

# Antimicrobial Resistance (AMR) Surveillance on Culture Specimens in Public Hospitals and Clinics - Hospital Authority AMR Data (2023)

April 2025



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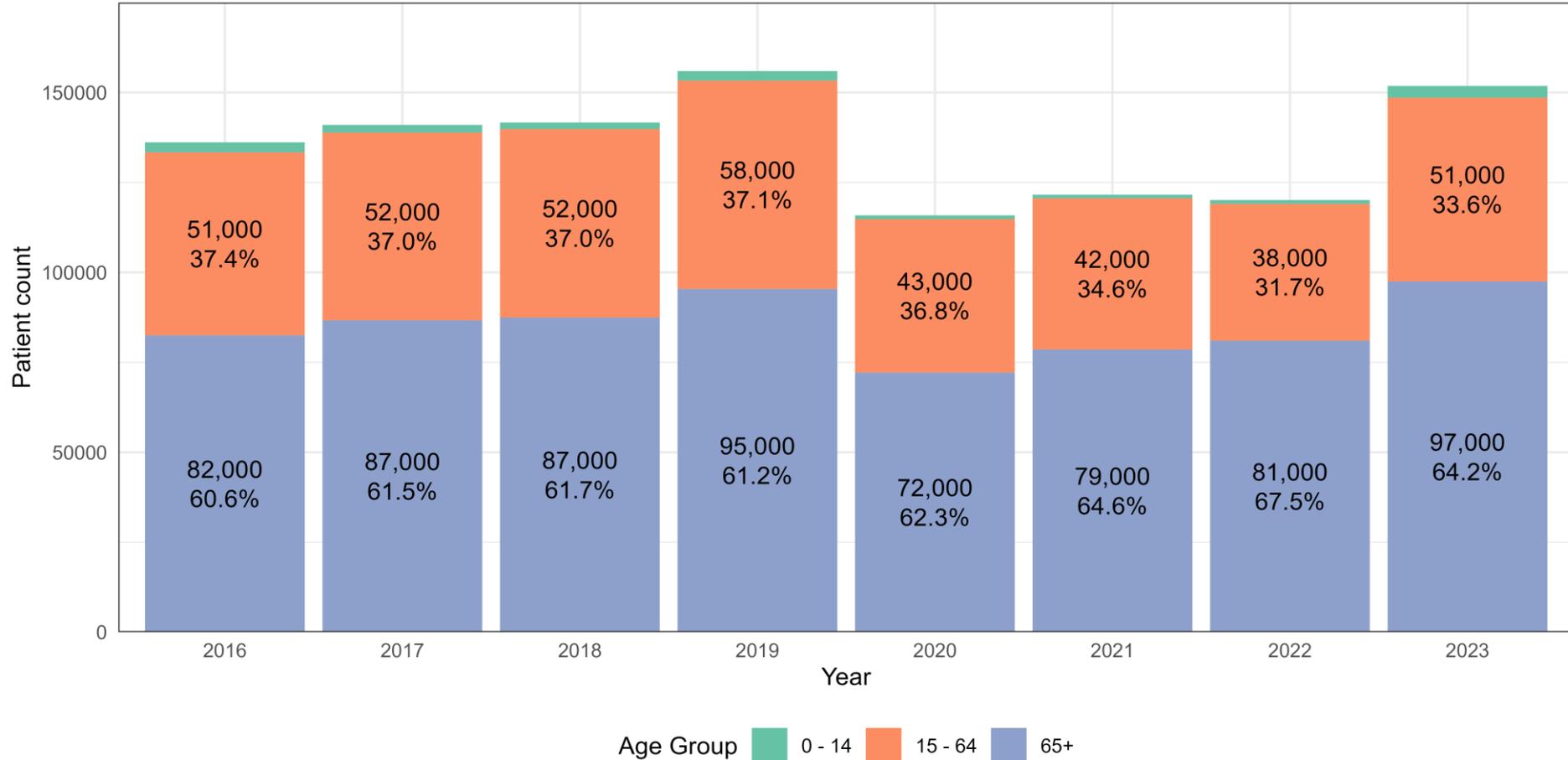


# Results - Lower Respiratory Specimen Culture

Overview on patients with lower respiratory culture

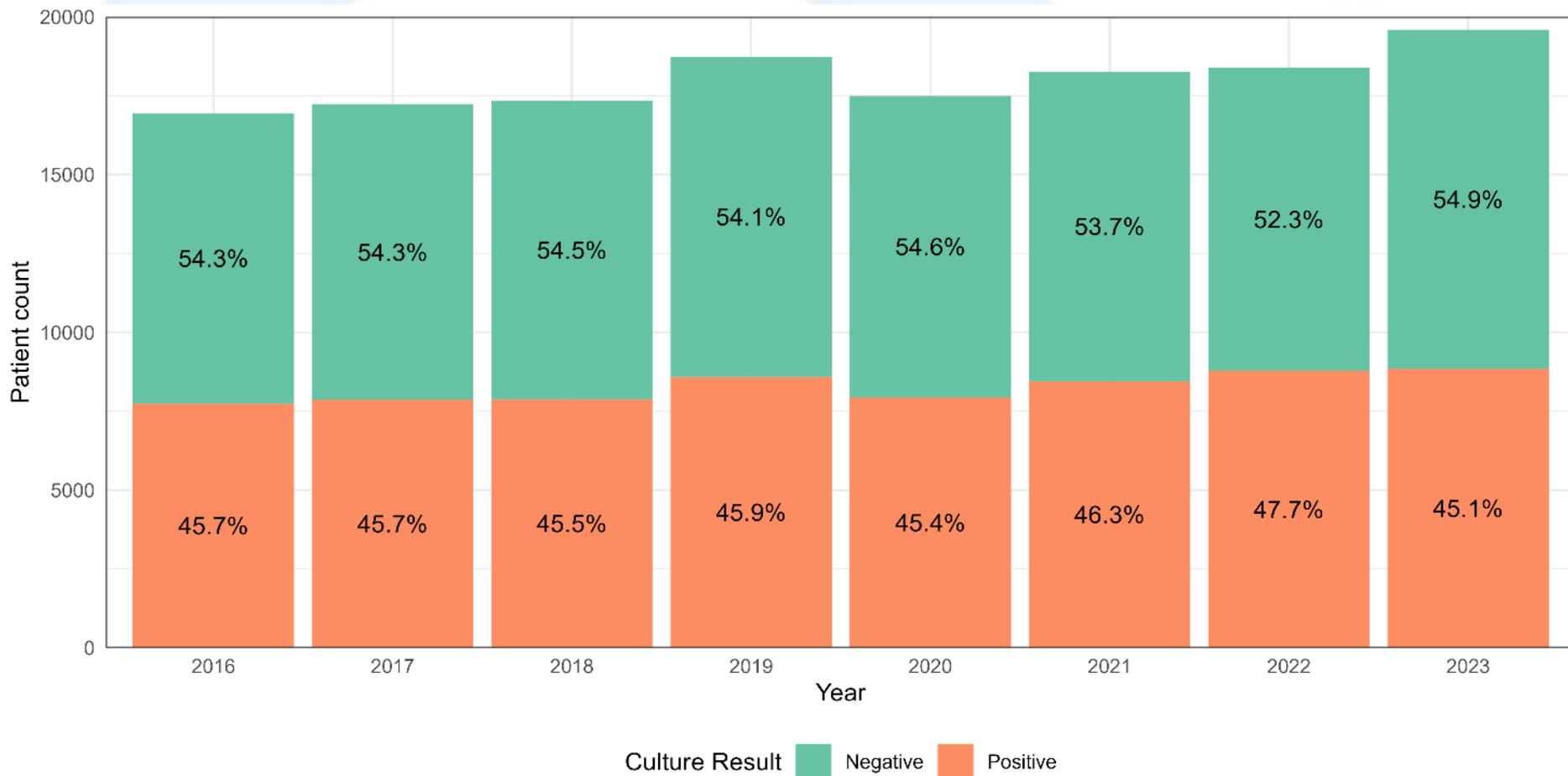


# Age distribution of patients with lower respiratory culture



- No. of patients with lower respiratory culture increased from 120,000 in 2022 to 152,000 in 2023 (26.7% increase).

# Percentage of patients with positive lower respiratory culture



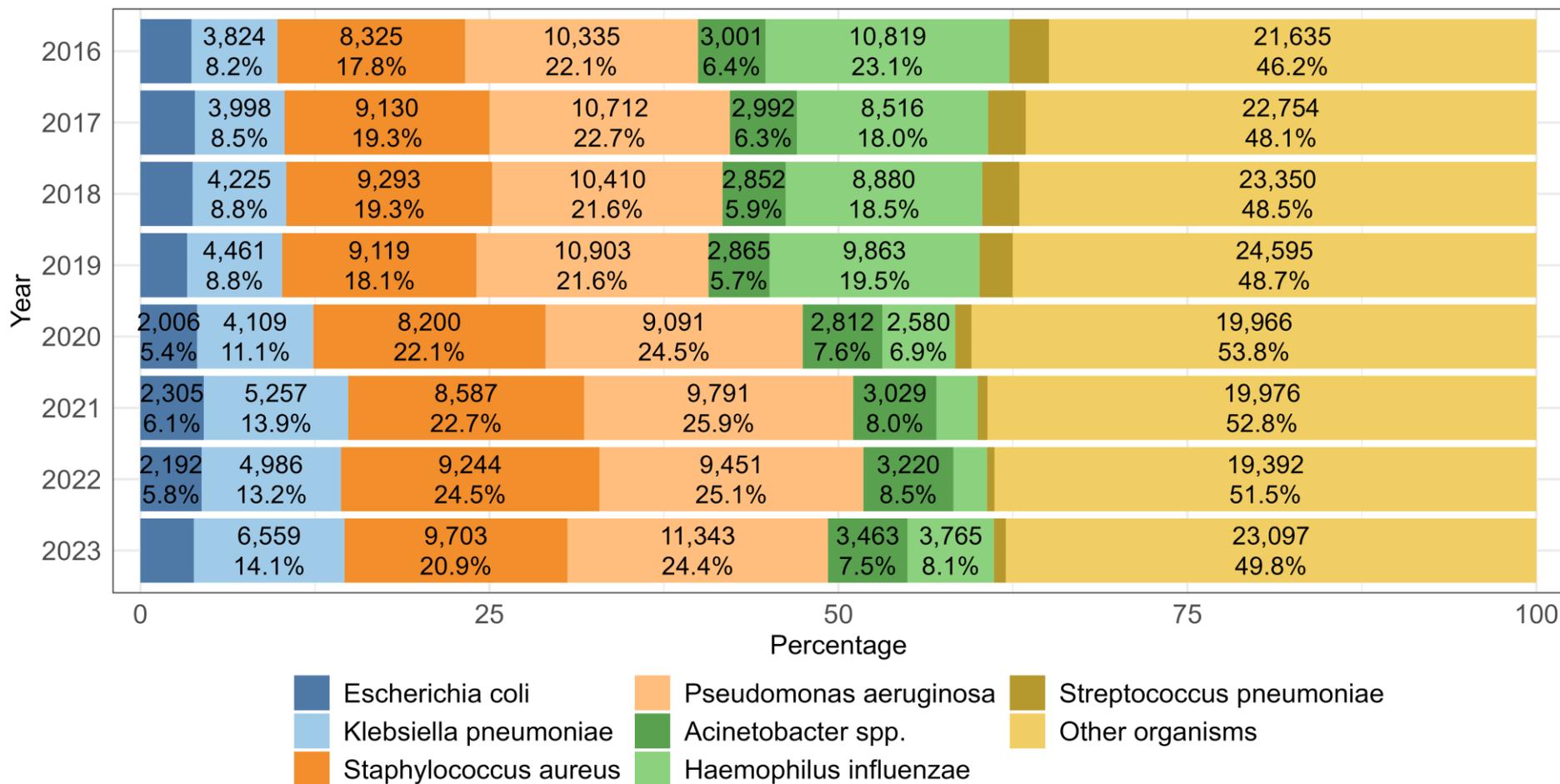
- % patients with positive lower respiratory culture remained stable from 2016 to 2023 at about 45%.

# Results - Lower Respiratory Culture

Overview on WHO priority organisms isolated from lower respiratory specimen



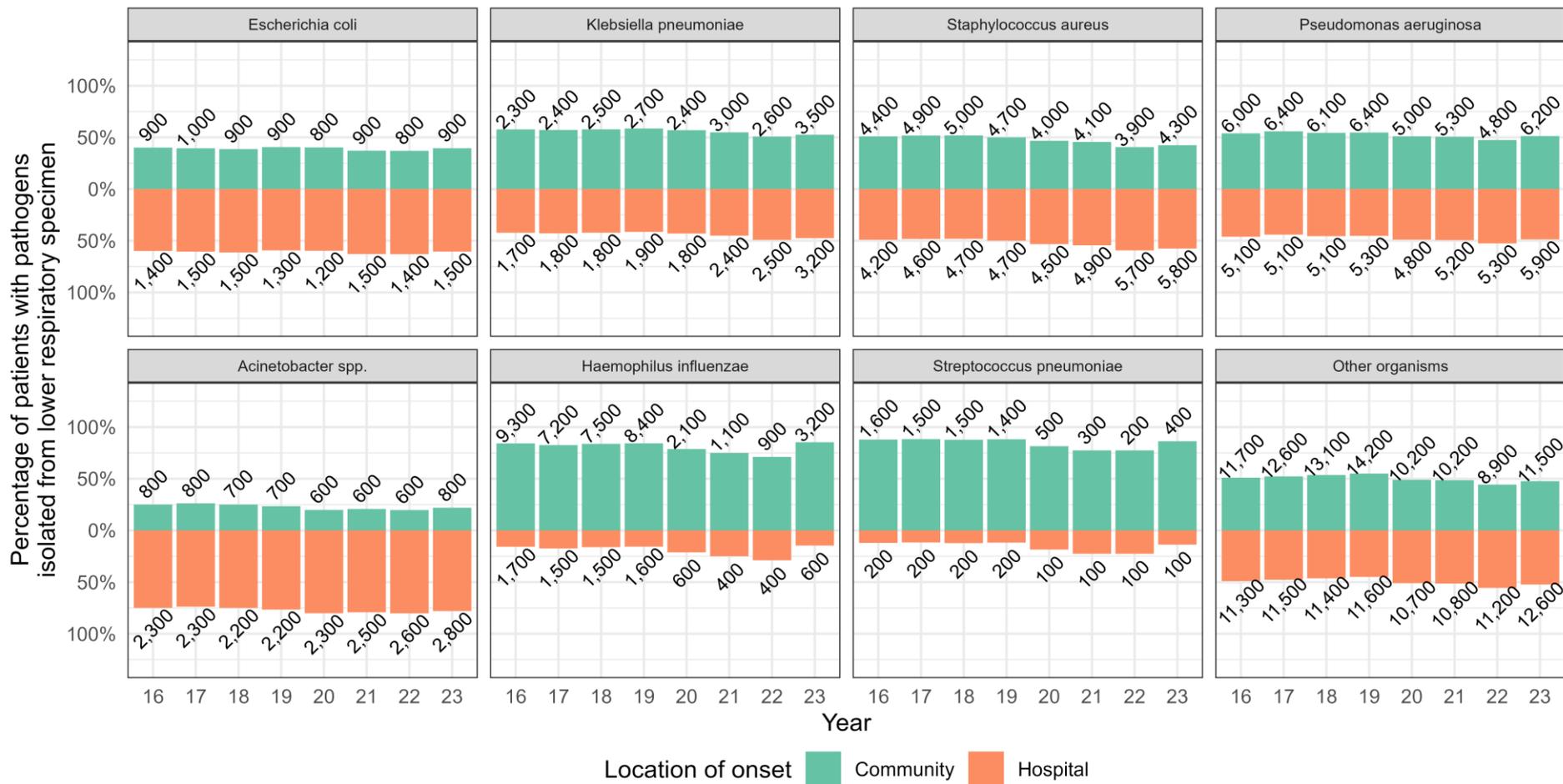
# Distribution of organisms by year



- The two most common WHO priority organisms cultured from lower respiratory specimens between 2016 and 2023 were *P. aeruginosa* and *S. aureus*, accounting for about 40% of cases each year.
- The proportion of *H. influenzae* isolated decreased from 23% in 2016 to 8% in 2023.
- In contrast, the proportion of *K. pneumoniae* isolated increased from 8% in 2016 to 14% in 2023.



# Distribution of organisms by location of onset



- *H. influenzae*, *S. pneumoniae* were predominantly community-onset from 2016 to 2023.
- More than half of *E. coli* and *S. aureus*, *P. aeruginosa* and *Acinetobacter* spp. isolated were hospital-onset.



# Results - Lower Respiratory Culture

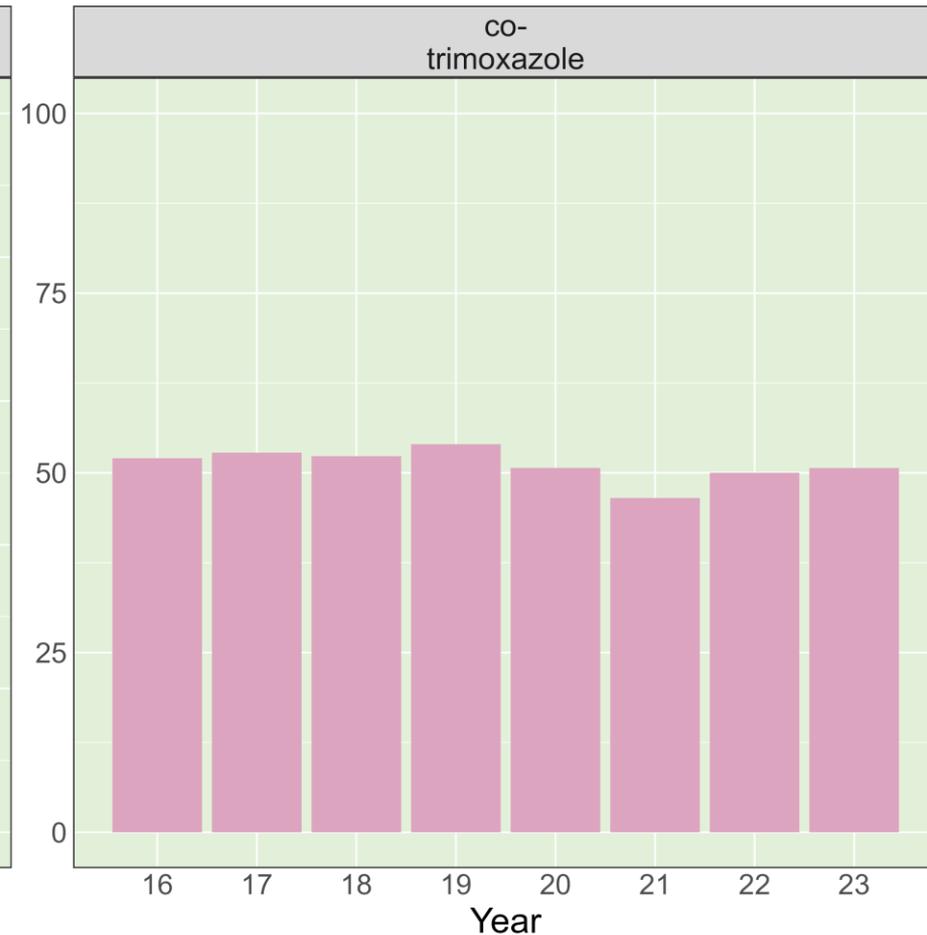
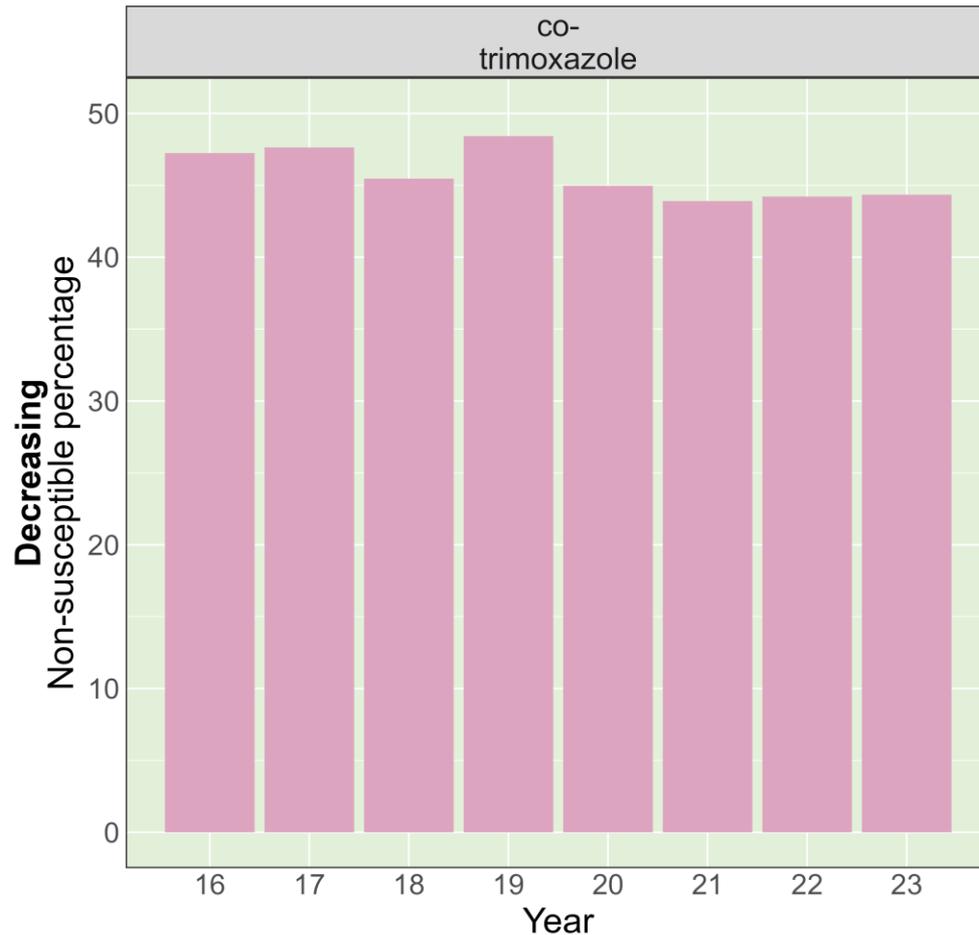
AST results for WHO priority organisms isolated from lower respiratory specimen



# AST results with significant trend for E. coli (16 to 23)

Community-onset

Hospital-onset



▲ <70% of isolates tested • <10 isolates tested (NS% not reported) ○ No isolates tested

- Co-trimoxazole (both community-onset and hospital-onset) shows significant decreases in resistance from 2016-2023.

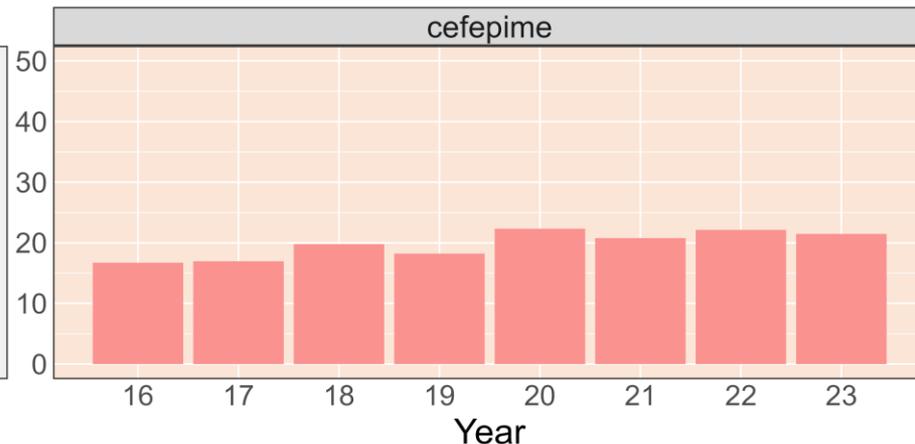
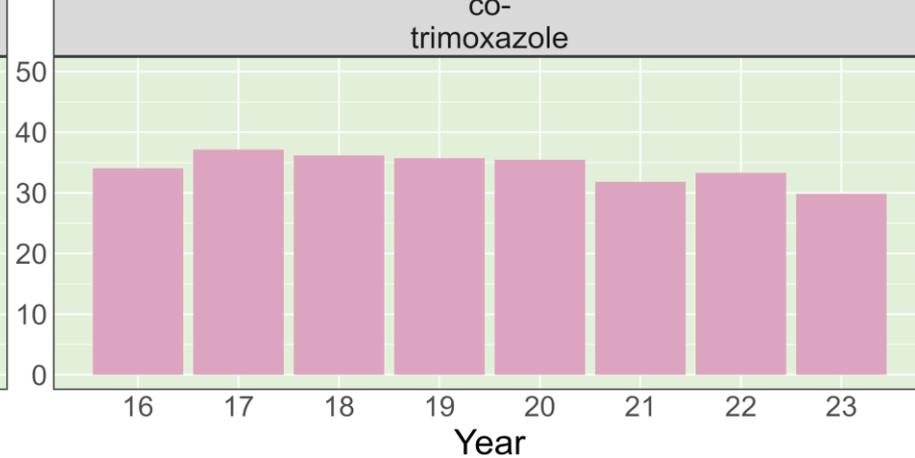
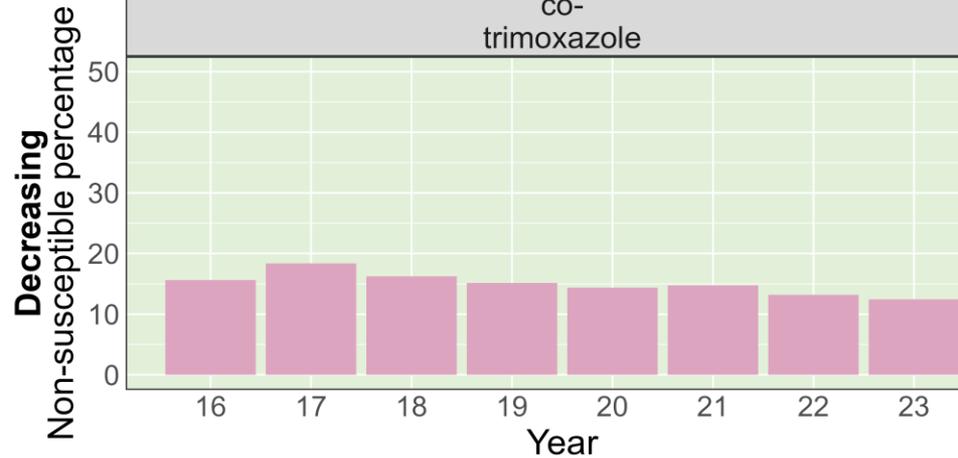
# AST results with significant trend for *K. pneumoniae* (16 to 23)

Community-onset

Hospital-onset

co-trimoxazole

co-trimoxazole



▲ <70% of isolates tested • <10 isolates tested (NS% not reported) ○ No isolates tested

- Co-trimoxazole shows a significant decrease in resistance for both community-onset and hospital-onset infections from 2016-2023.
- Hospital-onset cefepime demonstrates a significant increasing trend in non-susceptible percentage from 2016-2023.

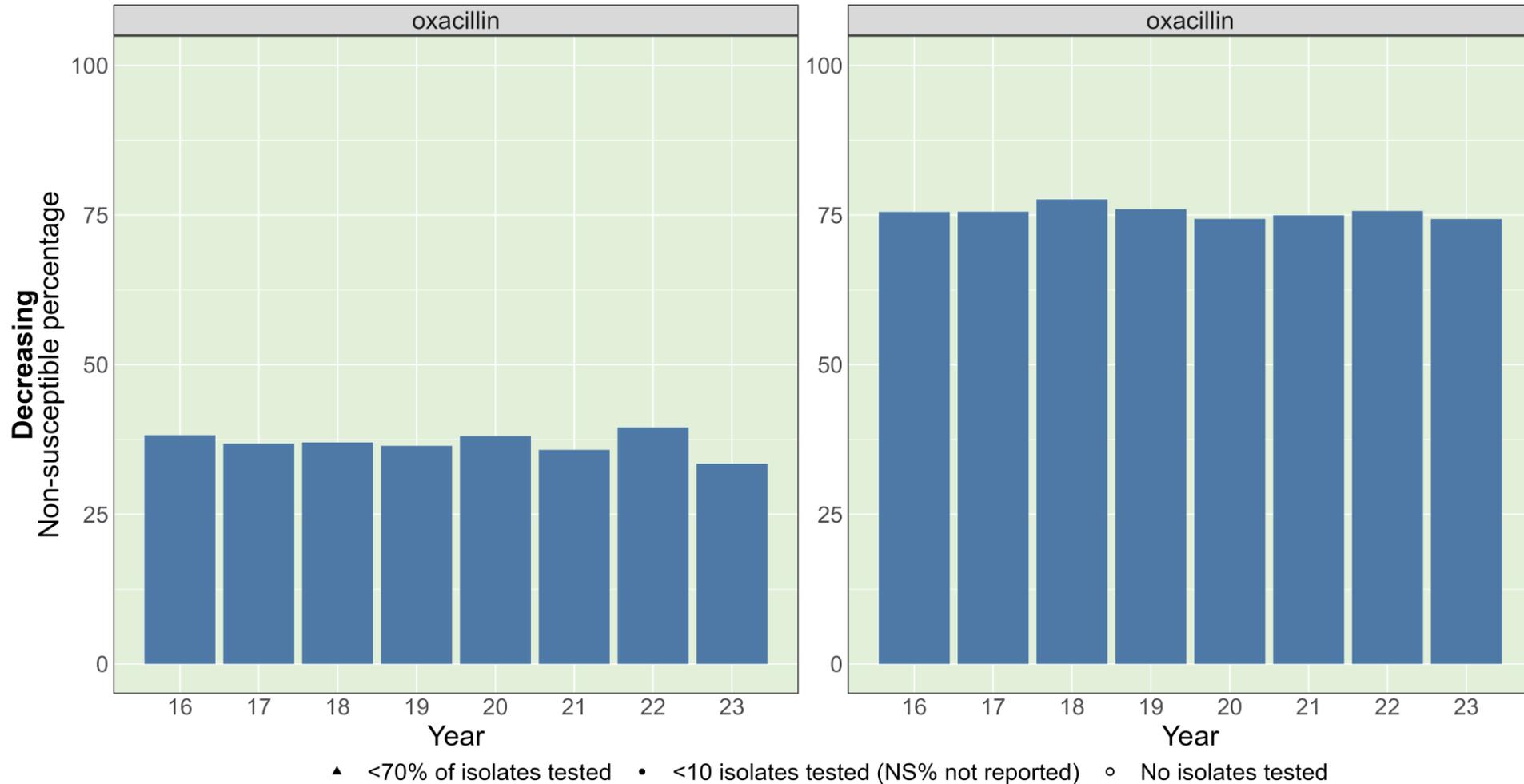
# AST results with significant trend for *S. aureus* (16 to 23)

Community-onset

Hospital-onset

oxacillin

oxacillin



- Oxacillin resistance demonstrates a statistically significant decrease from 2016-2022.

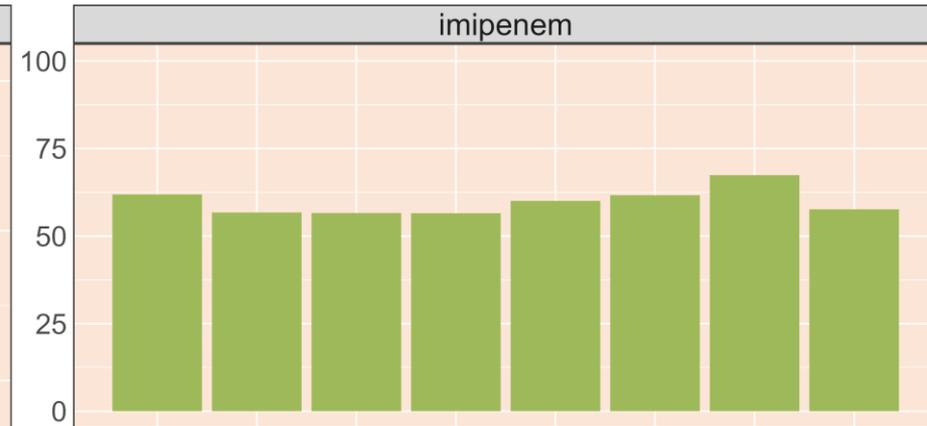
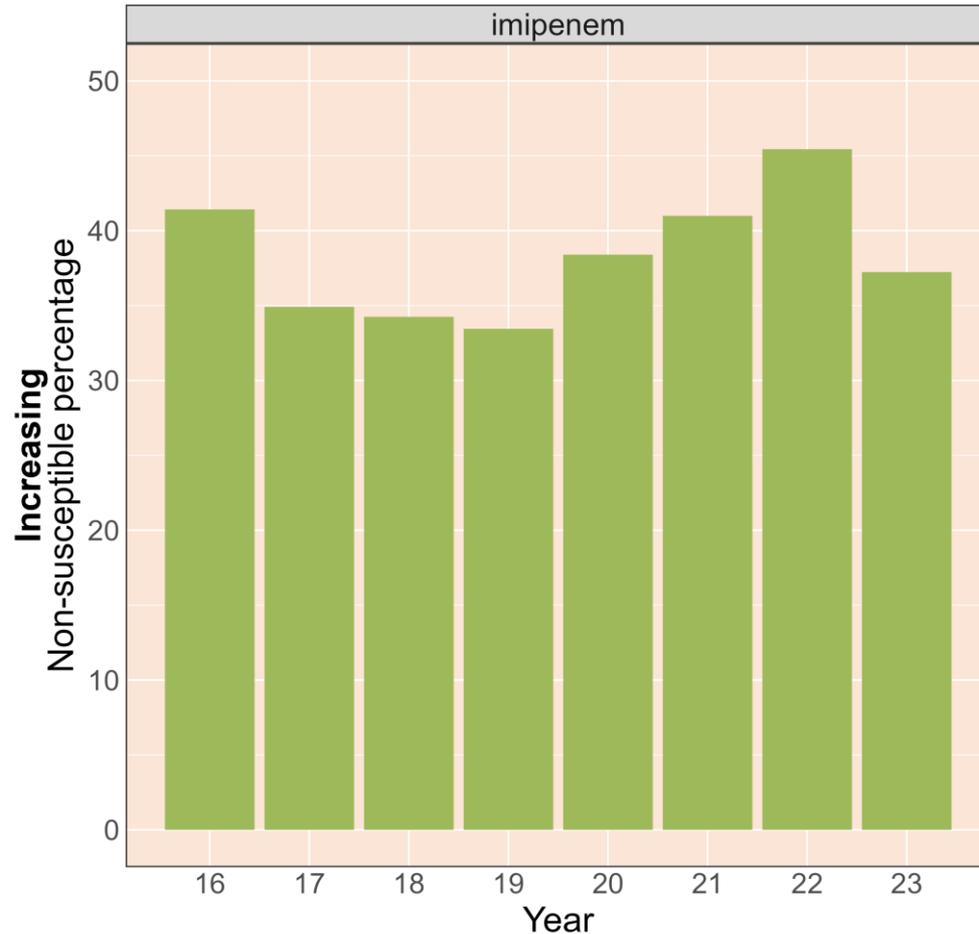
# AST results with significant trend for Acinetobacter spp.

Community-onset

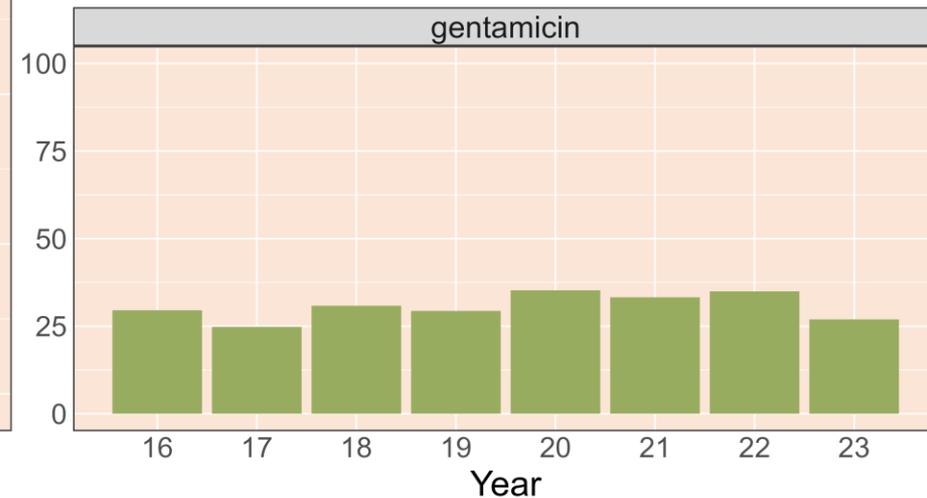
Hospital-onset

imipenem

imipenem



gentamicin



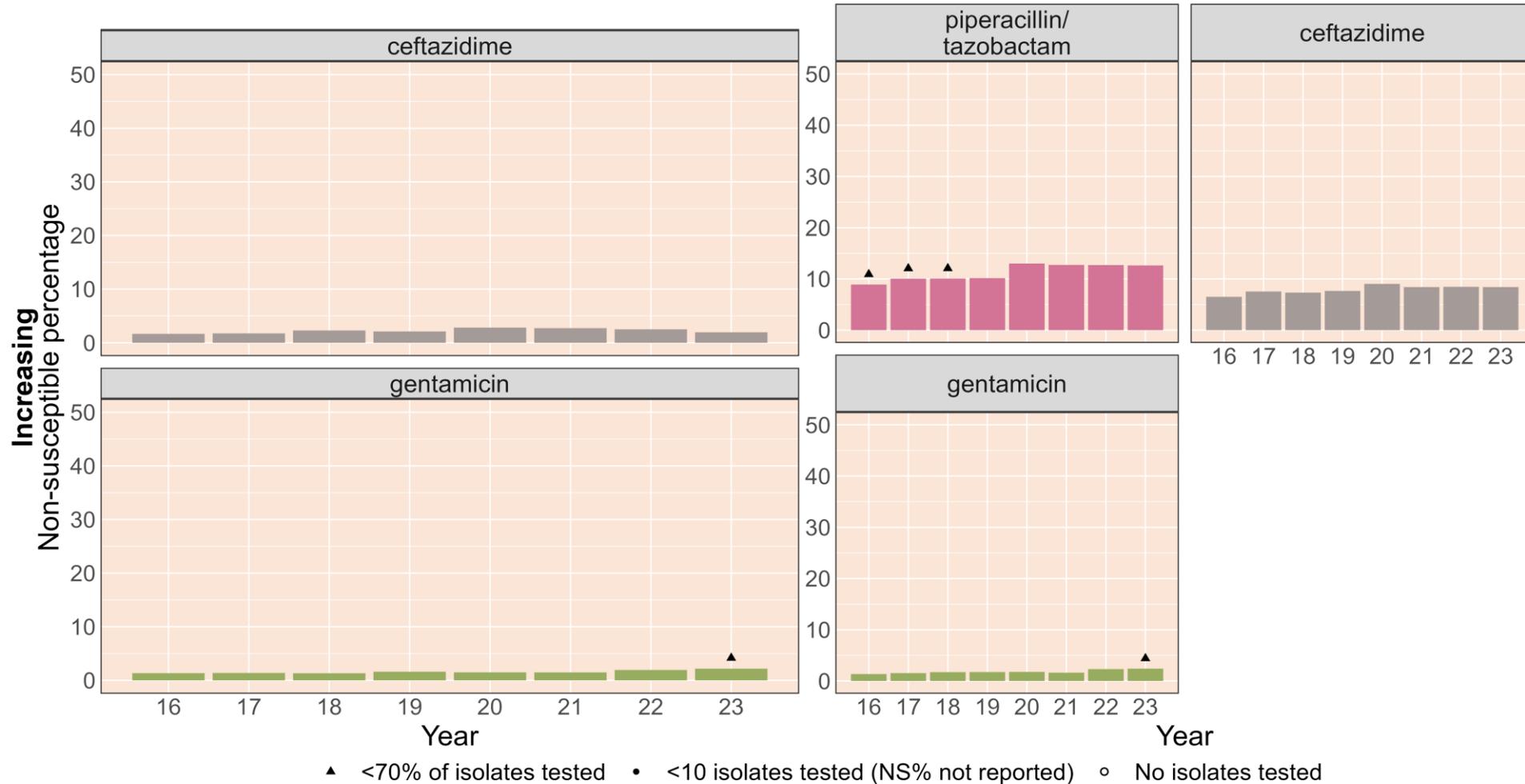
▲ <70% of isolates tested • <10 isolates tested (NS% not reported) ○ No isolates tested

- Imipenem (community- and hospital-onset), and hospital-onset gentamicin demonstrate significant increasing resistance trends from 2016-2023.

# AST results with significant trend for *P. aeruginosa* (16 to 23)

Community-onset

Hospital-onset

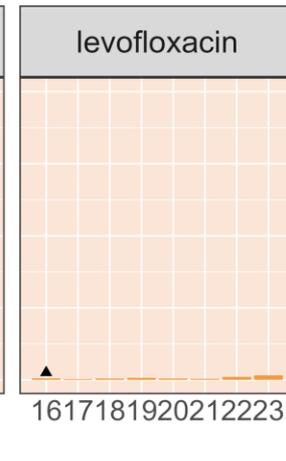
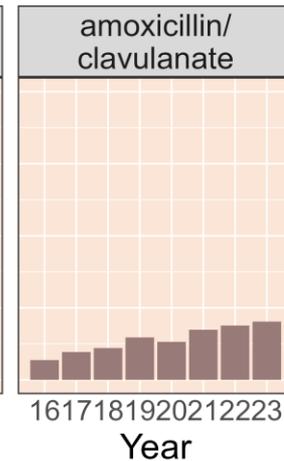
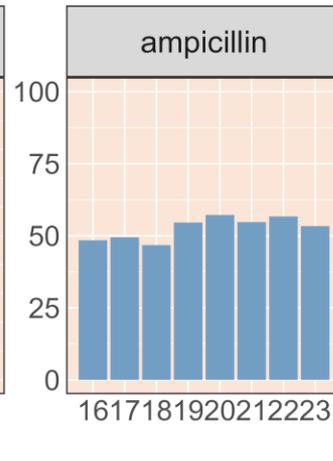
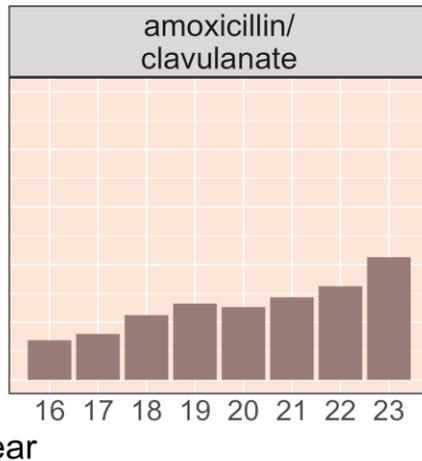
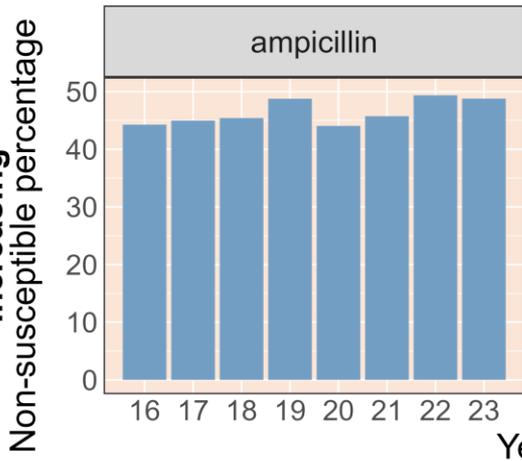
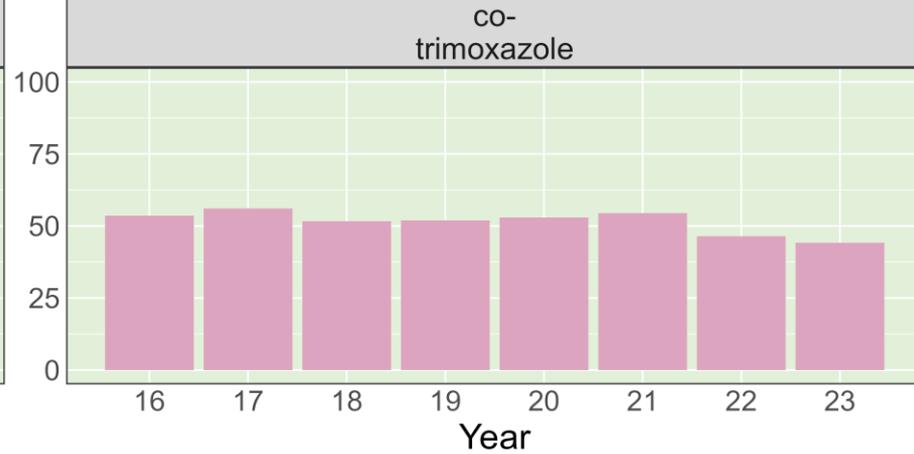
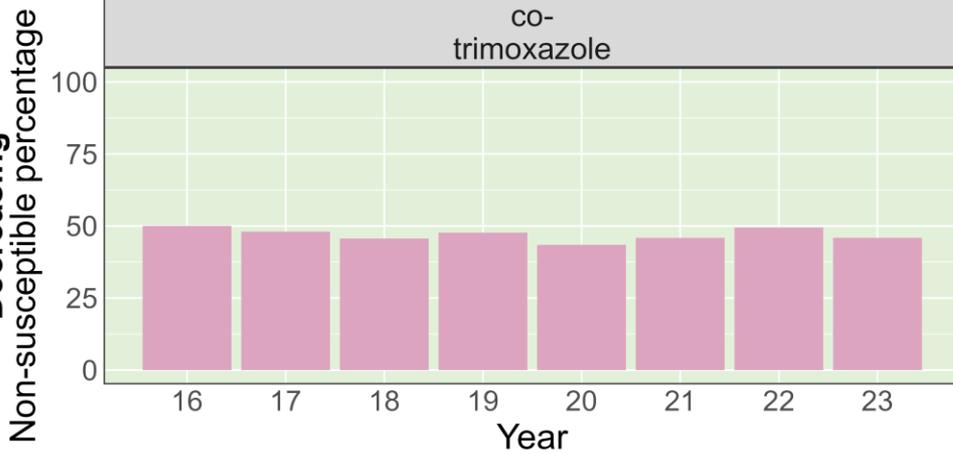


- Ceftazidime and gentamicin (both community-onset and hospital-onset) and piperacillin/tazobactam (hospital-onset) show significant increasing trends in bacterial resistance from 2016-2023.

# AST results with significant trend for H. influenzae (16 to 23)

Community-onset

Hospital-onset



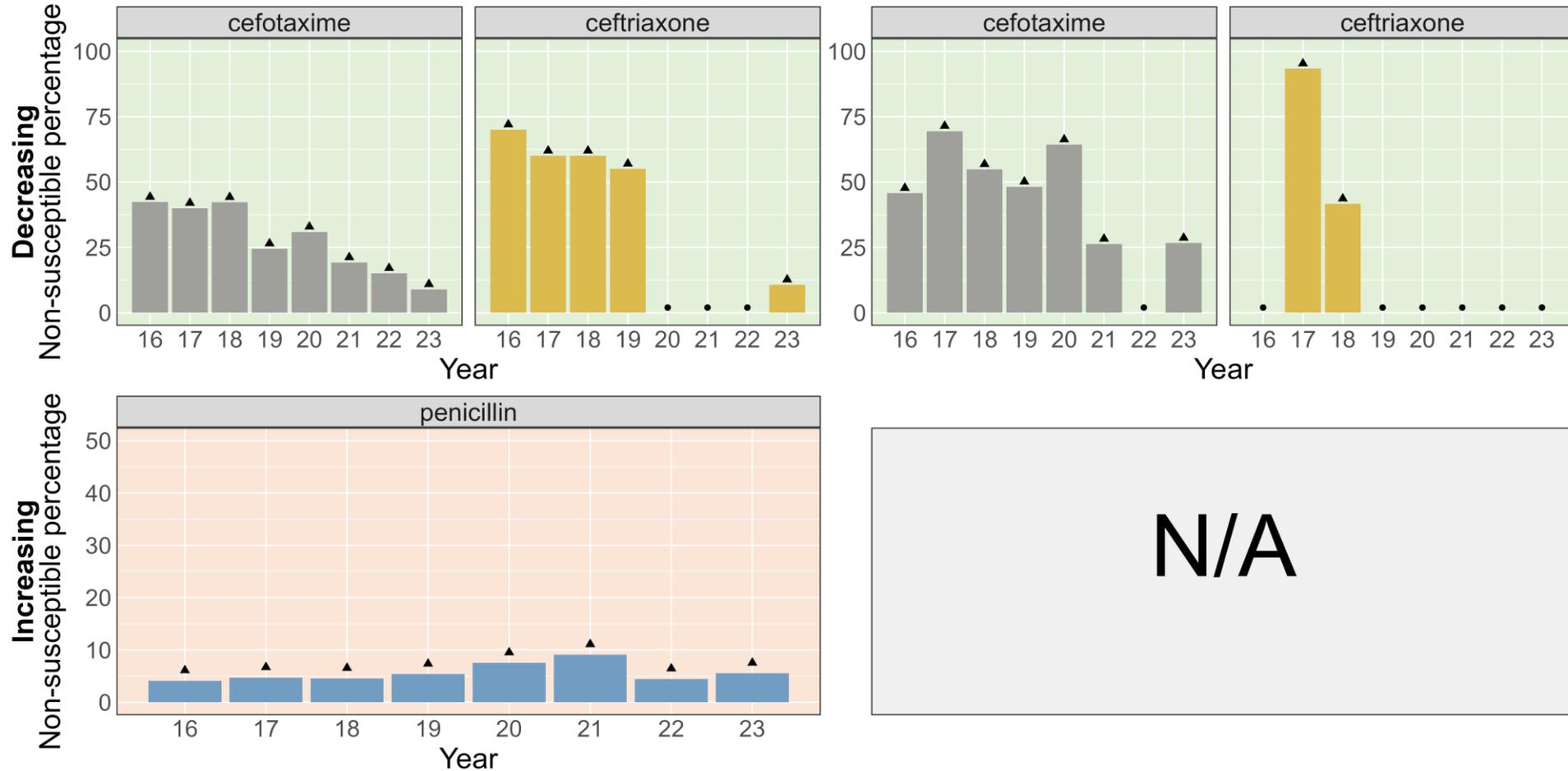
▲ <70% of isolates tested • <10 isolates tested (NS% not reported) ○ No isolates tested

- Co-trimoxazole (both community-onset and hospital-onset) demonstrates a significant decrease in non-susceptible percentage from 2016-2023.
- Ampicillin and amoxicillin/clavulanate (both community-onset and hospital-onset) show significant increasing resistance trends from 2016-2023. Levofloxacin (hospital-onset only) shows a significant increase in non-susceptible percentage from 2016-2023.

# AST results with significant trend for *S. pneumoniae* (16 to 23) (<70% isolates tested)

Community-onset

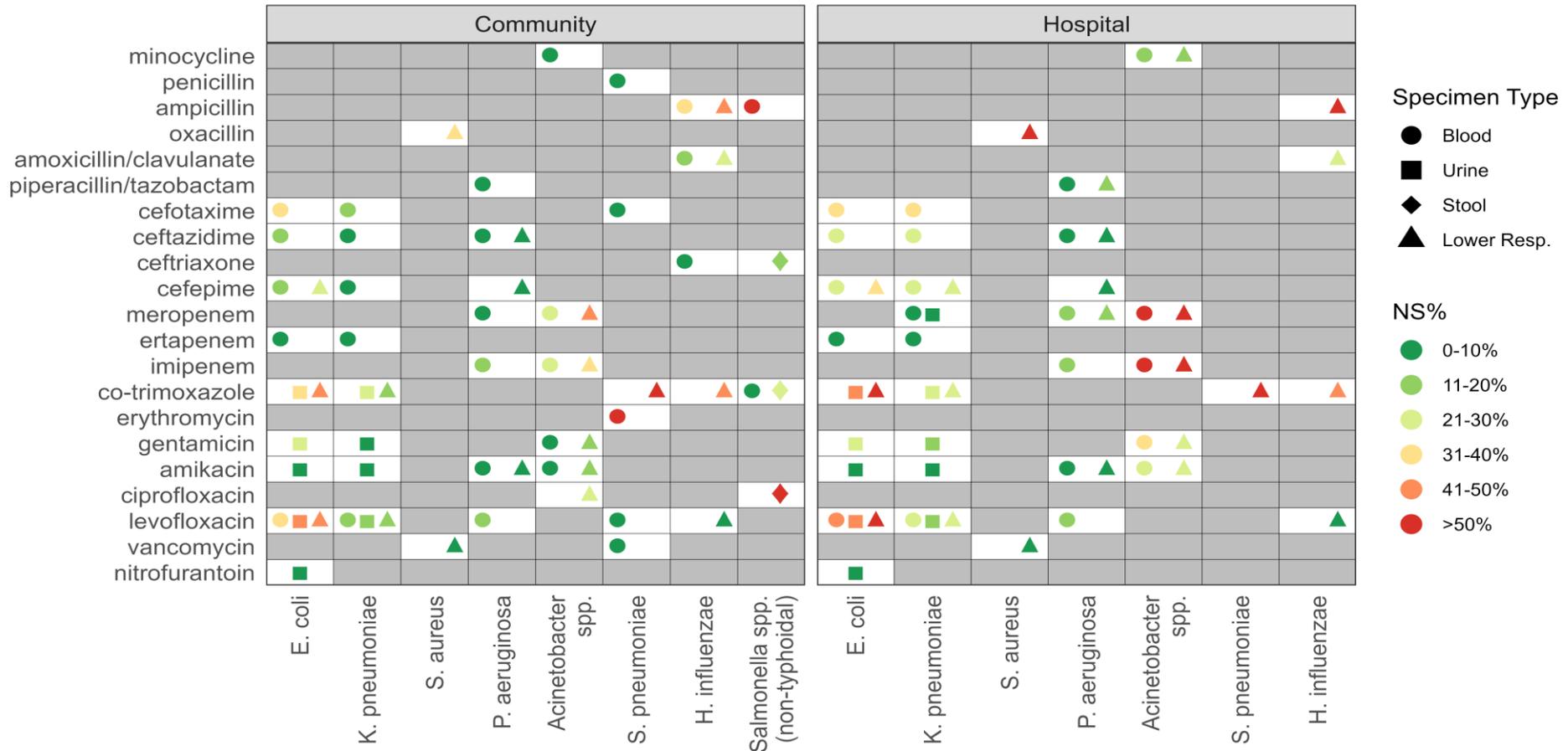
Hospital-onset



▲ <70% of isolates tested • <10 isolates tested (NS% not reported) ○ No isolates tested

- Penicillin resistance demonstrates a significant increasing trend in from 2016-2023, while cefotaxime shows a significant decreasing trend.

# Summary



### Specimen Type

- Blood
- Urine
- ◆ Stool
- ▲ Lower Resp.

### NS%

- 0-10%
- 11-20%
- 21-30%
- 31-40%
- 41-50%
- >50%

Note: Only drug-bug combinations with more than 10 isolates and at least 70% of isolates tested for susceptibility in 2023 are shown.

- Carbapenem resistance among Enterobacterales (E. coli and K. pneumoniae) was observed in infections of hospital- and community- onset.
- Higher non-susceptibility rates (orange/red symbols) are more frequently observed in hospital isolates, especially for Acinetobacter spp. and Pseudomonas aeruginosa.