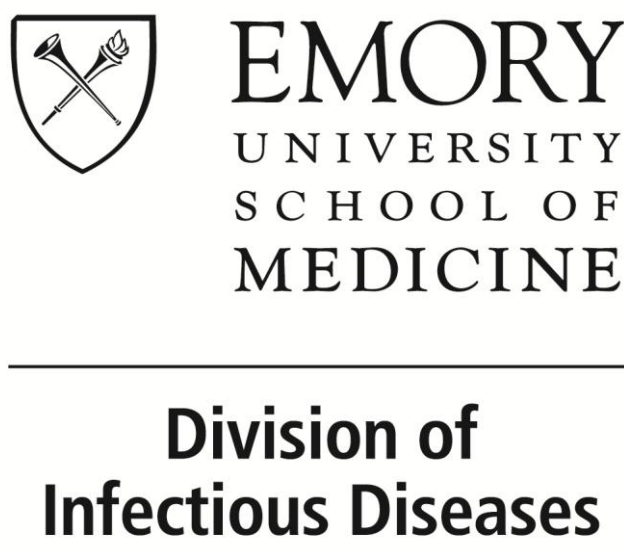


Potential Utility of Syndrome Specific AntibioGrams for Lower Extremity Infections



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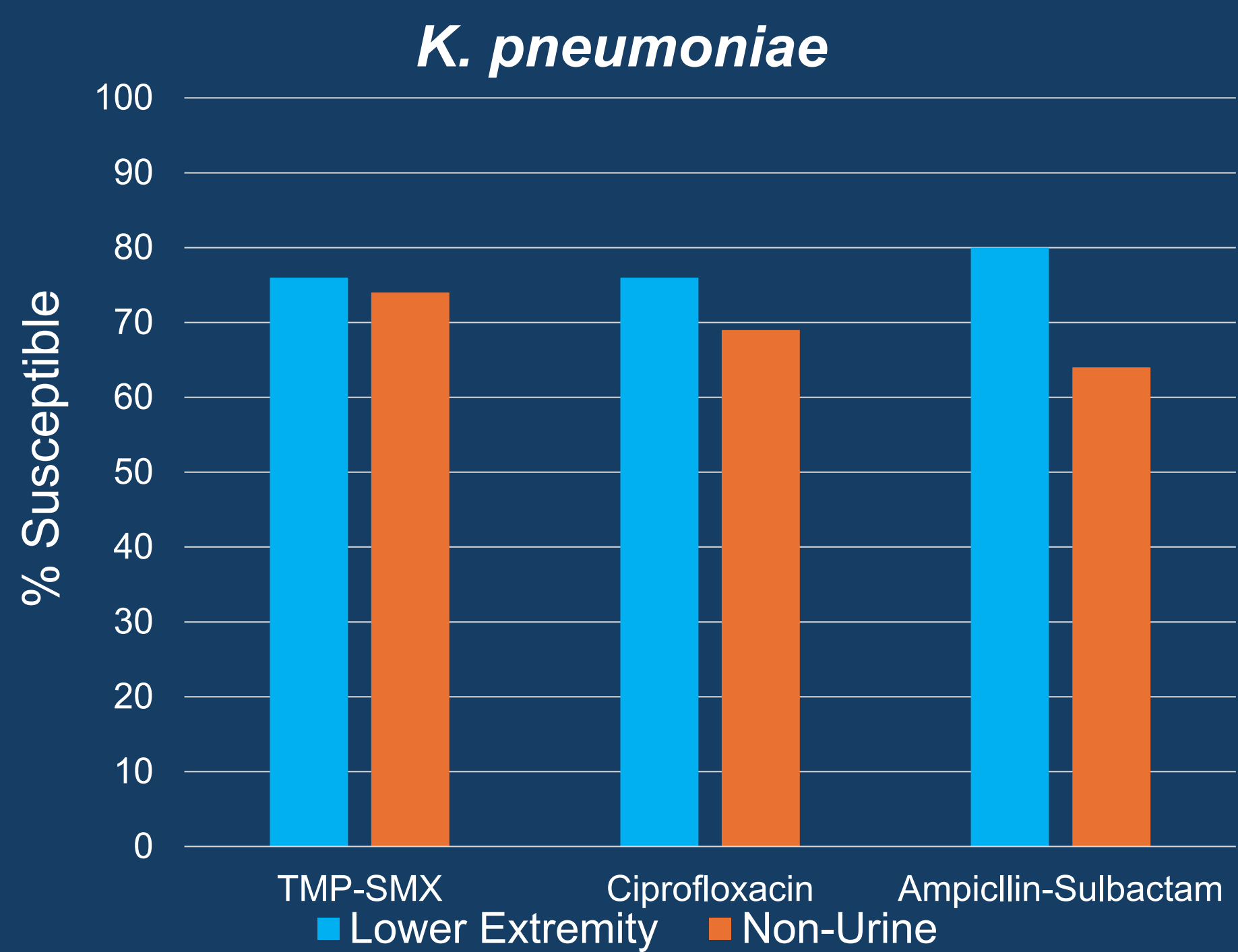
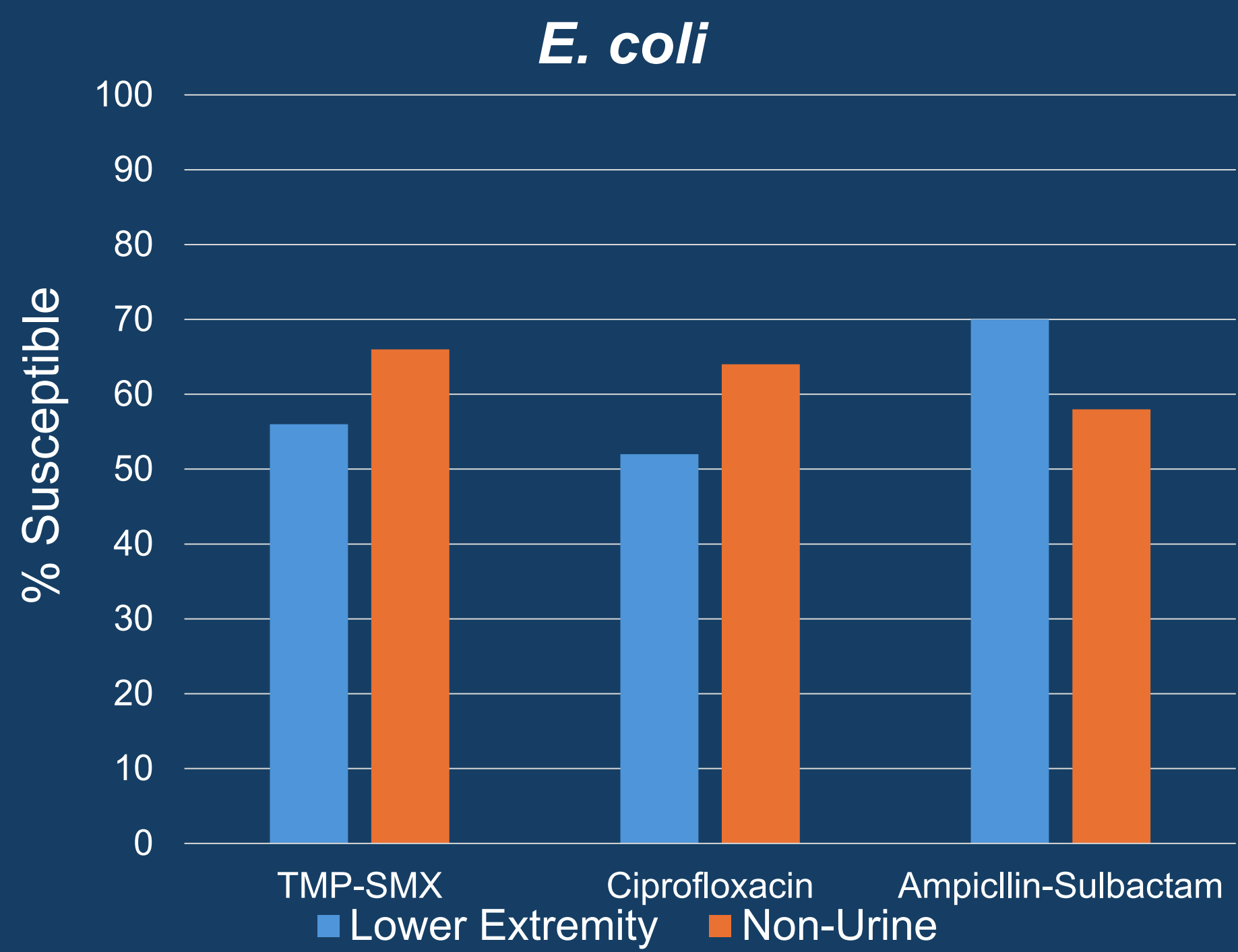
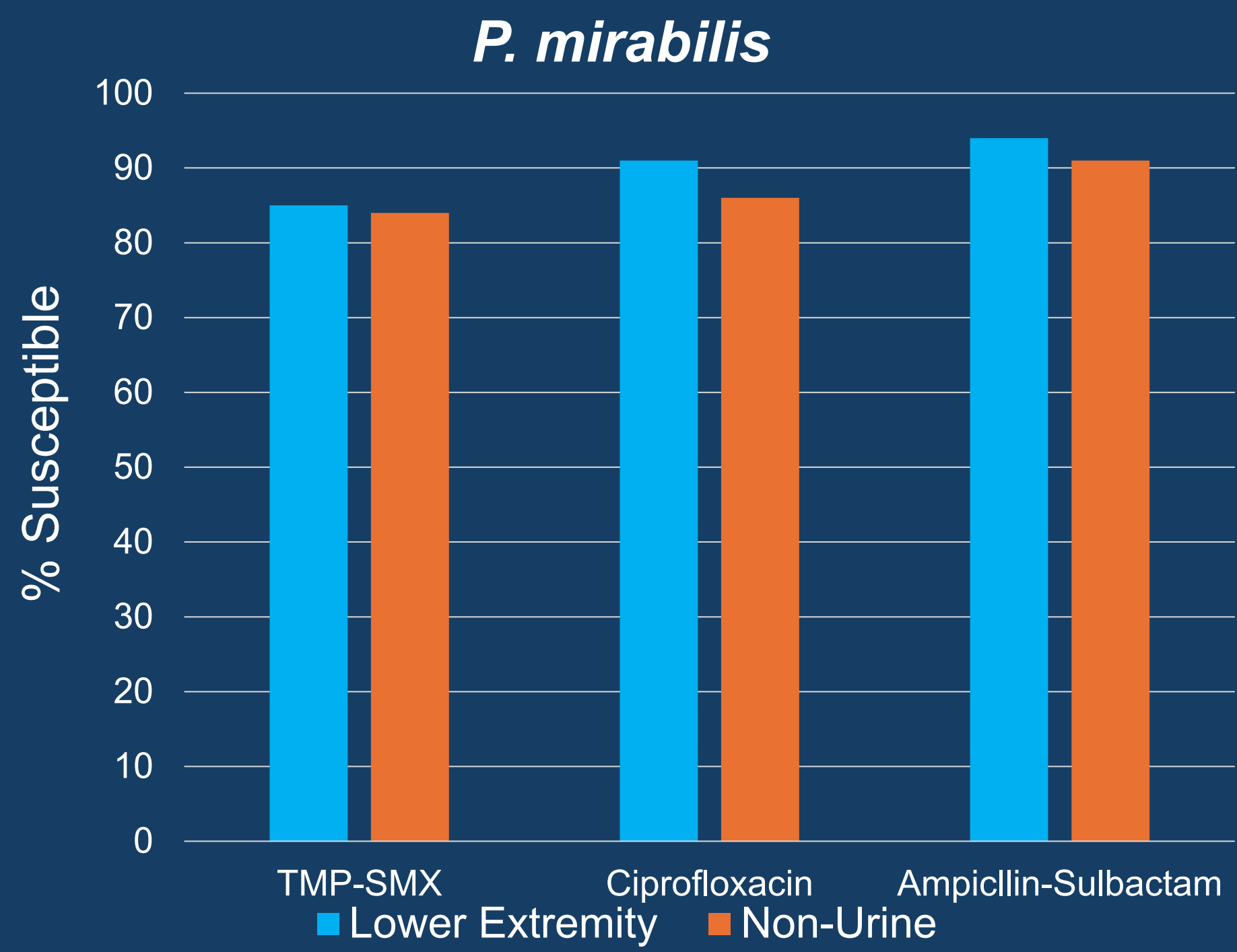


Introduction

- Diabetic lower extremity wound infections are often treated empirically
- Institutional antibiograms are often used to inform local protocols and empiric antimicrobial recommendations
- Electronic health record (EHR) tools can facilitate more granular and/or “on the fly” analysis of local data
- The potential impact of such an approach is unknown

Methods

- Existing reporting tools within the EHR (Epic) were used to create gram negative antibiograms for all non-urinary isolates as well as isolates labeled as “toe” or “foot” as the source (referred to as “lower extremity”). The study period was April 1, 2025 to March 31, 2026.
- Only one isolate of a species per patient per 90-day period was used
- Proportions were compared using the two proportion z-test in Rstudio (R version 4.4.1)



Results

- 1335 general non-urinary isolates and 142 lower-extremity isolates during the study period
- *Escherichia coli* was most common overall but *Proteus mirabilis* was the most commonly isolated species from lower extremity cultures.
- *E. coli*
 - TMP-SMX: 15/27 (55.5%) lower extremity isolates were susceptible vs 322/488 (66.0%) non-urinary isolates were susceptible (difference -10.5%, 95% CI: -31.6% to 10.7%).
 - Ciprofloxacin: 14/27 (51.9%) lower extremity isolates were susceptible vs 312/488 (63.9%) non-urinary isolates were susceptible (difference -12.1%, 95% CI: -33.4% to 9.2%)
 - Ampicillin-sulbactam, 19/27 (70.4%) lower extremity isolates were susceptible vs 285/488 (58.4%) non-urinary isolates were susceptible (difference +12.4%, 95% CI: -7.3% to 32.1%).

Lower Extremity Isolates				
	N	TMP-SMX	Ciprofloxacin	Ampicillin-Sulbactam
<i>Escherichia coli</i>	27	56%	52%	70%
<i>Klebsiella pneumoniae</i>	21	76%	76%	80%
<i>Proteus mirabilis</i>	56	85%	91%	94%
<i>Serratia marcescens</i>	17	100%	94%	-
<i>Morganella morganii</i>	21	80%	85%	-

Non-Urine Isolates				
	N	TMP-SMX	Ciprofloxacin	Ampicillin-Sulbactam
<i>Escherichia coli</i>	488	66%	64%	58%
<i>Klebsiella pneumoniae</i>	377	74%	69%	64%
<i>Proteus mirabilis</i>	291	84%	86%	91%
<i>Serratia marcescens</i>	119	100%	94%	-
<i>Morganella morganii</i>	60	75%	85%	-

Conclusions

- Relative organism prevalence and antibiotic susceptibility profiles differed between the foot/toe restricted and the standard non-urinary antibiograms
- These differences reflect a defined period at our single center and may not reflect durable trends at our center or trends generalizable to other centers
- EHRs increasingly provide frontline users with tools capable of facilitating the analysis and sharing of clinical data trends. It is necessary to consider how these tools should best be deployed

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