YKHC Annual Antibiogram

January 1, 2019 - December 31, 2019

			Penicillins					Cephalosporins				Carbapenem	Fluoroquinolones		AMG	Miscellaneous					
		Total # of Isolates	Penicillin	Oxacillin	Ampicillin	Amoxicillin/Clav £	Piperacillin/Tazo	Cefazolin	Cefuroxime	Ceftriaxone	Ceftazidime	Meropenem	Ciprofloxacin	Levofloxacin	Gentamicin	Nitrofurantoin ‡	Tetracycline	Trimethoprim/Sulfa	Clindamycin ^	Erythromycin	Vancomycin
Gram Negative	*Escherichia coli ESBL*	30				80	97					100	43	43	83	100	47	43			
	E. coli	945			46	89	99	90		96		100	85	85	91	98	76	70			
	*Enterobacter cloacae**	57					96			89		100	100	100	100	39	98	93			
	*Klebsiella aerogenes**	34					97			97		100	100	100	100	50	97	100			
	Klebsiella pneumoniae	45				98	98	96		96		100	98	98	100	63	89	98			
	Proteus mirabilis	38			89	100	100	95		95		100	97	97	95			95			
	*Pseudomonas aeruginosa***	36					100				97	97	89	89	77						
Gram Positive	*Enterococcus faecalis*	32			97									100		100	31				100
	Coagulase Neg Staph sp.	159		50				50		50				94		97	91	87	74		99
	MRSA	147		R				R						53		100	99	99	91		100
	MSSA	286		100		100		100		100				99		100	99	100	93		100
	Staph. aureus	433		66				66		66				93		100	99	100	92		100
	Streptococcus pneumoniae +	35	91		91				100	97				100			94	94	97	88	100

GENERAL NOTES:

a. Percent susceptible for each organism/antimicrobial combination was generated by including the first isolate of that organism recovered from a given patient per year.
b. Statistical validity of estimates of percent suspectible is lowered when <30 isolates obtained:
(*) 2018 & 2019 data combined to increase # of isloates for reporting
(**) 2017, 2018 & 2019 data combined to increase # of isloates for reporting
c. Enterobacteriaceae that are ESBL producers (resistant to 3rd gen. cephalosporins) are also resistant to most penicillins, cephalosporins, and aztreonam.
d. Worldwide, there have never been penicillin resistant Beta-hemolytic Streptococcus, Group A (Strep. pyogenes) reported.
e. Worldwide, there have never been vancomycin resistant *Streptococcus pneumoniae* , Viridans Streptococcus, or Beta-hemolytic Streptococci reported.
f. Carbapenems & Pip/tazo have reliable coverage for *Bacteroides fragilis* ; adding metronidazole is unnecessary.
g. Organisms susceptible to tetracycline are also susceptible to doxycycline.
h. Vancomycin MIC confirmation by e-test is routinely performed on bloodstream MRSA isolates.

MDRO NOTES SPECIFIC FOR THIS PERIOD:

a. 30 (3.2% of *E.coli*) were ESBLs (Extended spectrum beta-lactamase producing).
(Susceptible: 43% FQs; 43% TMP/SMX; 100% Nitrofurantoin)
Macrobid is reliable for ESBL cystitis. CARBAPENEMS are preferred for most severe ESBL infections.
b. 34% of *Staphylococcus aureus* were MRSA.

KEY/DEFINITIONS:

(Gray Cell): Antibiotic is not tested, known to be clinically ineffective, and/or suppressed per CLSI limitations.
MRSA: Methicillin resistant *Staph aureus*
MSSA: Methicillin sensitive *Staph aureus*
AMG: Aminoglycoside
(+): *S. pneumoniae* susceptibility using meningitis PCN & Cephalosporin breakpoints
(++): Nitrofurantoin should be used only for cystitis in afebrile patients with CrCl > 30.
(^): Isolates with inducible clindamycin resistance (+ D test) are considered resistant.
(£): Amoxicillin/clavulanate susceptibility is not equivalent to ampicillin/sulbactam for gram-negative pathogens