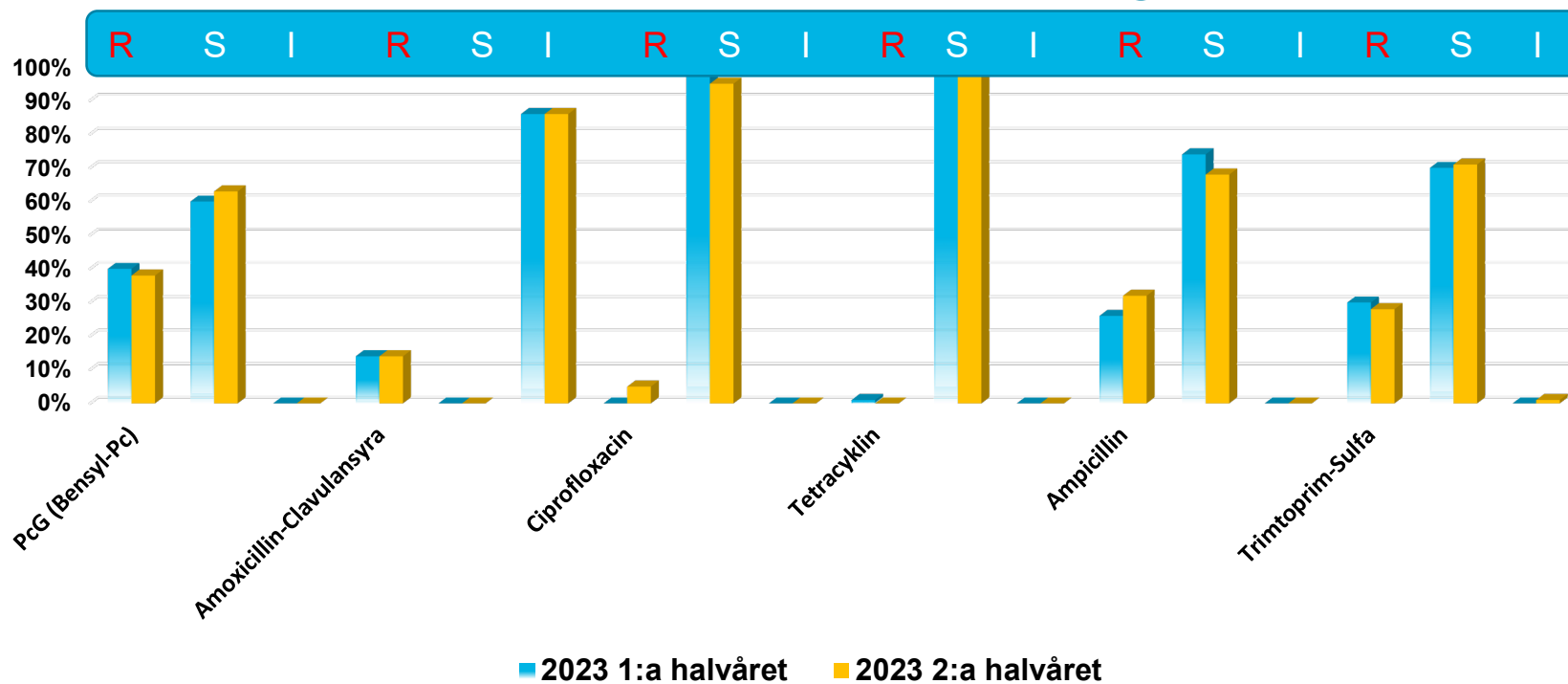
| År | Period | Andel Resistens | Andel Känslig | Andel Intermediär | Andel Resistens | Andel Känslig | Andel Intermediär | Andel Resistens | Andel Känslig | Andel Intermediär | Andel Resistens | Andel Känslig | Andel Intermediär | Andel Resistens | Andel Känslig | Andel Intermediär | Andel Resistens | Andel Känslig | Andel Intermediär | Pos/Antal prover | Andel pos. prov |
|------|--------------|-----------------|---------------|-------------------|-----------------|---------------|-------------------|-----------------|---------------|-------------------|-----------------|---------------|-------------------|-----------------|---------------|-------------------|------------------|---------------|-------------------|------------------|-----------------|
| | | PcG (Bensyl-Pc) | | | Klindamycin | | | Erytromycin | | | Tetracyclin | | | Ampicillin | | | Trimtoprim-Sulfa | | | | |
| | | R | S | I | R | S | I | R | S | I | R | S | I | R | S | I | R | S | I | | |
| 2023 | 1:a halvåret | 0% | 84% | 16% | 5% | 95% | 0% | 6% | 94% | 0% | 7% | 93% | 0% | 0% | 100% | 0% | 10% | 89% | 1% | 115/2640 | 4,4 |
| | 2:a halvåret | 0% | 76% | 22% | 5% | 92% | 0% | 10% | 86% | 0% | 5% | 91% | 0% | 0% | 95% | 2% | 11% | 85% | 0% | 65/2482 | 2,6 |



Haemophilus influenzae

NPH odling

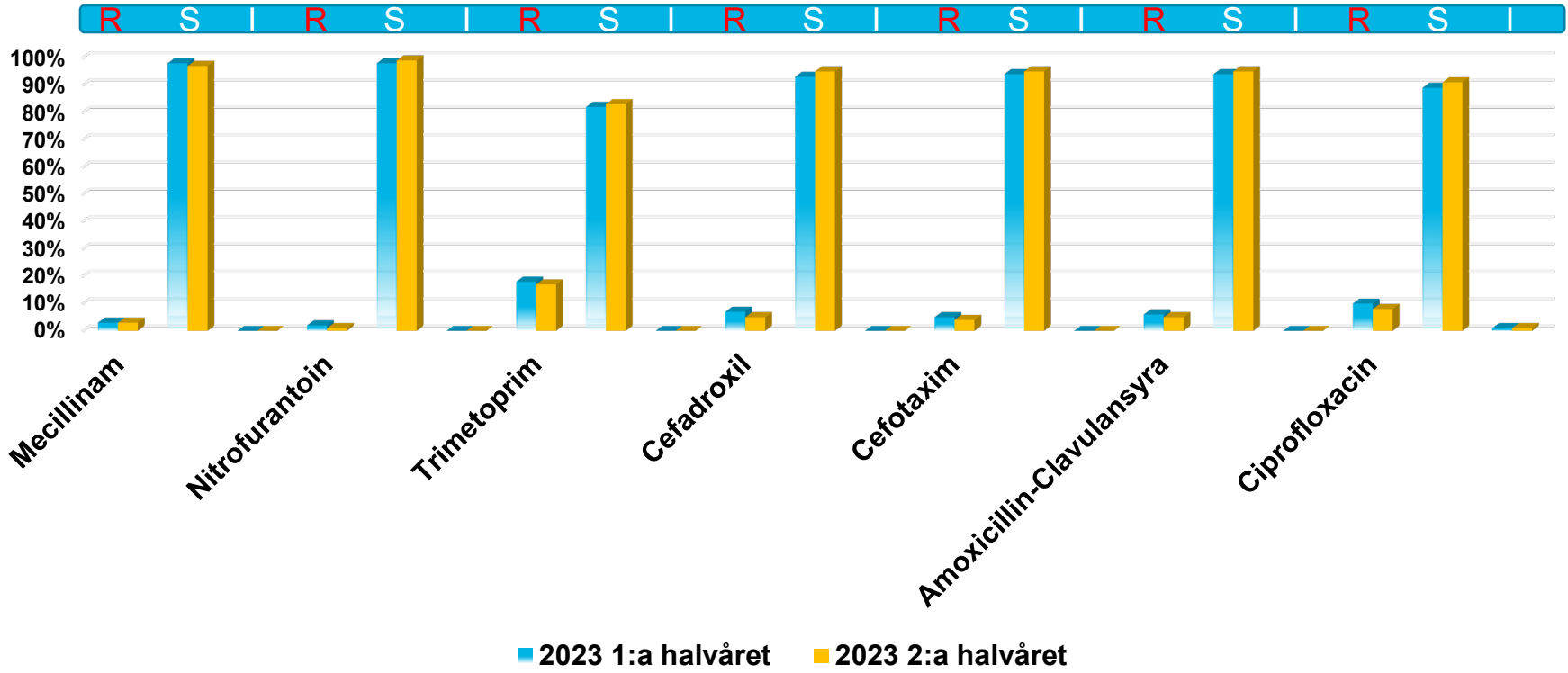
| År | Period | Andel Resistens | Andel Känslig | Andel Intermediär | Andel Resistens | Andel Känslig | Andel Intermediär | Andel Resistens | Andel Känslig | Andel Intermediär | Andel Resistens | Andel Känslig | Andel Intermediär | Andel Resistens | Andel Känslig | Andel Intermediär | Andel Resistens | Andel Känslig | Andel Intermediär | Pos/Antal prover | Andel pos. prov |
|------|--------------|-----------------|---------------|-------------------|--------------------------|---------------|-------------------|-----------------|---------------|-------------------|-----------------|---------------|-------------------|-----------------|---------------|-------------------|------------------|---------------|-------------------|------------------|-----------------|
| | | PcG (Bensyl-Pc) | | | Amoxicillin-Clavulansyra | | | Ciprofloxacin | | | Tetracyklin | | | Ampicillin | | | Trimtoprim-Sulfa | | | | |
| | | R | S | I | R | S | I | R | S | I | R | S | I | R | S | I | R | S | I | | |
| 2023 | 1:a halvåret | 40% | 60% | 0% | 14% | 0% | 86% | 0% | 100% | 0% | 1% | 99% | 0% | 26% | 74% | 0% | 30% | 70% | 0% | 242/2640 | 9,2 |
| | 2:a halvåret | 38% | 63% | 0% | 14% | 0% | 86% | 5% | 95% | 0% | 0% | 100% | 0% | 32% | 68% | 0% | 28% | 71% | 1% | 219/2482 | 8,8 |



Escherichia coli

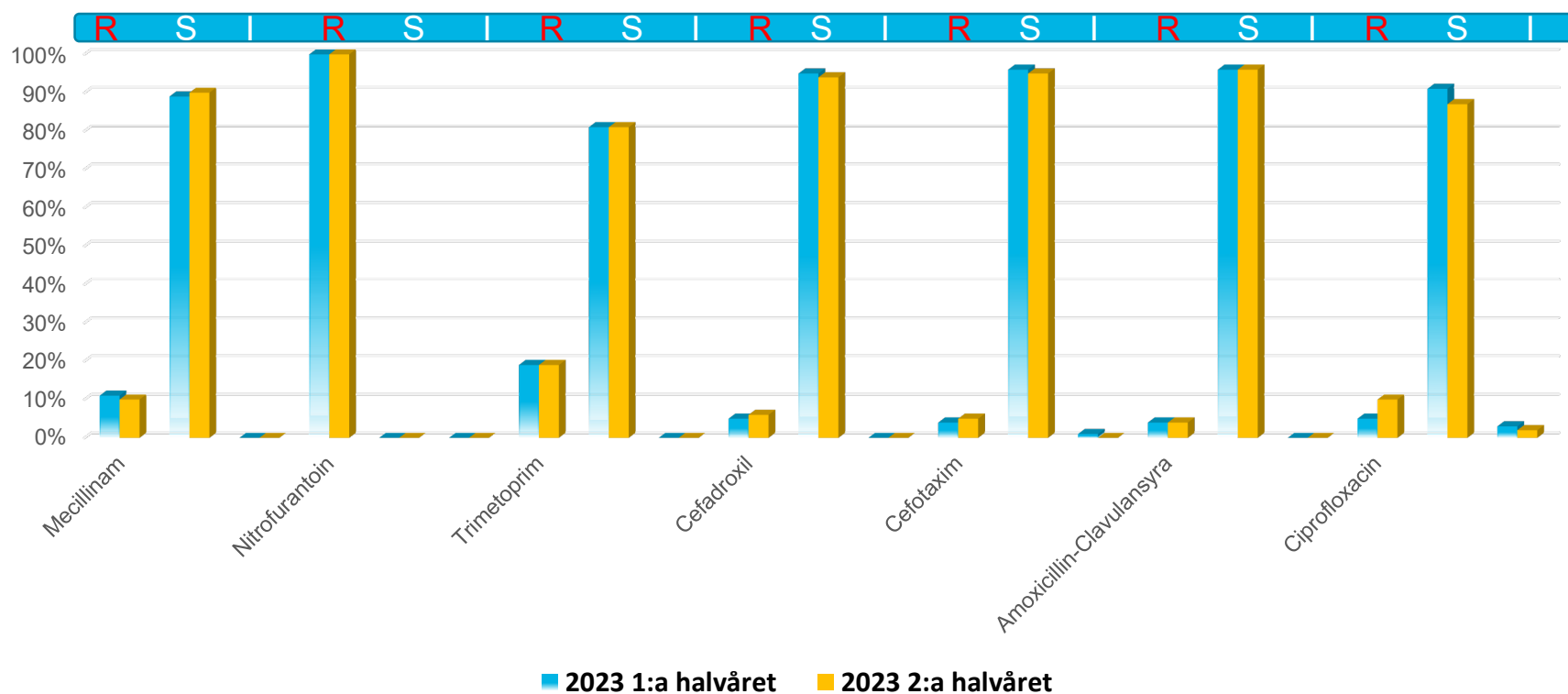
urinodling

| År | Period | Mecillinam | | | Nitrofurantoin | | | Trimetoprim | | | Cefadroxil | | | Cefotaxim | | | Amoxicillin-Clavulansyra | | | Ciprofloxacin | | | Pos/Antal prover | Andel pos. prov |
|------|--------------|------------|-----|----|----------------|-----|----|-------------|-----|----|------------|-----|----|-----------|-----|----|--------------------------|-----|----|---------------|-----|----|------------------|-----------------|
| | | R | S | I | R | S | I | R | S | I | R | S | I | R | S | I | R | S | I | R | S | I | | |
| 2023 | 1:a halvåret | 3% | 98% | 0% | 2% | 98% | 0% | 18% | 82% | 0% | 7% | 93% | 0% | 5% | 94% | 0% | 6% | 94% | 0% | 10% | 89% | 1% | 4444/18179 | 24,4 |
| | 2:a halvåret | 3% | 97% | 0% | 1% | 99% | 0% | 17% | 83% | 0% | 5% | 95% | 0% | 4% | 95% | 0% | 5% | 95% | 0% | 8% | 91% | 1% | 5053/19346 | 26,1 |



Klebsiella pneumoniae/variicola urinodling

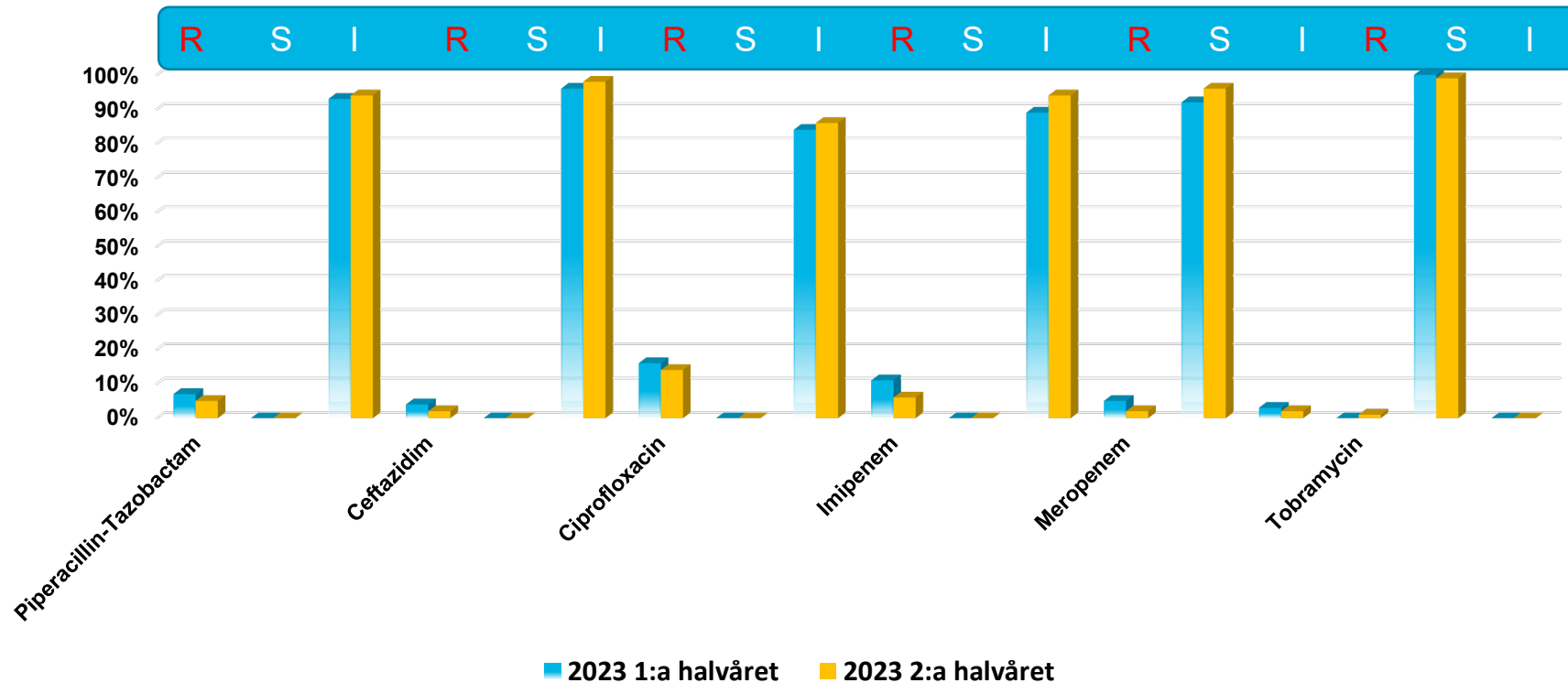
| År | Period | Mecillinam | | | Nitrofurantoin | | | Trimetoprim | | | Cefadroxil | | | Cefotaxim | | | Amoxicillin-Clavulansyra | | | Ciprofloxacin | | | Pos/Antal prover | Andel pos. prov |
|------|--------------|------------|-----|----|----------------|----|----|-------------|-----|----|------------|-----|----|-----------|-----|----|--------------------------|-----|----|---------------|-----|----|------------------|-----------------|
| | | R | S | I | R | S | I | R | S | I | R | S | I | R | S | I | R | S | I | R | S | I | | |
| 2023 | 1:a halvåret | 11% | 89% | 0% | 100% | 0% | 0% | 19% | 81% | 0% | 5% | 95% | 0% | 4% | 96% | 1% | 4% | 96% | 0% | 5% | 91% | 3% | 576/18179 | 3,2 |
| | 2:a halvåret | 10% | 90% | 0% | 100% | 0% | 0% | 19% | 81% | 0% | 6% | 94% | 0% | 5% | 95% | 0% | 4% | 96% | 0% | 10% | 87% | 2% | 652/19346 | 3,4 |



Pseudomonas aeruginosa

alla typer av undersökningar utom öra

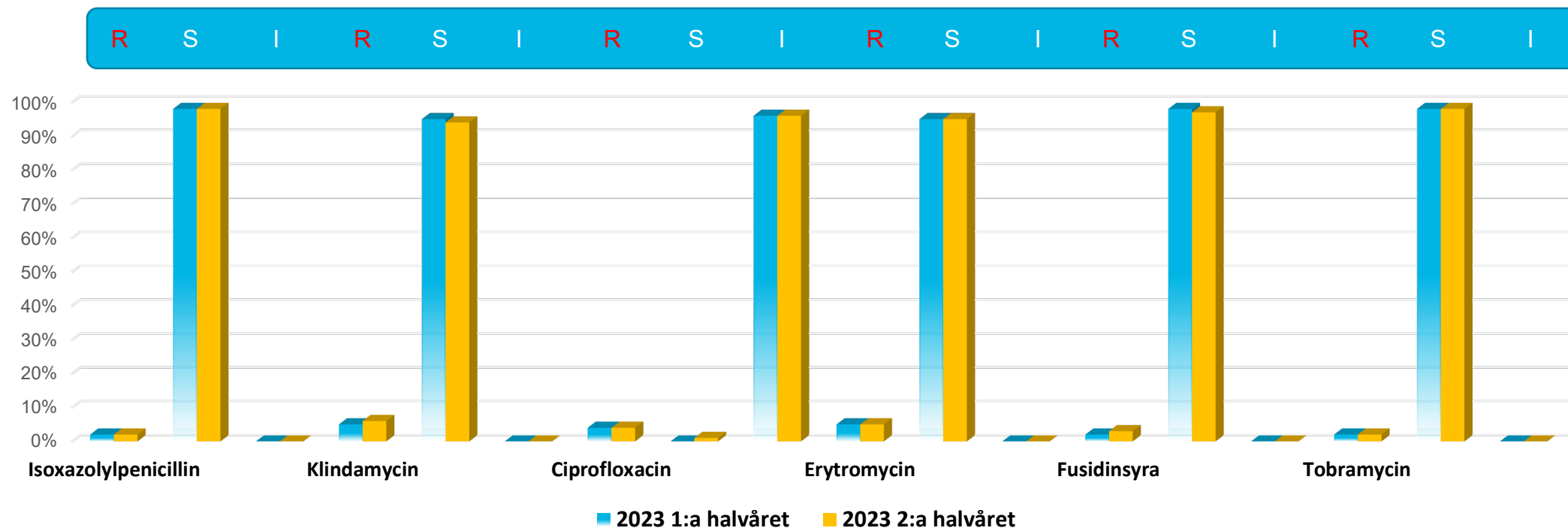
| År | Period | Piperacillin-Tazobactam | | | Ceftazidim | | | Ciprofloxacin | | | Imipenem | | | Meropenem | | | Tobramycin | | | Pos/Antal prover | Andel pos. prov |
|------|--------------|-------------------------|----|-----|------------|----|-----|---------------|----|-----|----------|----|-----|-----------|-----|----|------------|------|----|------------------|-----------------|
| | | R | S | I | R | S | I | R | S | I | R | S | I | R | S | I | R | S | I | | |
| 2023 | 1:a halvåret | 7% | 0% | 93% | 4% | 0% | 96% | 16% | 0% | 84% | 11% | 0% | 89% | 5% | 92% | 3% | 0% | 100% | 0% | 424/28898 | 1,5 |
| | 2:a halvåret | 5% | 0% | 94% | 2% | 0% | 98% | 14% | 0% | 86% | 6% | 0% | 94% | 2% | 96% | 2% | 1% | 99% | 0% | 503/30701 | 1,6 |



Staphylococcus aureus

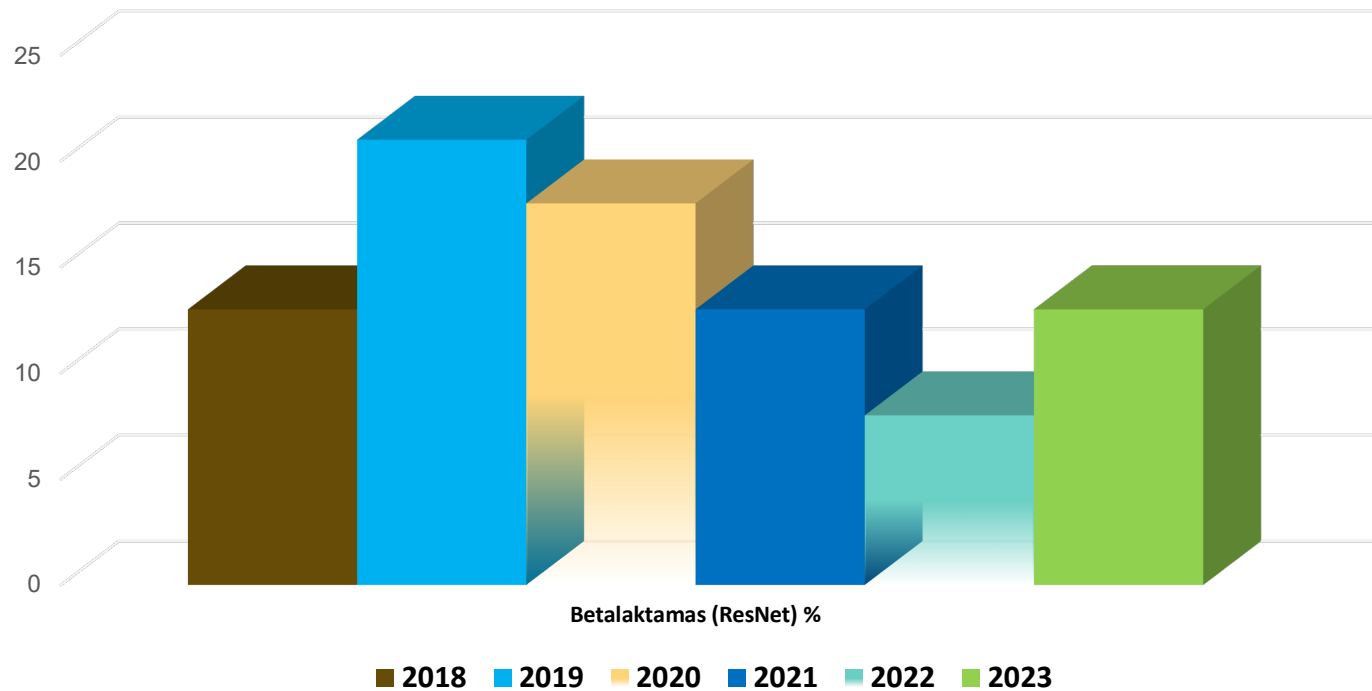
abscess/fistel, ascites, bröstvärta/bröstmjolk, buk/galla, bursa, käkhåla, ledvätska, pleuravätska, sår, vävnads-biopsi, öron

| År | Period | Isoxazolylpenicillin | | | Klindamycin | | | Ciprofloxacin | | | Erytromycin | | | Fusidinsyra | | | Tobramycin | | | Pos/Antal prover | Andel pos. prov |
|------|--------------|----------------------|-----|----|-------------|-----|----|---------------|----|-----|-------------|-----|----|-------------|-----|----|------------|-----|----|------------------|-----------------|
| | | R | S | I | R | S | I | R | S | I | R | S | I | R | S | I | R | S | I | | |
| 2023 | 1:a halvåret | 2% | 98% | 0% | 5% | 95% | 0% | 4% | 0% | 96% | 5% | 95% | 0% | 2% | 98% | 0% | 2% | 98% | 0% | 2311/7169 | 36,8 |
| | 2:a halvåret | 2% | 98% | 0% | 6% | 94% | 0% | 4% | 1% | 96% | 5% | 95% | 0% | 3% | 97% | 0% | 2% | 98% | 0% | 2637/8007 | 32,9 |



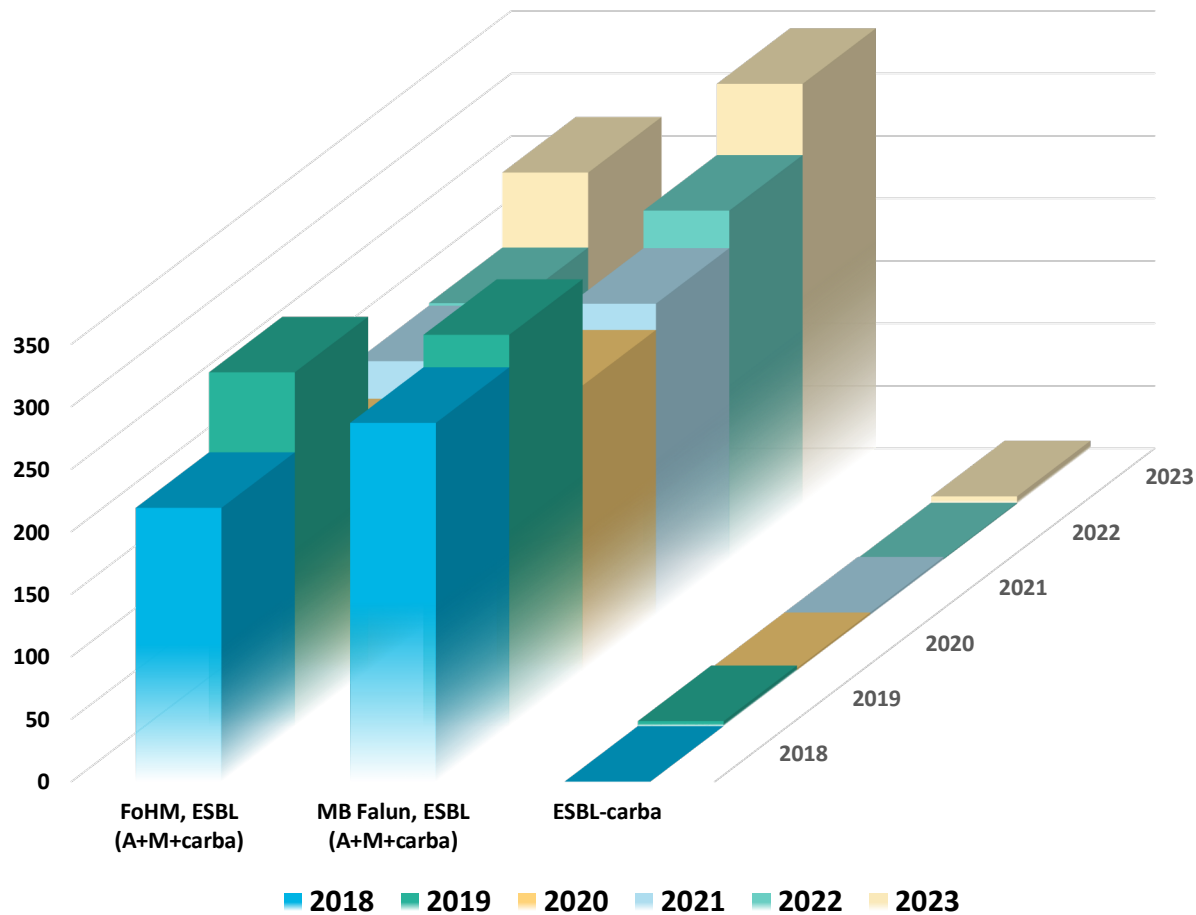
Haemophilus influenzae

Betalaktamas (ResNet) %



ESBL

E. coli, Klebsiella pneumoniae och Klebsiella variicola, Citrobacter freundii



| År | FoHM, ESBL (A+M+carba) | MB Falun, ESBL (A+M+carba) | ESBL-carba |
|----------|------------------------|----------------------------|------------|
| 2018 | 219 | 287 | 0 |
| 2019 | 283 | 313 | 4 |
| 2020 | 173 | 228 | 2 |
| 2021 | 203 | 249 | 2 |
| 2022 | 205 | 279 | 1 |
| 2023 dec | 265 | 336 | 6 |

pga ESBL-M fall

ESBL-producing Enterobacterales i Sverige 2022

enligt Swedres-Svarm 2022 (Sales of antibiotics and occurrence of antibiotic resistance in Sweden)

Results 2022, Enterobacterales with ESBL

- Number of reported cases: 9 611 (previous year 7 860), relative change **+22%**.
- Incidens=91/100 000
- Number of bloodstream infections: 818 (previous year 719), **+12%**.
- As in previous years, **E. coli** was the most common species (**82%**), followed by Klebsiella pneumoniae, (10%).
- The proportion of E. coli from blood cultures that are resistant to third-generation cephalosporins were **7%** as in 2021.



Results 2022, Enterobacterales with ESBL-CARBA

- Number of reported cases: 240 (previous year 137), relative change **+75%**.
- Number of bloodstream infections: **14** (previous year 7).
- Among Enterobacterales with ESBL-CARBA, **E. coli** was the most common species, (**56%**) followed by Klebsiella pneumoniae (31%).



The number of E. coli from blood cultures resistant to meropenem was 3 out of 10 541, compared to 6 out of 10 624 in 2021.

Viktiga fynd 2022



- Under pandemin minskade antalet fall av flertalet typer av anmälningspliktig antibiotikaresistens.
- För de flesta av dessa ses nu tydliga ökningar, mest markant för **ESBL-CARBA**, där 240 fall rapporterades, mot 137 år 2021. Resistensnivåer bland kliniska isolat från människor påverkades inte av pandemin.
- En ökning av resistensen hos *Streptococcus pyogenes* mot klindamycin startade våren 2020. Den har under hösten 2022 gradvis återgått till ursprungliga nivåer, under 5 procent.

Betahemolyserande streptokocker grupp A (GAS)

NPH- och svalgodling



| År/Period | Penicillin V (Fenoxi-Pc) | | | Klindamycin | | | Erytromycin | | | Tetracyklin | | | Pos/antal prover | Andel pos. prov |
|-------------------|--------------------------|------|----|-------------|-----|----|-------------|-----|----|-------------|-----|----|------------------|-----------------|
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