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The Activity of Tedizolid Against Gram-Positive Pathogens Isolated From Patients in United States Medical Centers: 2014 Surveillance

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Introduction

- Tedizolid is approved for treatment of acute bacterial skin and skin structure infections (ABSSSI) in the United States (US), the European Union (EU), and Canada[1]
- ESTABLISH-1 (NCT01170221) and ESTABLISH-2 (NCT01421511) demonstrated the noninferior efficacy of tedizolid (200 mg once daily for 6 days) to linezolid (600 mg twice daily for 10 days) in patients with ABSSSI[2-4]
- The Surveillance of Tedizolid Activity and Resistance (STAR) Program is an ongoing effort to monitor the activity of tedizolid against clinically relevant Gram-positive pathogens[5]

Objective

- We report the *in vitro* activity of tedizolid when tested against Gram-positive pathogens isolated from patients in US medical centers as part of the STAR Program in 2014

Methods

Sampling sites and organisms

- A total of 5999 nonduplicate, single-patient clinical isolates of *Staphylococcus aureus* (3441 isolates), coagulase-negative staphylococci (CoNS; 344 isolates), enterococci (524 isolates), β-hemolytic streptococci (BHS; 563 isolates), viridans group streptococci (260 isolates), and *Streptococcus pneumoniae* (867 isolates) were consecutively collected in 2014 from 29 medical centers located across all 9 US Census regions
- The following states (number of medical centers) participated: Arkansas (1), California (1), Colorado (1), Florida (2), Georgia (1), Iowa (1), Indiana (1), Kentucky (2), Massachusetts (2), Michigan (1), Missouri (1), Nebraska (1), New Jersey (1), New York (3), Ohio (1), Texas (3), Utah (1), Virginia (1), Vermont (1), Washington (2), and Wisconsin (1)

Antimicrobial susceptibility testing

- Minimum inhibitory concentration (MIC) values were determined using the reference Clinical and Laboratory Standards Institute (CLSI) broth microdilution method (M07-A10)[6]
- Quality control ranges and interpretive criteria for comparator compounds used the CLSI M100-S25[7] and European Committee on Antimicrobial Susceptibility Testing (EUCAST) 2015 guidelines version 5.0[8]
- Tedizolid and linezolid MIC values were read by 2 methods:
  - MIC at the first well in which trailing begins (80% read; designated tedizolid80 and linezolid80)
  - MIC at end point (100% growth inhibition; designated tedizolid100 and linezolid100)

Results

- Summaries of tedizolid MIC distributions for all organisms and resistant subsets for all isolates tested are summarized in **Table 1**
- The activities of tedizolid and comparator agents tested against bacterial clinical isolates from the STAR Program are presented in **Table 2**

Staphylococcus aureus

- A total of 3441 *S. aureus* strains were evaluated; 100% of strains were inhibited at tedizolid80/100 MIC values of 0.25/0.5 μg/mL
- The $MIC_{50/90}$ values (MIC required to inhibit growth of 50%/90% of the isolates) for tedizolid80 (0.12/0.12 μg/mL) were 1 dilution lower than tedizolid100 (0.25/0.25 μg/mL; **Table 1**)
- Using US Food and Drug Administration (FDA) breakpoints and breakpoints approved by EUCAST, 100% of isolates were susceptible to tedizolid (**Tables 1** and **2**)
- Only 1 isolate was found to be resistant to linezolid (methicillin-resistant *S. aureus* [MRSA] from Long Beach, California, with MIC ≥8 μg/mL for linezolid80 and linezolid100) with corresponding tedizolid80/100 MIC values of 0.25/0.5 μg/mL
- Susceptibility (CLSI interpretations) rates to clindamycin, erythromycin, and levofloxacin were 84.5%, 40.3%, and 62.5%, respectively
- Susceptibility rates were much higher for tetracycline (95.4%), trimethoprim/sulfamethoxazole (98.2%), ceftaroline (98.2%), daptomycin (99.9%), tigecycline (100.0%), and vancomycin (100.0%; **Table 2**)
- Overall, 1862 (54.1%) isolates were methicillin-susceptible *S. aureus* (MSSA) and 1579 (45.9%; **Table 1**) were MRSA; tedizolid100 $MIC_{50/90}$ values (0.25/0.25 μg/mL) were identical for MSSA, for MRSA, and overall

Coagulase-negative staphylococci

- Tedizolid100 was very active against CoNS, demonstrating identical $MIC_{50/90}$ values (0.12/0.25 μg/mL) for methicillin-susceptible (MS)-CoNS, methicillin-resistant (MR)-CoNS, and all 344 strains combined; $MIC_{50/90}$ values for tedizolid80 were 1 dilution lower at 0.06/0.12 μg/mL (**Table 1**)
- Two isolates were found to be resistant to linezolid (both MR-*Staphylococcus epidermidis* from Houston, Texas, with MIC ≥8 μg/mL for linezolid80 and linezolid100), with corresponding tedizolid80/100 MIC values of 1 and >1 μg/mL
- Susceptibility (CLSI interpretations) rates to clindamycin, erythromycin, and levofloxacin were 70.6%, 38.1%, and 59.3%, respectively
- Higher susceptibility rates were found for tetracycline (84.3%), trimethoprim/sulfamethoxazole (77.9%), daptomycin (100.0%), and vancomycin (100.0%; **Table 2**)
- Overall, 137 (39.8%) isolates were MS-CoNS and 207 (60.2%) were MR-CoNS (**Table 1**)

Table 1. Summary of tedizolid activity tested against bacterial isolates from patients in the United States in 2014

		Number (cumulative %) of isolates inhibited at MIC, μg/mL										
Organism (n)	Agent/read	≤0.008	0.015	0.03	0.06	0.12	0.25	0.5	1	>1	MIC_{50}	MIC_{90}
Staphylococcus aureus (3441)	Tedizolid80	0 (0.0)	1 (0.0)	7 (0.2)	543 (16.0)	2784 (96.9)	106 (100.0)	–	–	–	0.12	0.12
	Tedizolid100	0 (0.0)	0 (0.0)	0 (0.0)	27 (0.8)	1434 (42.5)	1876 (97.0)	104 (100.0)	–	–	0.25	0.25
MSSA (1862)	Tedizolid80	0 (0.0)	1 (0.1)	3 (0.2)	246 (13.4)	1552 (96.8)	60 (100.0)	–	–	–	0.12	0.12
	Tedizolid100	0 (0.0)	0 (0.0)	0 (0.0)	14 (0.8)	661 (36.3)	1109 (95.8)	78 (100.0)	–	–	0.25	0.25
MRSA (1579)	Tedizolid80	0 (0.0)	0 (0.0)	4 (0.3)	297 (19.1)	1232 (97.1)	46 (100.0)	–	–	–	0.12	0.12
	Tedizolid100	0 (0.0)	0 (0.0)	0 (0.0)	13 (0.8)	773 (49.8)	767 (98.4)	26 (100.0)			0.25	0.25
CoNS (344)	Tedizolid80	0 (0.0)	0 (0.0)	21 (6.1)	250 (78.8)	67 (98.3)	4 (99.4)	0 (99.4)	1 (99.7)	1 (100.0)	0.06	0.12
	Tedizolid100	0 (0.0)	0 (0.0)	1 (0.3)	54 (16.0)	231 (83.1)	54 (98.8)	2 (99.4)	0 (99.4)	2 (100.0)	0.12	0.25
MS-CoNS (137)	Tedizolid80	0 (0.0)	0 (0.0)	10 (7.3)	105 (83.9)	22 (100.0)	–	–	–	–	0.06	0.12
	Tedizolid100	0 (0.0)	0 (0.0)	1 (0.7)	33 (24.8)	88 (89.1)	15 (100.0)	–	–	–	0.12	0.25
MR-CoNS (207)	Tedizolid80	0 (0.0)	0 (0.0)	11 (5.3)	145 (75.4)	45 (97.1)	4 (99.0)	0 (99.0)	1 (99.5)	1 (100.0)	0.06	0.12
	Tedizolid100	0 (0.0)	0 (0.0)	0 (0.0)	21 (10.1)	143 (79.2)	39 (98.1)	2 (99.0)	0 (99.0)	2 (100.0)	0.12	0.25
Enterococcus faecalis (343)	Tedizolid80	0 (0.0)	0 (0.0)	0 (0.0)	10 (2.9)	154 (47.8)	178 (99.7)	1 (100.0)	–	–	0.25	0.25
	Tedizolid100	0 (0.0)	0 (0.0)	0 (0.0)	1 (0.3)	29 (8.7)	272 (88.0)	41 (100.0)	–	–	0.25	0.5
Enterococcus faecium (165)	Tedizolid80	0 (0.0)	0 (0.0)	1 (0.6)	11 (7.3)	121 (80.6)	30 (98.8)	2 (100.0)	–	–	0.12	0.25
	Tedizolid100	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	30 (18.2)	101 (79.4)	24 (93.9)	10 (100.0)	–	0.25	0.5
Streptococcus pneumoniae (867)	Tedizolid80	0 (0.0)	0 (0.0)	4 (0.5)	80 (9.7)	660 (85.8)	123 (100.0)	–	–	–	0.12	0.25
	Tedizolid100	0 (0.0)	0 (0.0)	1 (0.1)	11 (1.4)	304 (36.4)	541 (98.8)	10 (100.0)	–	–	0.25	0.25
PEN-S (521)	Tedizolid80	0 (0.0)	0 (0.0)	2 (0.4)	51 (10.2)	383 (83.7)	85 (100.0)	–	–	–	0.12	0.25
	Tedizolid100	0 (0.0)	0 (0.0)	1 (0.2)	8 (1.7)	189 (38.0)	315 (98.5)	8 (100.0)	–	–	0.25	0.25
PEN-I (238)	Tedizolid80	0 (0.0)	0 (0.0)	2 (0.8)	14 (6.7)	193 (87.8)	29 (100.0)	0 (100.0)	–	–	0.12	0.25
	Tedizolid100	0 (0.0)	0 (0.0)	0 (0.0)	2 (0.8)	71 (30.7)	164 (99.6)	1 (100.0)	0 (100.0)	–	0.25	0.25
PEN-R (108)	Tedizolid80	0 (0.0)	0 (0.0)	0 (0.0)	15 (13.9)	84 (91.7)	9 (100.0)	–	–	–	0.12	0.12
	Tedizolid100	0 (0.0)	0 (0.0)	0 (0.0)	1 (0.9)	44 (41.7)	62 (99.1)	1 (100.0)	–	–	0.25	0.25
Viridans group streptococci (260)	Tedizolid80	3 (1.2)	1 (1.5)	8 (4.6)	105 (45.0)	137 (97.7)	6 (100.0)	–	–	–	0.12	0.12
	Tedizolid100	2 (0.8)	1 (1.2)	3 (2.3)	22 (10.8)	177 (78.8)	55 (100.0)	–	–	–	0.12	0.25
Streptococcus anginosus group† (92)	Tedizolid80	3 (3.3)	1 (4.3)	2 (6.5)	52 (63.0)	32 (97.8)	2 (100.0)	–	–	–	0.06	0.12
	Tedizolid100	2 (2.2)	1 (3.3)	2 (5.4)	12 (18.5)	59 (82.6)	16 (100.0)	–	–	–	0.12	0.25
BHS (563)	Tedizolid80	0 (0.0)	0 (0.0)	1 (0.2)	113 (20.2)	430 (96.6)	19 (100.0)	–	–	–	0.12	0.12
	Tedizolid100	0 (0.0)	0 (0.0)	0 (0.0)	9 (1.6)	276 (50.6)	273 (99.1)	5 (100.0)	–	–	0.12	0.25
Streptococcus pyogenes (240)	Tedizolid80	0 (0.0)	0 (0.0)	1 (0.4)	63 (26.7)	174 (99.2)	2 (100.0)	–	–	–	0.12	0.12
	Tedizolid100	0 (0.0)	0 (0.0)	0 (0.0)	9 (3.8)	135 (60.0)	94 (99.2)	2 (100.0)	–	–	0.12	0.25
Streptococcus agalactiae (247)	Tedizolid80	0 (0.0)	0 (0.0)	0 (0.0)	34 (13.8)	196 (93.1)	17 (100.0)	–	–	–	0.12	0.12
	Tedizolid100	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	98 (39.7)	146 (98.8)	3 (100.0)	–	–	0.25	0.25

PEN-S = penicillin-susceptible (MIC, ≤0.06 μg/mL); PEN-I = penicillin-intermediate (MIC, ≥0.12 and ≤1 μg/mL); PEN-R = penicillin-resistant (MIC, ≥2 μg/mL).
Tedizolid100 = MIC read at first well that shows no growth. Tedizolid80 = MIC read at the first spot at which trailing begins, with tiny buttons being ignored (per CLSI document M07-10, 2015).
†*S. anginosus* group = *S. anginosus*, *S. constellatus*, and *S. intermedius*.

Table 2. Activity of tedizolid and comparator antimicrobial agents when tested against bacterial isolates from patients in the United States in 2014

Organism (no. tested)/ antimicrobial agent	MIC, μg/mL		%S/%I/%R	
	MIC_{50}	MIC_{90}	CLSI†	EUCAST†
***Staphylococcus aureus* (3441)**				
Tedizolid80	0.12	0.12	– / – / –‡	– / – / –
Tedizolid100	0.25	0.25	100.0 / 0.0 / 0.0§	100.0 / – / 0.0
Linezolid80	1	1	100.0 / 0.0 / 0.0	100.0 / – / 0.0
Linezolid100	1	2	– / – / –	– / – / –
Ceftaroline	0.25	1	98.2 / 1.8 / 0.0	98.2 / – / 1.8
Clindamycin	≤0.25	>2	84.5 / 0.2 / 15.3	84.4 / 0.1 / 15.5
Daptomycin	0.25	0.5	99.9 / – / –	99.9 / – / 0.1
Erythromycin	8	>16	40.3 / 6.6 / 53.1	40.9 / 1.7 / 57.4
Levofloxacin	0.25	>4	62.5 / 0.6 / 36.9	62.5 / 0.6 / 36.9
Oxacillin	1	>2	54.1 / – / 45.9	54.1 / – / 45.9
Tetracycline	≤0.5	≤0.5	95.4 / 0.4 / 4.2	92.8 / 1.4 / 5.8
Tigecycline	0.06	0.06	100.0 / – / –‖	100.0 / – / 0.0
Trimethoprim/sulfamethoxazole	≤0.5	≤0.5	98.2 / – / 1.8	98.2 / 0.1 / 1.7
Vancomycin	1	1	100.0 / 0.0 / 0.0	100.0 / – / 0.0
CoNS (344)¶				
Tedizolid80	0.06	0.12	– / – / –	– / – / –
Tedizolid100	0.12	0.25	– / – / –	99.4 / – / 0.6
Linezolid80	0.5	0.5	99.4 / – / 0.6	99.4 / – / 0.6
Linezolid100	1	1	– / – / –	– / – / –
Ceftaroline	0.25	0.5	– / – / –	– / – / –
Clindamycin	≤0.25	>2	70.6 / 2.0 / 27.3	68.0 / 2.6 / 29.4
Daptomycin	0.25	0.5	100.0 / – / –	100.0 / – / 0.0
Erythromycin	16	>16	38.1 / 2.6 / 59.3	38.7 / 0.9 / 6.5
Levofloxacin	0.25	>4	59.3 / 1.2 / 39.5	59.3 / 1.2 / 39.5
Oxacillin	1	>2	39.8 / – / 60.2	39.8 / – / 60.2
Tetracycline	≤0.5	>8	84.3 / 1.7 / 14.0	79.6 / 2.9 / 17.5
Tigecycline	0.06	0.12	– / – / –	100.0 / – / 0.0
Trimethoprim/sulfamethoxazole	≤0.5	>4	77.9 / – / 22.1	77.9 / 11.9 / 10.2
Vancomycin	1	2	100.0 / 0.0 / 0.0	100.0 / – / 0.0
***Staphylococcus pyogenes* (240)**				
Tedizolid80	0.12	0.12	– / – / –	– / – / –
Tedizolid100	0.12	0.25	100.0 / – / –§	100.0 / – / 0.0
Linezolid80	0.5	1	100.0 / – / 0.0	100.0 / 0.0 / 0.0
Linezolid100	1	2	– / – / –	– / – / –
Ceftaroline	≤0.015	≤0.015	100.0 / – / –	100.0 / – / 0.0
Clindamycin	≤0.25	≤0.25	92.9 / 0.4 / 6.7	93.3 / – / 6.7
Daptomycin	≤0.06	0.12	100.0 / – / –	100.0 / – / 0.0
Erythromycin	≤0.12	8	83.3 / 1.2 / 15.4	83.3 / 1.2 / 15.4
Levofloxacin	0.5	1	99.6 / 0.0 / 0.4	97.1 / 2.5 / 0.4
Tetracycline	≤0.5	>8	84.6 / 1.2 / 14.2	83.8 / 0.8 / 15.4
Vancomycin	0.25	0.5	100.0 / – / –	100.0 / – / 0.0
***Staphylococcus agalactiae* (247)**				
Tedizolid80	0.12	0.12	– / – / –	– / – / –
Tedizolid100	0.25	0.25	100.0 / – / –§	100.0 / – / 0.0
Linezolid80	1	1	100.0 / – / 0.0	100.0 / 0.0 / 0.0
Linezolid100	1	1	– / – / –	– / – / –
Ceftaroline	≤0.015	0.03	100.0 / – / –	100.0 / – / 0.0
Clindamycin	≤0.25	>2	66.7 / 1.6 / 31.7	68.3 / – / 31.7
Daptomycin	0.25	0.25	100.0 / – / –	100.0 / – / 0.0
Erythromycin	2	>16	43.9 / 2.4 / 53.7	43.9 / 2.4 / 53.7
Levofloxacin	0.5	1	99.6 / 0.0 / 0.4	98.8 / 0.8 / 0.4
Tetracycline	>8	>8	20.6 / 0.8 / 78.5	20.2 / 0.4 / 79.4
Vancomycin	0.5	0.5	100.0 / – / –	100.0 / – / 0.0
***Staphylococcus anginosus* (92)**				
Tedizolid80	0.06	0.12	– / – / –	– / – / –
Tedizolid100	0.12	0.25	100.0 / – / –§	100.0 / – / 0.0
Linezolid80	0.5	1	100.0 / – / –	– / – / –
Linezolid100	1	1	– / – / –	– / – / –
Penicillin	≤0.06	≤0.06	96.7 / 2.2 / 1.1	98.9 / 0.1 /1.1
Ceftaroline	0.03	0.06	– / – / –	– / – / –
Clindamycin	≤0.25	>2	82.6 / 0.0 / 17.4	82.6 / – / 17.4
Daptomycin	0.25	0.5	100.0 / – / –	– / – / –
Erythromycin	≤0.12	>16	71.7 / 1.1 / 27.2	– / – / –
Levofloxacin	0.5	1	100.0 / 0.0 / 0.0	– / – / –
Tetracycline	≤0.5	>8	62.0 / 2.2 / 35.9	– / – / –
Vancomycin	0.5	1	100.0 / – / –	100.0 / – / 0.0
***Staphylococcus pneumoniae* (867)**				
Tedizolid80	0.12	0.25	– / – / –	– / – / –
Tedizolid100	0.25	0.25	– / – / –	– / – / –
Linezolid80	1	1	100.0 / – / –	100.0 / 0.0 / 0.0
Linezolid100	1	2	– / – / –	– / – / –
Amoxicillin/clavulanate	≤1	4	89.4 / 4.0 / 6.6††	– / – / –
Penicillin	≤0.06	2	60.1 / 27.5 / 12.5‡‡	60.1 / 33.8 / 6.1††
Ceftriaxone	≤0.06	1	82.4 / 5.2 / 0.7††	82.4 / 17.0 / 0.7
Ceftaroline	≤0.015	0.12	99.9 / – / –	99.5 / – / 0.5
Clindamycin	≤0.25	>2	83.4 / 0.9 / 15.7	84.3 / – / 15.7
Erythromycin	≤0.12	>16	51.6 / 1.2 / 47.2	51.6 / 1.2 / 47.2
Levofloxacin	1	1	97.9 / 0.7 / 1.4	97.9 / 0.0 / 2.1
Tetracycline	≤0.5	>8	77.4 / 0.6 / 22.0	77.4 / 0.6 / 22.0
Vancomycin	0.25	0.5	100.0 / – / –	100.0 / – / 0.0
***Enterococcus faecalis* (343)**				
Tedizolid80	0.25	0.25	– / – / –	– / – / –
Tedizolid100	0.25	0.5	100.0 / – / –§	– / – / –
Linezolid80	1	1	99.7 / 0.3 / 0.0	– / – / –
Linezolid100	2	2	– / – / –	– / – / –
Daptomycin	1	2	100.0 / – / –	– / – / –
Vancomycin	1	2	98.3 / 0.3 / 1.5	98.3 / – / 1.7
***Enterococcus faecium* (165)**				
Tedizolid80	0.12	0.25	– / – / –	– / – / –
Tedizolid100	0.25	0.5	– / – / –	– / – / –
Linezolid80	1	1	98.8 / 1.2 / 0.0	– / – / –
Linezolid100	1	4	– / – / –	– / – / –
Daptomycin	2	2	100.0 / – / –	– / – / –
Vancomycin	>16	>16	25.5 / 0.0 / 74.5	25.5 / – / 74.5

I = intermediate; R = resistant; S = susceptible.
Tedizolid/linezolid100 = MIC read at first well that shows no growth. Tedizolid/linezolid80 = MIC read at the first spot at which trailing begins, with tiny buttons being ignored (per CLSI document M07-10, 2015).
†Criteria as published by the CLSI (2015) and EUCAST (2015).
‡No breakpoint available for interpretation.
§In the absence of CLSI breakpoint, FDA breakpoints were applied.[1]
‖In the absence of CLSI breakpoint, FDA breakpoints were applied.[9]
¶Includes *Staphylococcus auricularis* (2 strains), *S. capitis* (18 strains), *S. cohnii* (1 strain), *S. caprae* (3 strains), *S. epidermidis* (200 strains), *S. haemolyticus* (23 strains), *S. hominis* (29 strains), *S. intermedius* (2 strains), *S. lugdunensis* (37), *S. pseudintermedius* (1 strain), *S. pseudintermedius/intermedius* (1 strain), *S. petrasii* (1 strain), *S. saprophyticus* (8 strains), *S. simulans* (10), *S. condimenti* (1 strain), and *S. warneri* (7 strains).
††Using nonmeningitis breakpoints.
‡‡Using oral breakpoints.

Enterococcus spp.

- Tedizolid100 demonstrated identical $MIC_{50/90}$ values (0.25/0.5 μg/mL) against 343 strains of *Enterococcus faecalis* and 165 isolates of *Enterococcus faecium* (**Table 1**)
- Three isolates were found to be intermediate to linezolid (2 *E. faecium* isolates from Atlanta, GA, and Charlottesville, VA, and 1 *E. faecalis* isolate from Burlington, VT) with corresponding tedizolid80/100 MIC values of 0.5/0.5 μg/mL for the *E. faecalis* isolate and 0.5/1 μg/mL for the 2 *E. faecium* isolates
- Against 343 strains of *E. faecalis*, 100% of strains were susceptible to tedizolid using the FDA susceptibility breakpoint of ≤0.5 μg/mL (**Table 2**)
- Susceptibility to other agents was also high for *E. faecalis*: 100% for ampicillin and daptomycin, and 98.3% and 99.7% for vancomycin and linezolid, respectively (**Table 2**)
- Tedizolid100 was also active ($MIC_{50/90}$, 0.25/0.5 μg/mL) against 165 *E. faecium* isolates, with a vancomycin resistance rate of 74.5% (**Table 2**)

β-hemolytic streptococci

- Tedizolid was active against 563 isolates of BHS ($MIC_{50/90}$, 0.12/0.25 μg/mL tedizolid100; **Table 1**)
- A total of 240 *Streptococcus pyogenes* isolates were tested; all strains were inhibited at tedizolid80/100 MIC values of 0.25/0.5 μg/mL
  - The $MIC_{50/90}$ values for tedizolid80 (0.12/0.12 μg/mL) were up to 1 doubling dilution lower than tedizolid100 (0.12/0.25 μg/mL) in **Table 1**
  - Using breakpoints approved by the FDA and EUCAST, 100% of isolates were susceptible to tedizolid (**Table 2**)
- Of 247 *Streptococcus agalactiae* tested, all strains were inhibited at tedizolid80/100 MIC values of 0.25/0.5 μg/mL
  - The $MIC_{50/90}$ values for tedizolid80 (0.12/0.12 μg/mL) were 1 doubling dilution lower than those for tedizolid100 (0.25/0.25 μg/mL) in **Table 1**
  - Using breakpoints approved by the FDA and EUCAST, 100% of isolates were susceptible to tedizolid (**Table 2**)

Viridans group streptococci

- All 260 isolates of viridans group streptococci were susceptible to linezolid, and tedizolid was very active with $MIC_{50/90}$ values of 0.12/0.5 μg/mL when read at 100% inhibition (**Table 1**)
- In the subset of 92 *Streptococcus anginosus* group isolates, 100% of isolates were susceptible to tedizolid by both the FDA and approved EUCAST breakpoints of ≤0.25 μg/mL (**Table 2**)

Streptococcus pneumoniae

- Tedizolid100 was very active ($MIC_{50/90}$, 0.25/0.25 μg/mL) against 867 pneumococcal isolates (**Table 1**)
- All 867 isolates were susceptible to linezolid and vancomycin
- 99.9% and 97.9% of isolates were susceptible to ceftaroline and levofloxacin, respectively
- Susceptibility was lower for penicillin (60.1% using CLSI oral breakpoints), ceftriaxone (82.4% using CLSI nonmeningitis breakpoints), amoxicillin/clavulanate (89.4%), erythromycin (51.6%), and tetracycline (77.4%) in **Table 2**

Conclusions

- Tedizolid demonstrated higher in vitro activity (2- to 4-fold depending on the 80% or 100% read-matched comparisons) than linezolid when tested against Gram-positive pathogens isolated from patients in medical centers across the United States in 2014
- Generally, MIC values (including MIC distributions and $MIC_{50/90}$) for tedizolid and linezolid read without regard for pinpoint trailing colonies (80% read) were 1 doubling dilution lower than those read at 100% inhibition
- Using FDA breakpoints and breakpoints approved by EUCAST, 100% of the 3441 *S. aureus* isolates (45.9% MRSA) and 100% of the *S. anginosus* isolates were susceptible to tedizolid
- Using EUCAST breakpoints, 100% of CoNS isolates were susceptible to tedizolid
- Using FDA breakpoints, 100% of *E. faecalis*, *S. pyogenes*, and *S. agalactiae* isolates were susceptible to tedizolid

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