



DTU Food
National Food Institute

EQAS 2015

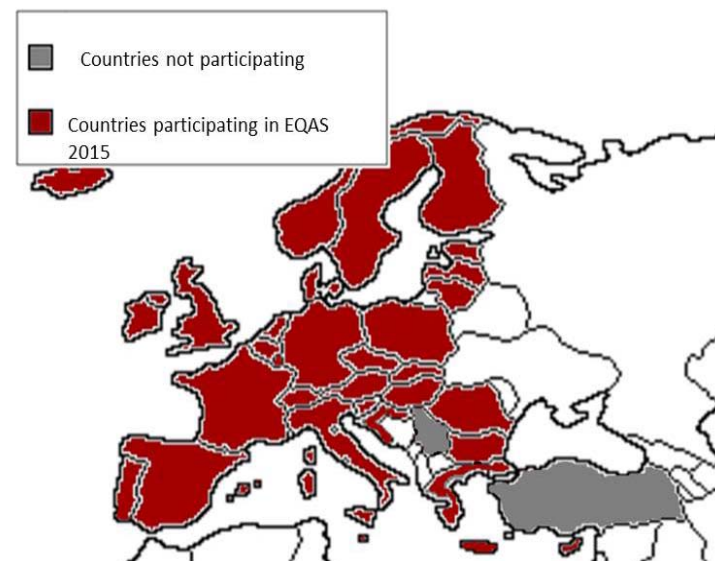
Enterococci

EURL-AR workshop, April 14-15th 2016

Participation

30 labs (27 countries)

27 sets of Enterococci AST
(24 EU MS & 3 non-EU countries)



The main objectives & rules in this EQAS

to assess and improve the comparability of surveillance and antimicrobial susceptibility data reported to EFSA by the different NRLs

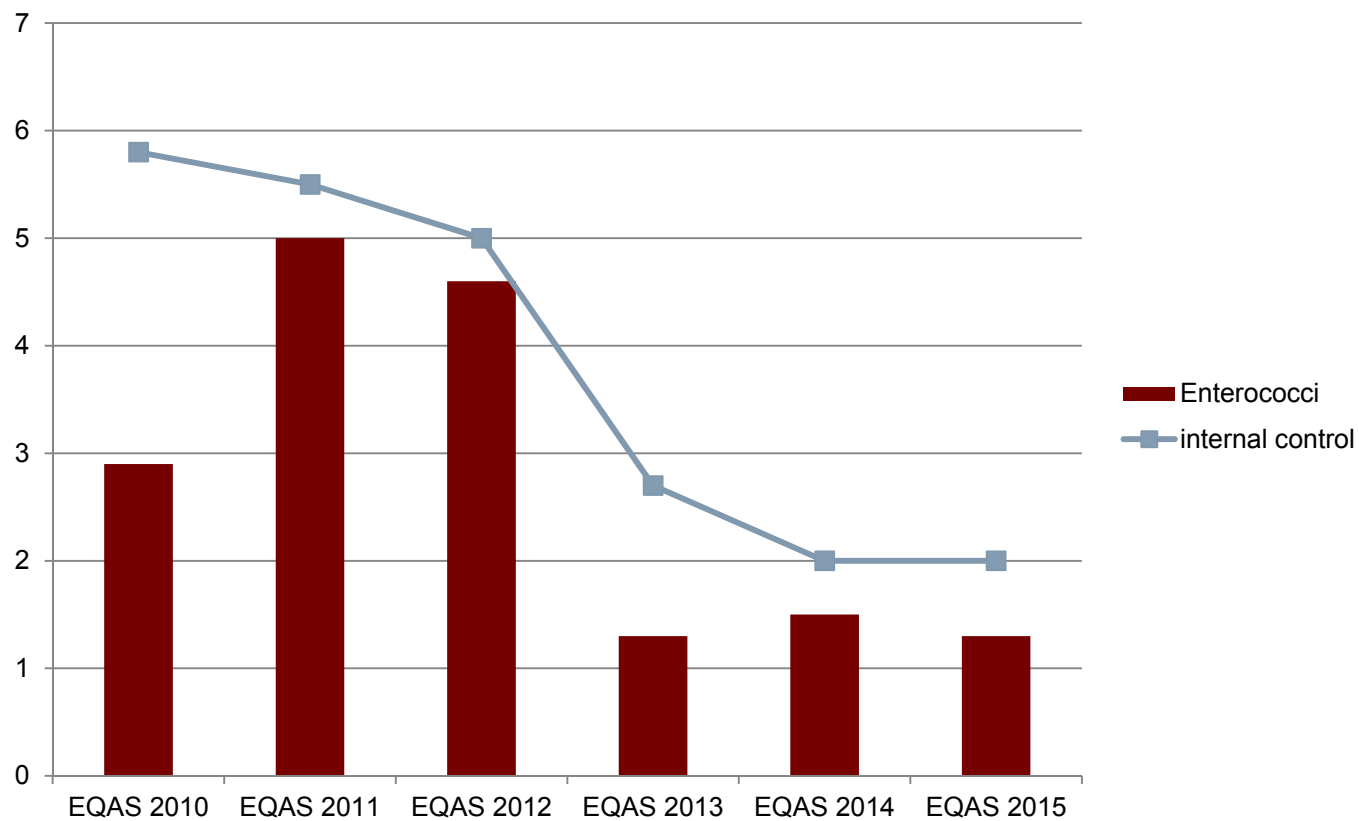


The methods described in the EU Decision 652/2013



- ✓ MIC method only
- ✓ Specific design of panel for AST (12 antimicrobials, *incl.* AMP, CHL, CIP, DAP, ERY, GEN, LZD, SYN, TEI, TET, TGC, VAN)
- ✓ MIC results are interpreted by EUCAST ECOFF values

Comparison to former EQASs



Performance of species identification

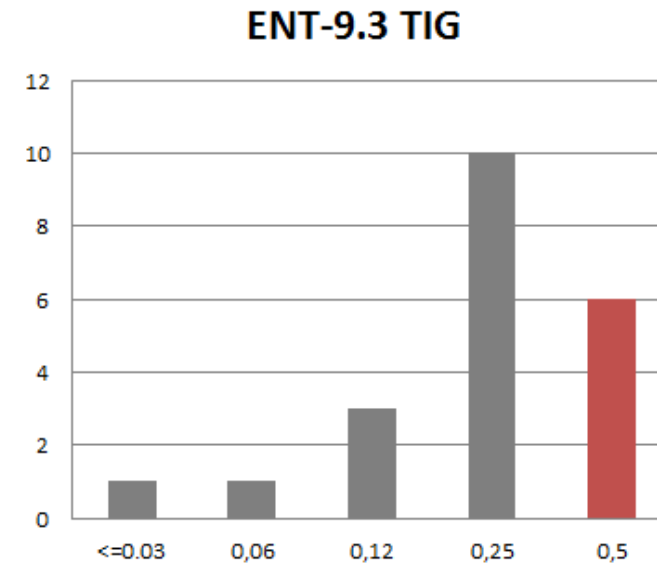
- mandatory component of the PT (since 2013)
- 8 strains were selected for this PT:
 - 6 *E.faecalis* (ENT 9.1, 9.2, 9.3, 9.6, 9.7 & 9.8)
 - 2 *E.faecium* (ENT 9.4. & 9.5)
- 208 results were uploaded
- Excellent results (no deviations were observed)
- One participant (lab#38) did not perform the species ID & therefore did not upload results for quinopristin/dalfopristin(SYN)

Analysis of AST results

- 3 antimicrobial/strain combinations had more than 25% deviations due to expected MIC being one dilution step from the breakpoint
- Such was the case with the following combinations:
 - ENT 9.3 & tigecycline
 - ENT 9.4 & daptomycin
 - ENT 9.4 & quinopristin/dalfopristin (SYN)

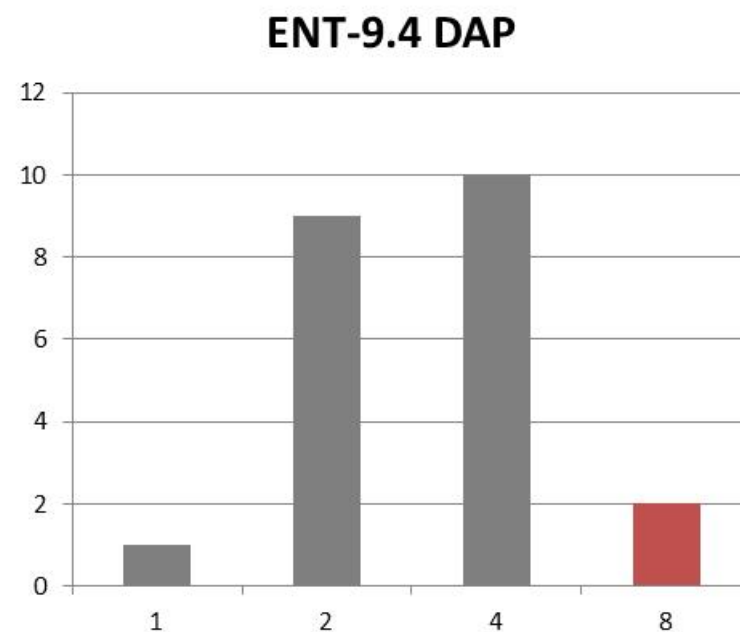
ENT- 9.3/ Tigecycline

- 21 laboratories reported results
- This strain had an expected interpretation as "S" and an expected MIC value of 0.25 mg/L
- Six laboratories reported this strain as "R"
- Result was close to breakpoint causing 29% deviation
- Results were omitted from remaining analysis in the report



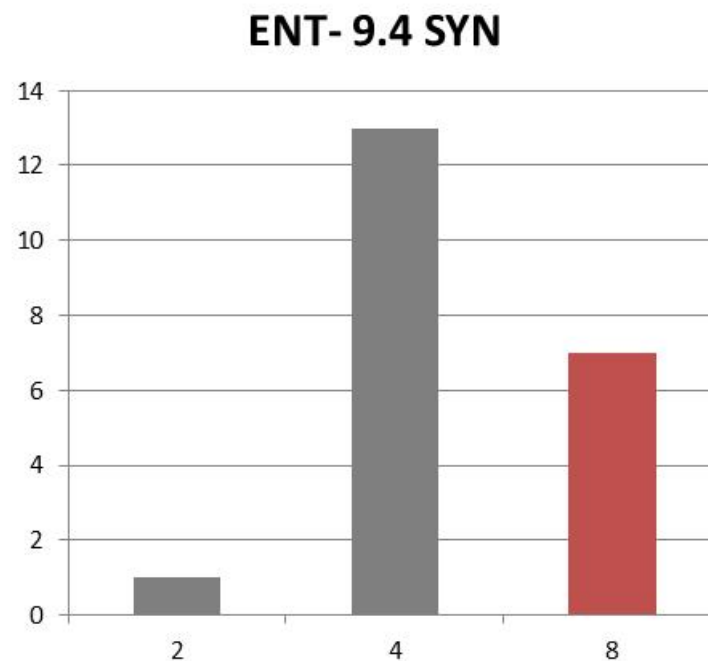
ENT-9.4/Daptomycin

- 22 laboratories reported results
- This strain had an expected interpretation as "R" and an expected MIC value of 8 mg/L
- Twenty laboratories reported this strain as "S"
- Result was close to breakpoint causing 91% deviation
- Results were omitted from remaining analysis in the report

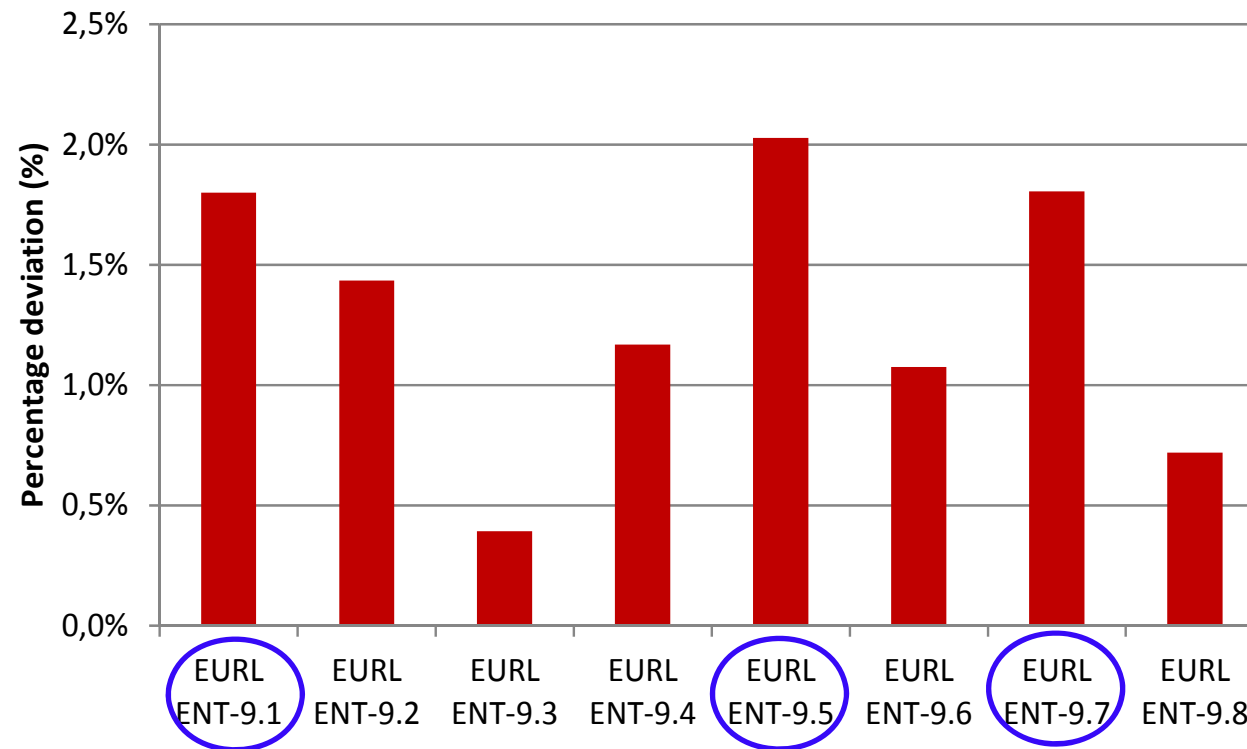


ENT-9.4/ Quinopristin-dalfopristin

- 21 laboratories reported results
- This strain had an expected interpretation as "S" and an expected MIC value of 4 mg/L
- Seven laboratories reported this strain as "R"
- Result was close to breakpoint causing 33% deviation
- Results were omitted from remaining analysis in the report

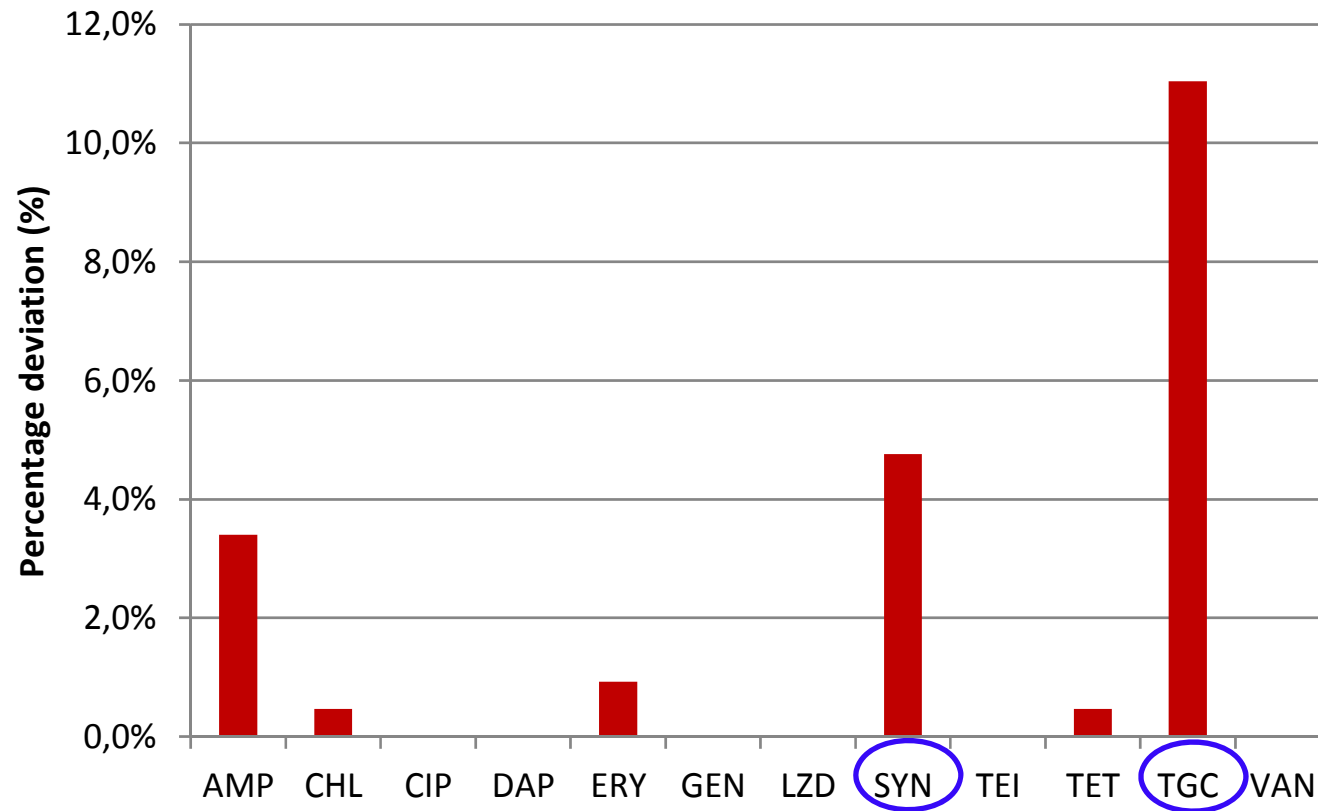


Enterococci results - deviation by strains



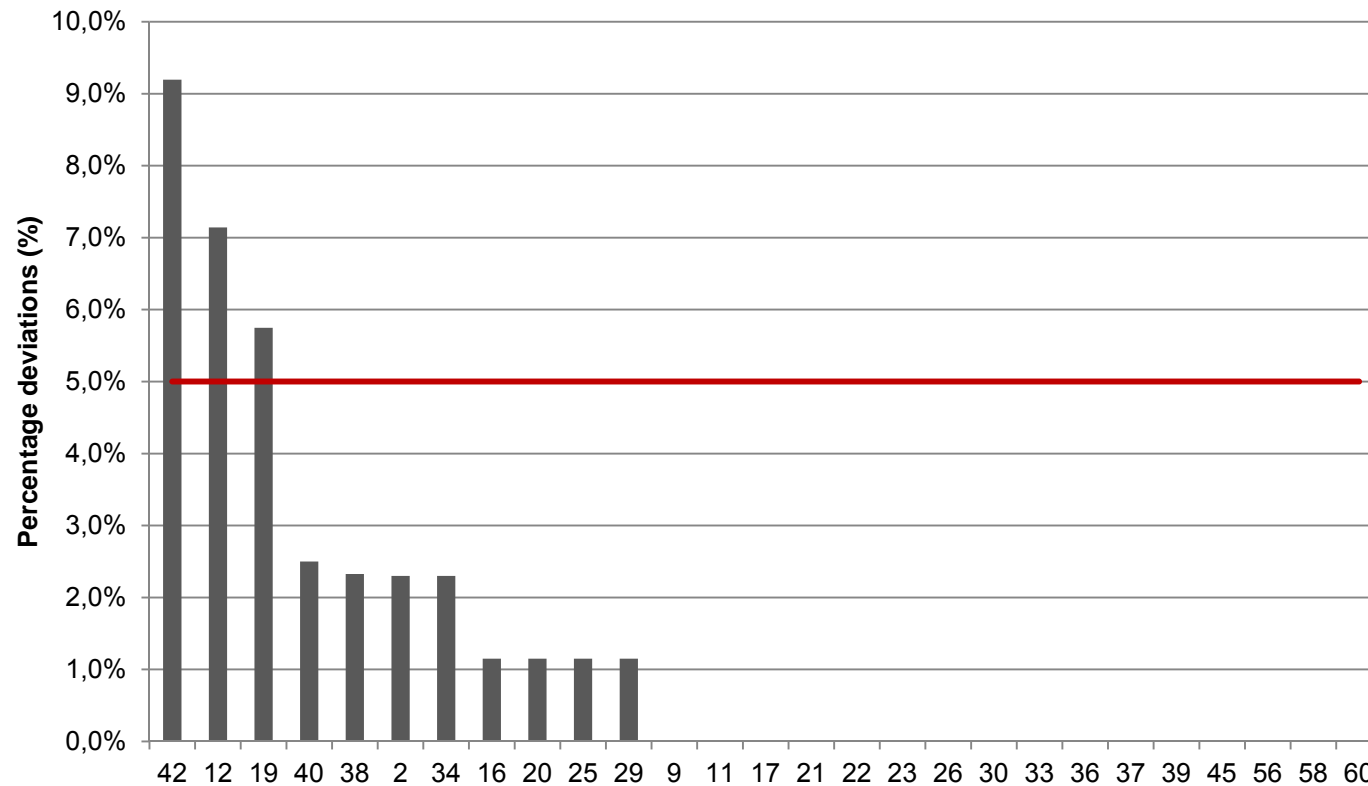
The percentage of deviations ranged from 0,4% (ENT 9.3) to 2,0% (ENT 9.5).
The most problematic were the following three strains: ENT 9.1, 9.5 & 9.7

Enterococci results - deviation by antimicrobials



The highest percentages of deviation from expected interpretations were obtained in testing susceptibility to tigecycline (11.0%) and quinopristin-dalfopristin (4.8%)

Enterococci results – pr. lab



Results above acceptance limit were obtained in three laboratories:
lab #42 and #19 had issues related to tigecycline testing (the reference strain testing also),
lab #12 had issues related to ampicillin testing on VETMIC plates.



Enterococci trial - Summary

- Overall, the Enterococci trial had good results with 98,7% of the AST results interpreted correctly
- Performance of species identification had excellent results (no deviations were observed)
One lab (#38) did not perform the species ID (lab capacity for ID -?)
- The quality of AST results produced by NRLs -
24 labs < 5% deviation level:
 - 4 labs < 5% but >2%
 - 4 labs < 5% but >1%
 - 16 labs 0 % of deviations
- 3 labs (#42,#12,#19) produced results beyond the accepted deviation level (the performance needs improvement)

The NRL benefits from participation in EQAS

the received opportunities:

- ✓ to be reassured regarding the quality of our results
- ✓ to detect a weak points or identify the problems (in methodology/ equipments/ panels/ personnel/...)
- to improve a performance

Table. Analysis of deviations from expected results obtained by NRL-LV in the Enterococci trials

Years	% of deviations	Methods	Brand	Problems
2015.	0%	MIC	TREK	
2014.	3,6%	MIC	VETMIC	2×AMP (1 step*)
2013.	1,6%	MIC	VETMIC	1×AMP (1 step)
2012.	1,6%	MIC	VETMIC	1×AMP (1 step)
2011.	0%	MIC	VETMIC	
2010.	1,6%	MIC	VETMIC	1×AMP (1 step)
2009.	0%	MIC	VETMIC	
2008.	1,6%	MIC	VETMIC	1×AMP (2 steps)
2007.	7,8%	DD	BioRad	DD methods

* dilution step from the expected breakpoint