

Table S1. Rates of total and resistant Gram-positive isolates collected from pediatric patients as part of T.E.S.T. 2004-2011.

	<u>Africa</u>		<u>Asia/Pacific Rim</u>		<u>Europe</u>		<u>Latin America</u>		<u>Middle East</u>		<u>North America</u>		<u>Global</u>	
	n/N	%	n/N	%	n/N	%	n/N	%	n/N	%	n/N	%	n/N	%
MR <i>Staphylococcus aureus</i>	18/100	18.0	61/183	33.3	166/1384	12.0	170/465	36.6	21/136	15.4	548/1346	40.7	984/3614	27.2
PR <i>Streptococcus pneumoniae</i>	34/98	34.7	72/173	41.6	184/1375	13.4	66/356	18.5	40/182	22.0	285/1189	24.0	681/3373	20.2
VR <i>Enterococcus faecium</i>	0/3	-	4/30	13.3	8/83	9.6	24/58	41.4	0/13	-	32/80	40.0	68/267	25.5

n = number of resistant isolates; N = total number of isolates.

MR = methicillin-resistant; PR = penicillin-resistant; VR = vancomycin-resistant.

% data are not given (-) where N <20.

Table S2. Statistically significant changes in susceptibility among Gram-positive isolates collected from pediatric patients as part of T.E.S.T. 2004-2011.

	Region	Antimicrobial	Change in Susceptibility
<i>Staphylococcus aureus</i>	Asia-Pacific Rim	Levofloxacin	p<0.01
	Latin America	AMOX-CLAV	p<0.01
	Middle East	Meropenem	p<0.001 (-)
	North America	AMOX-CLAV	p<0.0001
		PIP-TAZ	p<0.001
	Global	Ampicillin	p<0.0001 (-)
		Penicillin	p<0.0001 (-)
<i>Streptococcus pneumoniae</i>	Asia-Pacific Rim	AMOX-CLAV	p<0.0001
		Azithromycin	p<0.01
		Ceftriaxone	p<0.0001
		Clarithromycin	p<0.01
		Clindamycin	p<0.01
		Erythromycin	p<0.01
		Minocycline	p<0.0001
		Penicillin	p<0.01
	Europe	AMOX-CLAV	p<0.01
		Ceftriaxone	p<0.01
		Minocycline	p<0.0001
		Tigecycline	p<0.0001 (-)
	Latin America	Minocycline	p<0.0001
	Middle East	Minocycline	p<0.001
	North America	AMOX-CLAV	p<0.001
		Ceftriaxone	p<0.0001
		Clindamycin	p<0.01
		Erythromycin	p<0.01
		Minocycline	p<0.0001
		Global	Ceftriaxone
Imipenem			p<0.001 (-)
Meropenem			p<0.01 (-)
Minocycline	p<0.0001		
Tigecycline	p<0.01 (-)		
<i>Enterococcus faecalis</i>	Europe	Minocycline	p<0.001
	Global	Ampicillin	p<0.01
		Minocycline	p<0.001
		Penicillin	p<0.01
<i>Enterococcus faecium</i>	Global	Linezolid	p<0.01 (-)
		Penicillin	p<0.01

(-) indicates a significant increases in susceptibility between 2004 and 2011.

Table S3a. Antimicrobial susceptibility (%S) by patient age for Gram-positive isolates collected from pediatric patients as part of T.E.S.T. 2004-2011.

	N	AMOX- CLAV	Ampicillin	Ceftriaxone	Imipenem (n)	Levofloxacin	Linezolid	Meropenem (n)	Minocycline	Penicillin	PIP- TAZ	Tigecycline	Vancomycin
<i>S. aureus</i>													
Africa													
1-5 years	50	80.0	6.0	78.0	- (12)	86.0	100	92.1 (38)	98.0	6.0	84.0	100	100
6-12 years	26	88.5	3.8	88.5	- (12)	96.2	100	- (14)	100	3.8	88.5	100	100
Asia/Pacific													
Rim													
1-5 years	74	74.3	5.4	70.3	- (17)	75.7	100	73.7 (57)	93.2	5.4	77.0	100	100
6-12 years	37	56.8	5.4	56.8	- (9)	73.0	100	67.9 (28)	81.1	5.4	59.5	100	100
13-17 years	43	76.7	9.3	76.7	- (8)	72.1	100	82.9 (35)	95.3	9.3	79.1	100	100
Europe													
1-5 years	488	91.2	17.0	89.1	97.6 (83)	92.2	100	97.0 (405)	98.8	14.3	93.9	100	100
6-12 years	407	91.2	16.5	90.7	96.6 (59)	90.7	100	95.4 (348)	97.5	13.8	93.9	100	100
13-17 years	277	90.6	13.0	89.2	100 (40)	86.6	100	95.4 (237)	98.2	11.6	93.5	100	100
Latin America													
1-5 years	172	70.9	9.3	68.0	86.4 (22)	77.9	100	86 (150)	98.8	6.4	76.7	100	100
6-12 years	115	64.3	5.2	64.3	- (16)	77.4	100	81.8 (99)	99.1	5.2	67.0	100	100
13-17 years	101	68.3	7.9	70.3	- (9)	75.2	100	75.0 (92)	98.0	5.9	73.3	100	100
Middle East													
1-5 years	51	90.2	7.8	90.2	- (5)	92.2	100	97.8 (46)	100	7.8	94.1	100	100
6-12 years	41	100	14.6	92.7	- (7)	95.1	100	100 (34)	97.6	12.2	100	100	100
13-17 years	29	79.3	6.9	75.9	- (5)	86.2	100	83.3 (24)	100	3.4	82.8	100	100
North America													
1-5 years	592	64.5	9.0	60.5	99.0 (192)	79.4	100	97.0 (400)	99.7	7.1	73.0	100	100
6-12 years	324	72.8	9.9	71.6	99.1 (110)	80.6	100	93.9 (214)	99.1	8.6	79.9	100	100
13-17 years	307	69.4	10.4	66.4	96.6 (117)	78.8	100	93.2 (190)	98.7	9.1	74.3	100	100
Global													
1-5 years	1427	76.4	11.4	73.4	96.7 (331)	84.1	100	94.2 (1096)	98.9	9.4	81.9	100	100
6-12 years	950	80.6	12.0	79.7	95.3 (213)	85.3	100	92.3 (737)	97.7	10.3	84.6	100	100
13-17 years	768	78.0	10.7	76.4	96.7 (181)	81.3	100	90.1 (587)	98.2	9.2	81.9	100	100

	N	AMOX-CLAV	Ampicillin	Ceftriaxone	Imipenem (n)	Levofloxacin	Linezolid	Meropenem (n)	Minocycline	Penicillin	PIP-TAZ	Tigecycline	Vancomycin
<i>S. pneumoniae</i>													
Africa													
1-5 years	71	76.1	NA	91.5	- (17)	100	100	50.0 (54)	77.5	14.1	NA	95.8	100
Asia/Pacific Rim													
1-5 years	104	73.1	NA	74.0	81.0 (21)	99.0	100	42.2 (83)	39.4	30.8	NA	100	100
6-12 years	45	73.3	NA	77.8	- (4)	100	100	46.3 (41)	40.0	40.0	NA	100	100
Europe													
1-5 years	919	94.5	NA	94.8	85.9 (128)	100	100	83.1 (791)	65.8	63.7	NA	98.4	100
6-12 years	285	94.7	NA	95.1	97.3 (37)	99.6	100	83.1 (248)	66.3	71.2	NA	98.2	100
13-17 years	83	95.2	NA	94.0	- (12)	98.8	100	83.1 (71)	79.5	77.1	NA	98.8	100
Latin America													
1-5 years	216	91.7	NA	94.0	81.8 (22)	99.5	100	72.7 (194)	69.0	45.4	NA	99.1	100
6-12 years	92	94.6	NA	95.7	- (12)	98.9	100	78.8 (80)	65.2	48.9	NA	96.7	100
13-17 years	29	100	NA	89.7	- (4)	100	100	72.0 (25)	72.4	51.7	NA	96.6	100
Middle East													
1-5 years	119	88.2	NA	92.4	- (2)	100	100	71.8 (117)	56.3	40.3	NA	99.2	100
6-12 years	33	87.9	NA	87.9	- (1)	100	100	75.0 (32)	66.7	51.5	NA	100	100
North America													
1-5 years	766	80.9	NA	91.5	61.9 (307)	99.9	100	66.0 (459)	75.3	45.4	NA	97.9	100
6-12 years	266	88.0	NA	96.2	66.4 (119)	99.6	100	83.7 (147)	83.1	60.5	NA	100	100
13-17 years	104	87.5	NA	95.2	69.8 (43)	99.0	100	73.8 (61)	79.8	53.8	NA	99.0	100
Global													
1-5 years	2195	87.5	NA	92.3	69.4 (497)	99.9	100	73.4 (1698)	68.1	51.1	NA	98.3	100
6-12 years	736	90.6	NA	94.3	71.9 (178)	99.6	99.9	79.2 (558)	70.9	60.6	NA	98.9	100
13-17 years	243	91.8	NA	93.8	74.6 (59)	98.4	100	74.5 (184)	74.1	60.1	NA	98.8	100
<i>S. agalactiae</i>													
Europe													
1-5 years	88	NA	100	100	NA	100	100	100 (77)	9.1	100	NA	98.9	100
6-12 years	45	NA	100	100	NA	100	100	100 (38)	22.2	100	NA	100	100
13-17 years	54	NA	100	100	NA	100	100	100 (43)	25.9	100	NA	100	100
Latin America													
1-5 years	38	NA	100	100	NA	100	100	100 (34)	21.1	100	NA	100	100

	N	AMOX-CLAV	Ampicillin	Ceftriaxone	Imipenem (n)	Levofloxacin	Linezolid	Meropenem (n)	Minocycline	Penicillin	PIP-TAZ	Tigecycline	Vancomycin
6-12 years	20	NA	100	100	NA	100	100	100 (20)	15.0	100	NA	100	100
13-17 years	22	NA	100	100	NA	95.5	100	- (19)	27.3	100	NA	100	100
North America													
1-5 years	121	NA	100	100	NA	100	100	100 (76)	9.9	100	NA	100	100
6-12 years	64	NA	100	100	NA	100	100	100 (37)	18.8	100	NA	100	100
13-17 years	127	NA	100	100	NA	100	100	100 (76)	19.7	100	NA	99.2	100
Global													
1-5 years	270	NA	100	100	NA	99.6	100	100 (208)	12.2	100	NA	98.5	100
6-12 years	143	NA	100	100	NA	100	100	100 (108)	21.0	100	NA	100	100
13-17 years	221	NA	100	100	NA	99.1	100	100 (156)	21.7	100	NA	99.5	100
<i>E. faecalis</i>													
Asia/Pacific Rim													
1-5 years	22	NA	100	NA	NA	86.4	95.5	NA	27.3	100	NA	100	100
Europe													
1-5 years	137	NA	99.3	NA	NA	90.5	100	NA	35.8	99.3	NA	100	99.3
6-12 years	58	NA	96.6	NA	NA	82.8	100	NA	24.1	96.6	NA	100	100
13-17 years	47	NA	100	NA	NA	76.6	100	NA	29.8	100	NA	100	100
Latin America													
1-5 years	80	NA	100	NA	NA	80.0	100	NA	27.5	98.8	NA	100	100
6-12 years	42	NA	100	NA	NA	81.0	100	NA	19.0	100	NA	100	100
North America													
1-5 years	226	NA	99.6	NA	NA	93.8	100	NA	35.0	99.6	NA	99.1	100
6-12 years	70	NA	100	NA	NA	90.0	100	NA	37.1	100	NA	98.6	100
13-17 years	47	NA	100	NA	NA	85.1	100	NA	34.0	100	NA	97.9	97.9
Global													
1-5 years	488	NA	99.6	NA	NA	88.5	99.8	NA	34.0	99.4	NA	99.6	99.8
6-12 years	193	NA	99.0	NA	NA	82.4	100	NA	28.5	99.0	NA	99.5	100
13-17 years	128	NA	100	NA	NA	78.9	100	NA	37.5	100	NA	99.2	99.2
<i>E. faecium</i>													
Europe													
1-5 years	38	NA	31.6	NA	NA	42.1	100	NA	63.2	26.3	NA	100	86.8

	N	AMOX- CLAV	Ampicillin	Ceftriaxone	Imipenem (n)	Levofloxacin	Linezolid	Meropenem (n)	Minocycline	Penicillin	PIP- TAZ	Tigecycline	Vancomycin
Latin America													
1-5 years	28	NA	28.6	NA	NA	32.1	100	NA	57.1	21.4	NA	100	60.7
North America													
1-5 years	35	NA	51.4	NA	NA	45.7	94.3	NA	71.4	48.6	NA	100	74.3
Global													
1-5 years	125	NA	32.8	NA	NA	35.2	98.4	NA	64.8	28.0	NA	100	76.0
6-12 years	46	NA	17.4	NA	NA	30.4	100	NA	67.4	17.4	NA	100	65.2
13-17 years	51	NA	21.6	NA	NA	17.6	94.1	NA	70.6	15.7	NA	100	58.8

%S are not given (-) where N <20.

Table S3b. Antimicrobial susceptibility (%S) for the macrolides and clindamycin against *S. pneumoniae* isolates collected from pediatric patients as part of T.E.S.T. 2004-2011.

	N	Azithromycin	Clarithromycin	Erythromycin	Clindamycin
Africa					
1-5 years	62	54.8	54.8	54.8	62.9
Asia/Pacific Rim					
1-5 years	89	31.5	32.6	31.5	56.2
6-12 years	34	29.4	29.4	29.4	41.2
Europe					
1-5 years	843	64.3	64.5	63.9	76.0
6-12 years	258	65.1	65.5	64.7	74.0
13-17 years	72	69.4	69.4	69.4	80.6
Latin America					
1-5 years	190	66.8	65.8	66.3	84.2
6-12 years	80	63.8	63.8	62.5	91.3
13-17 years	26	69.2	69.2	69.2	96.2
Middle East					
1-5 years	109	67.0	67.0	67.0	84.4
6-12 years	29	69.0	69.0	69.0	82.8
North America					
1-5 years	670	54.5	54.6	54.0	73.6
6-12 years	234	68.8	69.7	67.9	83.3
13-17 years	87	58.6	58.6	58.6	82.8
Global					
1-5 years	1963	59.6	59.7	59.2	75.1
6-12 years	649	64.3	64.7	63.6	77.8
13-17 years	212	63.2	63.2	63.2	81.1

%S are not given (-) where N <20.

Table S4. MIC₉₀ (mg/L) and antimicrobial susceptibility (%S) for the macrolides and clindamycin against *S. pneumoniae* isolates collected from pediatric patients as part of T.E.S.T. 2004-2011.

	<u>Africa</u>		<u>Asia/Pacific Rim</u>		<u>Europe</u>		<u>Latin America</u>		<u>Middle East</u>		<u>North America</u>		<u>Global</u>	
	MIC ₉₀	%S	MIC ₉₀	%S	MIC ₉₀	%S	MIC ₉₀	%S	MIC ₉₀	%S	MIC ₉₀	%S	MIC ₉₀	%S
<i>Streptococcus pneumoniae</i>	N = 87		N = 147		N = 1251		N = 314		N = 168		N = 1042		N = 3009	
Azithromycin	≥128	58.6	≥128	34.7	64	64.7	64	67.2	64	68.5	≥128	58.1	≥128	61.2
Clarithromycin	≥128	58.6	≥128	35.4	64	65.0	64	66.6	64	68.5	≥128	58.3	≥128	61.4
Erythromycin	≥128	58.6	≥128	34.7	64	64.4	64	66.6	64	68.5	≥128	57.5	≥128	60.9
Clindamycin	≥128	65.5	≥128	54.4	≥128	75.9	≥128	87.6	≥128	83.9	≥128	76.7	≥128	76.5

Table S5. Antimicrobial susceptibility (%S) by collection source for the macrolides and clindamycin against *S. pneumoniae* isolates collected from pediatric patients as part of T.E.S.T. 2004-2011.

	N	Azithromycin	Clarithromycin	Erythromycin	Clindamycin
Bodily fluids	192	67.2	66.7	67.2	79.2
CNS	24	70.8	70.8	70.8	100
CVS	609	71.8	71.6	71.4	83.3
HEENT	1169	59.5	59.7	58.9	75.2
Integumentary	41	58.5	61.0	58.5	78.0
Respiratory	925	55.0	55.2	54.6	72.5

CNS, central nervous system; CVS, cardiovascular system; HEENT, head, ears, eyes, nose and throat.

%S are not given (-) where N <20.