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Objectives: To report the most recent full-year of linezolid (LZD) resistance surveillance (ZAAPS Program) monitoring European (EU) medical centers for 2013. A total of 5,076 Gram-positive organisms were consecutively collected (prevalence design) from 42 hospitals in 20 countries. Results represent the thirteenth yearly EU sample for this central laboratory-based study.

Methods: All susceptibility (S) tests were performed applying reference CLSI broth microdilution methods, using validated panels (TREK Diagnostics). The number of strains tested were: *S. aureus* (SA; 2,542, 23.4% MRSA), coagulase-negative staphylococcal species (CoNS; 499, 79.4% methicillin-resistant [R]), *Enterococcus* spp. (ENT; 722 with 420 *E. faecalis* [EF] and 291 *E. faecium* [EFM]), *S. pneumoniae* (SPN, 693), viridans gr. (VGS, 189) and beta-haemolytic (BHS, 431). Staphylococcal strains having elevated to LZD (MIC, ≥ 4 mg/L) were tested by molecular methods (PCR/ sequencing, PFGE) to determine R mechanisms (23S target, L3 or L4 mutations and *cf*r).

Results: LZD potency for indicated species in the ZAAPS Program was consistent across species (MIC₉₀ at 1 mg/L), see Table. Nearly all MIC values for LZD were 0.5, 1 or 2 mg/L. One LZD-R isolate was detected among SA which contained the *cf*r gene. LZD-R strains were also detected in the CoNS group (2 *S. epidermidis*) both with G2576T mutations (1 strain with the L3 mutation M156R and 1 strain with L3 mutation M156T). These countries had LZD-R strains: Italy (Genova; 2 *S. epidermidis* strains) and Spain (Madrid; *S. aureus*) with LZD-R MIC values at 8-32 mg/L. Agents other than LZD with >90% S rates versus SA were: clindamycin (90.3), gentamicin (95.6%), tetracycline (93.0%), teicoplanin (100.0%), trimethoprim/sulfamethoxazole (99.5%) and vancomycin (100.0%). MRSA rates varied greatly among countries. Six countries exhibited rates greater than 40%, four countries rates between 20-30%, eight countries between 10-20% and two countries (Sweden and Slovenia) less than 10%. Sweden had the lowest rate (0.6%, 1/177) and Portugal the highest (78.1%, 57/73). Erythromycin-R and clindamycin-R rates among MRSA were 72.1% and 33.7%, respectively. The vancomycin-non-susceptible rate for Enterococci was 12.2%. LZD was active against all streptococci with an MIC₉₀, of 1 mg/L. Penicillin-R rate for SPN was 12.0% and ceftriaxone-non-S for SPN was 4.7% (CLSI criteria) or 14.0% (EUCAST criteria).

Conclusions: LZD-R rate for 2013 EU ZAAPS Program was only 0.06% and showed no escalation of R compared to previous reports from the ZAAPS programs. LZD-R occurrences were among CoNS and SA, which included one acquired *cf*r gene among the 3,041 staphylococci screened in EU.

Table.

Organism group (no. tested)	LZD MIC (mg/L):			% Susceptible (EUCAST Criteria)
	50%	90%	Range	
<i>S. aureus</i>				
MSSA (1,948)	1	1	≤0.12-2	100.00
MRSA (594)	1	1	≤0.12-8	99.83 ^a
CoNS (499)	0.5	1	0.25->8	99.80 ^b
ENT (722)	1	1	0.25-2	100.00
SPN (693)	1	1	≤0.12-2	100.00
VGS (189)	0.5	1	≤0.12-1	100.00
BHS (431)	1	1	0.25-1	100.00

a. 1 strain was R (Spain; *cf*r positive)b. 2 strains were R (Italy; G2576T mutations [2]), both *S. epidermidis*.