



TECHNICAL NOTICE

THE MEDICAL FOUNDATION

Microbiology Annual Antibigram Summary

The “Susceptibility Patterns of Common Organisms” is the annual antibiogram summary report. Cumulative data is derived from the 2016 antimicrobial susceptibility test results of the most common organisms isolated from patients in St. Joseph County and Elkhart County. This information is provided to help guide empiric therapy choices for **initial** infections.

- Only the first isolate of a given species is counted per patient for the year, irrespective of body site
- For statistical purposes, the unique medical record number or patient identification number defines a “patient”
- Only susceptible results are counted. Intermediate results are not included
- A minimum of 30 patient strains of each organism are required to be considered for empiric therapy
- Results are expressed as the percent susceptible for the number of patient isolates tested

A. Mechanisms of resistance

Gram-positive and Gram-negative organisms are routinely screened for known intrinsic as well as inducible resistance mechanisms. Confirmation of screening results is performed, if indicated by the organism’s phenotype and/or the published guidelines from the Clinical and Laboratory Standards Institute (CLSI). To ensure a true susceptible result, results for specific antimicrobials may be delayed until additional testing is completed and the expression of a resistance mechanism is either confirmed or ruled out.

GRAM-POSITIVE ORGANISM	RESISTANCE CONFIRMATION	FREQUENCY
<i>S. aureus</i>	Oxacillin resistant	48%
	Penicillin resistant (beta-lactamase positive)	>95%
	Inducible clindamycin resistant	14%
	Vancomycin intermediate/resistant	0%
MRSA	Oxacillin resistant	100%
	Penicillin resistant (beta-lactamase positive)	100%
	Inducible clindamycin resistant	9%
	Vancomycin intermediate/resistant	0%
<i>Enterococcus</i>	Vancomycin intermediate/resistant	10%
<i>Streptococcus pneumoniae</i> (non-sterile sites)	Oral penicillin intermediate	25%
	Oral penicillin resistant	10%
	Parenteral penicillin intermediate	3%
	Parenteral penicillin resistant	2%
GRAM-NEGATIVE ORGANISM	RESISTANCE CONFIRMATION	FREQUENCY
<i>E. coli</i>	Extended spectrum beta-lactamase (ESBL)	7%
	Carbapenem resistant Enterobacteriaceae (CRE)	1%
	Carbapenemase-producing Carbapenem resistant Enterobacteriaceae (CP-CRE)	0%
<i>Klebsiella pneumoniae</i>	Extended spectrum beta-lactamase (ESBL)	3%
	Carbapenem resistant Enterobacteriaceae (CRE)	0%
	Carbapenemase-producing Carbapenem resistant Enterobacteriaceae (CP-CRE)	2%

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B. Surveillance

The summary of susceptibility information for the following significant pathogens tested for annual surveillance is included, since routine susceptibility testing of patient isolates is usually not indicated:

- Random isolates of *Bacteroides fragilis* group
- *Salmonella* and *Shigella* isolates primarily of fecal origin over the past five years
- Random isolates of Group B streptococcus species from vaginal/rectal sources

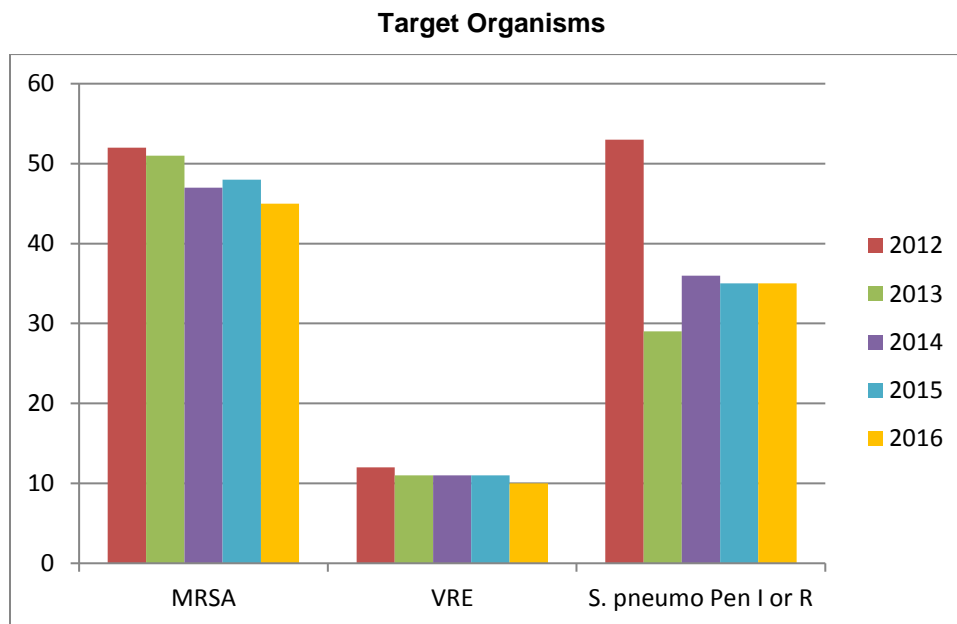
C. *Streptococcus pneumoniae*

The susceptibility data is based on sterile body sites only, primarily blood cultures. The interpretations of the minimum inhibitory concentration (MIC) for ceftriaxone reflect the breakpoint for non-meningeal isolates, which are considered more susceptible to lower concentrations of ceftriaxone and cefotaxime.

Extended susceptibility testing is performed on isolates from other sources, when isolates are intermediate or resistant to penicillin by screening methods. The percentage of intermediate and resistant results for both oral and IV penicillin are included for *S. pneumoniae* isolated from non-sterile sites

D. Trends

Cumulative results of the target organisms below do not take into account specific locations or patient groups:



Additional copies of the pocket reference are available by contacting The Medical Foundation Client Services at 574-236-SBMF(7263) or 800-950-SBMF(7263). For additional information contact Kristen Jacobs, M.D. at 574-204-4396 (kjacobs@sbmf.org), Mary G. Stepney at 574-234-4176 extension 1304 (mstepney@sbmf.org), or Nan Boston at (574)234-4176 extension 1272 (nboston@sbmf.org).

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