

**Supplemental Digital Content – Table 1: Trends in Antimicrobial Use by Unit During Pre-Implementation, Planning, and Post-Implementation**

Phases by Segmented Regression Analysis

	Days of therapy / 1000 patient days / month (95% confidence interval)					
	Pre-Implementation Phase Slope	Planning Phase Slope	Post-Implementation Phase Slope	Change in Slope <sup>Pre-Post*</sup>	Change in Slope <sup>Pre-Plan*</sup>	Change in Slope <sup>Plan-Post*</sup>
<b>Pediatric Intensive Care Unit</b>						
All Antimicrobials	-10.3 (-40.1, 19.4)	-19.9 (-30.4, -9.4)	-43.9 (-73.7, -14.2)	-33.6 (-75.7, 8.5)	-9.5 (-41.1, 22)	-24 (-55.6, 7.5)
All Antibacterials	-15.9 (-34.2, 2.5)	-12.4 (-18.8, -5.9)	-30.2 (-48.6, -11.8)	-14.3 (-40.3, 11.7)	3.5 (-16, 23)	-17.8 (-37.3, 1.7)
Vancomycin	-10.1 (-17.7, -2.5)	-3.8 (-6.5, -1.1)	-2.9 (-10.5, 4.7)	7.2 (-3.5, 18)	6.3 (-1.7, 14.4)	0.9 (-7.2, 9)
<b>Neonatal Intensive Care Unit</b>						
All Antimicrobials	4.7 (-9, 18.5)	0.7 (-4.1, 5.6)	-6.3 (-20.1, 7.4)	-11.1 (-30.5, 8.3)	-4 (-18.6, 10.6)	-7.1 (-21.6, 7.5)
All Antibacterials	-2.2 (-15, 10.6)	1.4 (-3.1, 5.9)	-6.2 (-18.9, 6.6)	-4 (-22, 14.1)	3.6 (-10, 17.1)	-7.6 (-21.1, 6)
Vancomycin	-0.6 (-4.2, 2.9)	-0.6 (-1.9, 0.6)	-0.4 (-4, 3.1)	0.2 (-4.8, 5.2)	0 (-3.7, 3.8)	0.2 (-3.6, 4)
<b>Cardiac Intensive Care Unit</b>						
All Antimicrobials	-2.6 (-20.7, 15.5)	5.8 (-0.5, 12.2)	-0.7 (-18.8, 17.4)	1.9 (-23.8, 27.5)	8.4 (-10.8, 27.6)	-6.6 (-25.8, 12.6)
All Antibacterials	-1.4 (-17.5, 14.6)	4.9 (-0.7, 10.6)	-3.2 (-19.3, 12.8)	-1.8 (-24.5, 20.9)	6.3 (-10.7, 23.3)	-8.1 (-25.1, 8.9)
Vancomycin	3.3 (-1.7, 8.4)	1.7 (0, 3.5)	-3.1 (-8.1, 2)	-6.4 (-13.5, 0.7)	-1.6 (-7, 3.7)	-4.8 (-10.1, 0.6)
<b>Surgery</b>						
All Antimicrobials	-2.7 (-14.6, 9.2)	-6.2 (-10.4, -2)	3.8 (-8.1, 15.7)	6.5 (-10.3, 23.3)	-3.5 (-16.2, 9.1)	10.1 (-2.6, 22.7)
All Antibacterials	-7.5 (-19, 4.1)	-6.1 (-10.1, -2)	1.6 (-10, 13.2)	9.1 (-7.3, 25.5)	1.4 (-10.9, 13.7)	7.7 (-4.6, 20)
Vancomycin	-4.1 (-7.9, -0.3)	-1 (-2.4, 0.3)	2.6 (-1.2, 6.4)	6.7 (1.3, 12)**	3 (-1, 7.1)	3.6 (-0.4, 7.6)
<b>Hematology/Oncology/Bone Marrow Transplant</b>						
All Antimicrobials	10.4 (-41, 61.8)	-24.4 (-42.6, -6.3)	1.2 (-50.2, 52.7)	-9.2 (-81.9, 63.6)	-34.8 (-89.4, 19.7)	25.7 (-28.9, 80.2)
All Antibacterials	6.9 (-12.9, 26.6)	-13.2 (-20.2, -6.3)	-7.8 (-27.5, 12)	-14.6 (-42.6, 13.3)	-20.1 (-41.1, 0.8)	5.5 (-15.5, 26.4)
Vancomycin	-4.5 (-11.4, 2.4)	-0.3 (-2.7, 2.2)	-5 (-11.9, 2)	-0.5 (-10.3, 9.3)	4.2 (-3.1, 11.6)	-4.7 (-12, 2.6)
Meropenem	4.2 (-6.2, 14.6)	-1.8 (-5.5, 1.9)	-0.7 (-11.1, 9.7)	-4.9 (-19.6, 9.8)	-6 (-17, 5)	1.1 (-10, 12.1)
Antipseudomonal Cephalosporins <sup>a</sup>	4.2 (-4.9, 13.2)	-0.7 (-3.9, 2.5)	-6.2 (-15.2, 2.9)	-10.3 (-23.1, 2.5)	-4.9 (-14.5, 4.7)	-5.4 (-15, 4.2)
Piperacillin-Tazobactam	0.5 (-0.7, 1.7)	-0.5 (-0.9, -0.1)	-0.2 (-1.4, 1)	-0.7 (-2.4, 1)	-1 (-2.3, 0.2)	0.3 (-1, 1.6)
Fluroquinolones <sup>b</sup>	-0.4 (-4.6, 3.8)	-4.3 (-5.8, -2.8)	6.8 (2.6, 11)	7.1 (1.2, 13.1)**	-3.9 (-8.4, 0.6)	11 (6.6, 15.5)**
Gentamicin	-0.4 (-2.5, 1.7)	0.6 (-0.1, 1.3)	0.5 (-1.5, 2.6)	1 (-2, 3.9)	1 (-1.2, 3.2)	-0.1 (-2.3, 2.1)
<b>General Medicine</b>						
All Antimicrobials	19.1 (6.8, 31.3)	-3.6 (-8, 0.7)	-7.7 (-19.9, 4.6)	-26.8 (-44.1, -	-22.7 (-35.7, -	-4 (-17, 9)

	Days of therapy / 1000 patient days / month (95% confidence interval)					
	Pre-Implementation Phase Slope	Planning Phase Slope	Post-Implementation Phase Slope	Change in Slope <sup>Pre-Post*</sup>	Change in Slope <sup>Pre-Plan*</sup>	Change in Slope <sup>Plan-Post*</sup>
				9.4**	9.7**	
All Antibacterials	12.6 (1.2, 24.1)	-4.2 (-8.2, -0.2)	-7.8 (-19.2, 3.6)	-20.4 (-36.6, -4.3)**	-16.8 (-28.9, -4.7)**	-3.6 (-15.7, 8.5)
Vancomycin	-0.7 (-3.6, 2.2)	0.1 (-0.9, 1.1)	-1.5 (-4.4, 1.4)	-0.8 (-4.9, 3.3)	0.8 (-2.3, 3.9)	-1.6 (-4.7, 1.5)
<b>Pulmonary/Cystic Fibrosis</b>						
All Antimicrobials	-22.3 (-50.9, 6.2)	2.4 (-7.7, 12.5)	-32.6 (-61.2, -4.1)	-10.3 (-50.7, 30)	24.7 (-5.5, 55)	-35.1 (-65.3, -4.8)**
All Antibacterials	-9.7 (-33.9, 14.4)	1.8 (-6.7, 10.3)	-32.6 (-56.8, -8.5)	-22.9 (-57.1, 11.2)	11.5 (-14.1, 37.1)	-34.4 (-60, -8.8)**

\*Changes in slope refer to the differences in the slopes between the designated phases

\*\*Statistically significant ( $p < 0.05$ )

<sup>a</sup>Includes cefepime and ceftazidime

<sup>b</sup>Includes ciprofloxacin and levofloxacin (moxifloxacin is not on formulary and is not widely used at our institution)