



Comparison

of NRL-AR-results and FWD-network-results for
AST of *Salmonella* and *Campylobacter*
EURL-AR workshop, April 23rd-24th, 2012

Susanne Karlsmose (suska@food.dtu.dk)

Objective

- Participation in the same EQAS of labs from
 - The public health sector (ECDC FWD-network)
 - The veterinary/food sector (EURL-AR network)
- Assess and compare the quality of AST-data
- Identify areas which would require attention
- Overall comparison and evaluation of results



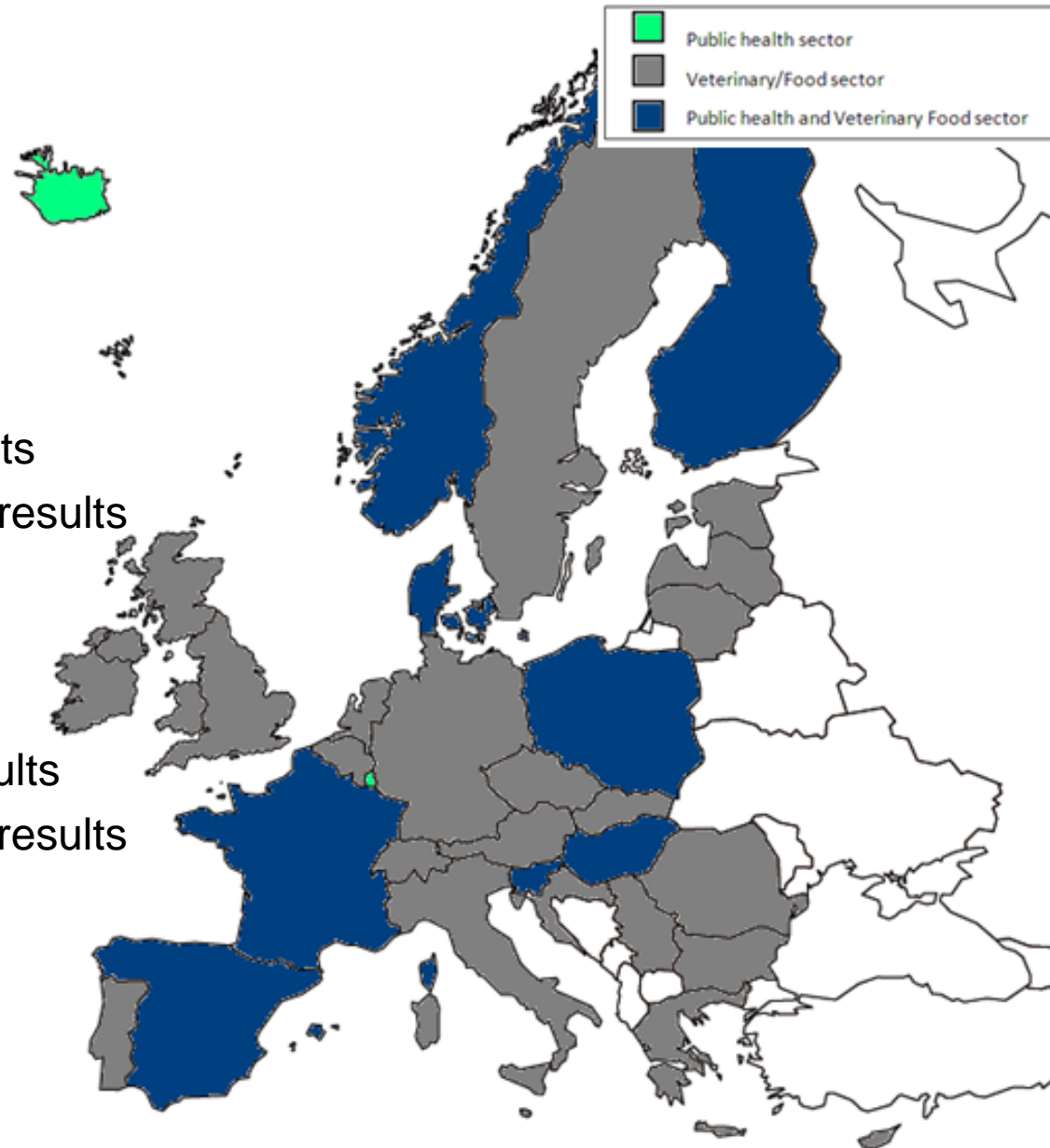
Participation

FWD-network

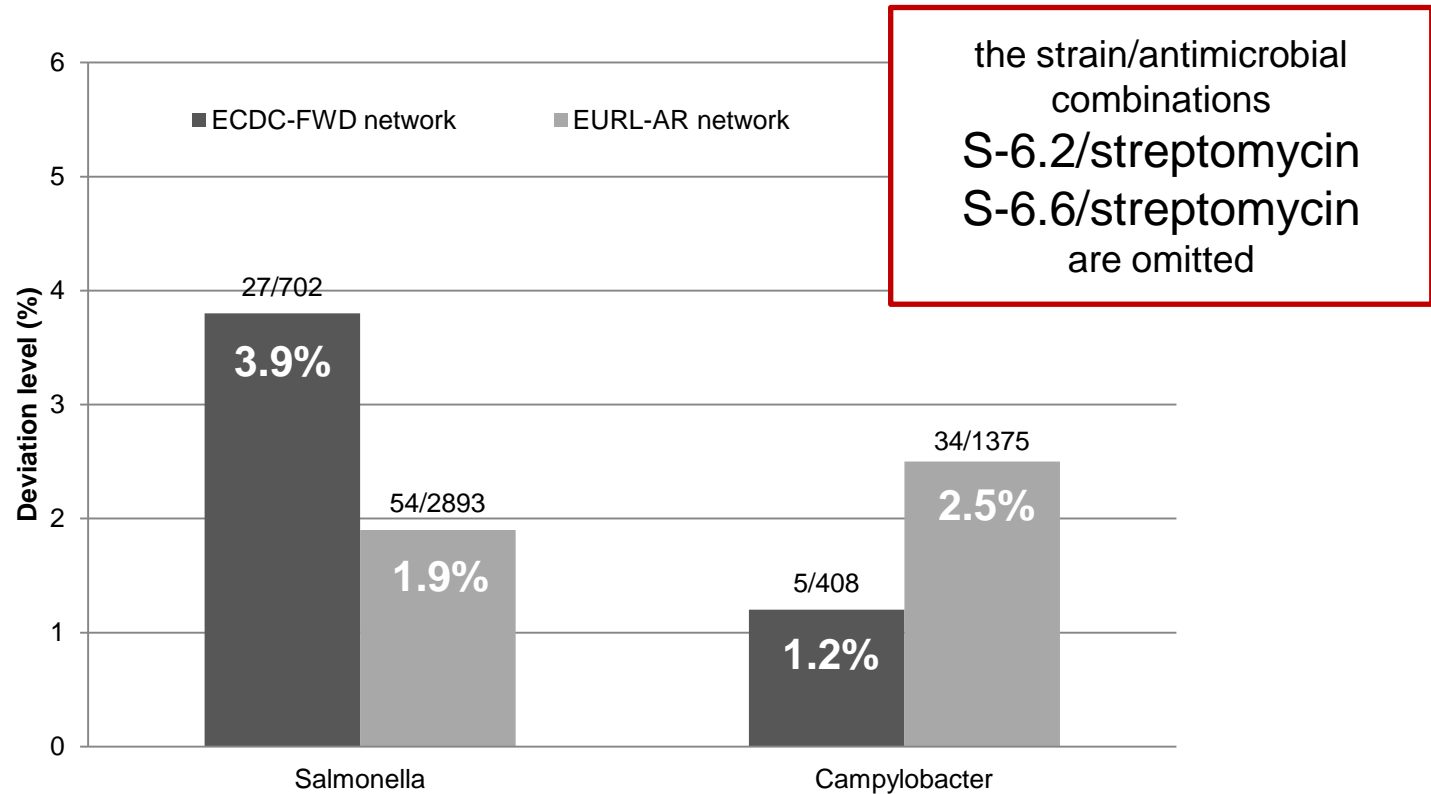
- 10 countries
- *Salmonella*: 9 sets of results
- *Campylobacter* 10 sets of results

EURL-AR network

- 30 countries
- *Salmonella*: 34 sets of results
- *Campylobacter* 26 sets of results

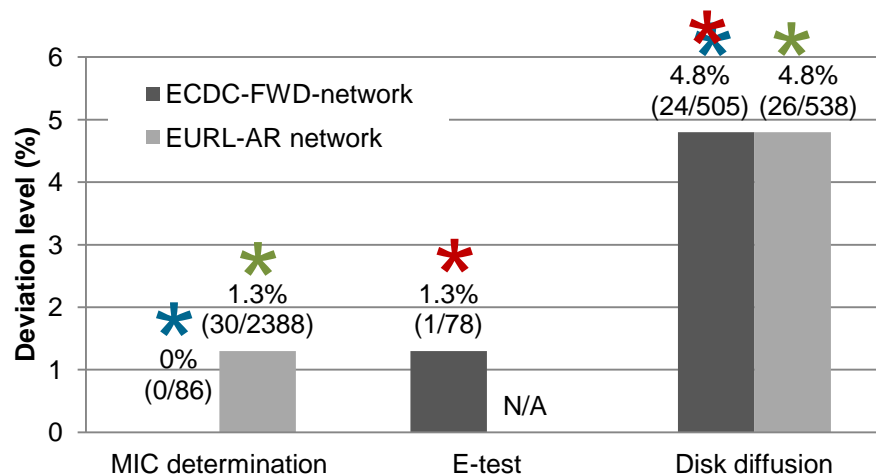


Overall results



Methods used - *Salmonella*

	MIC determination	E-test	Disk diffusion
ECDC FWD network	1	1	7
EURL-AR network	28	-	6



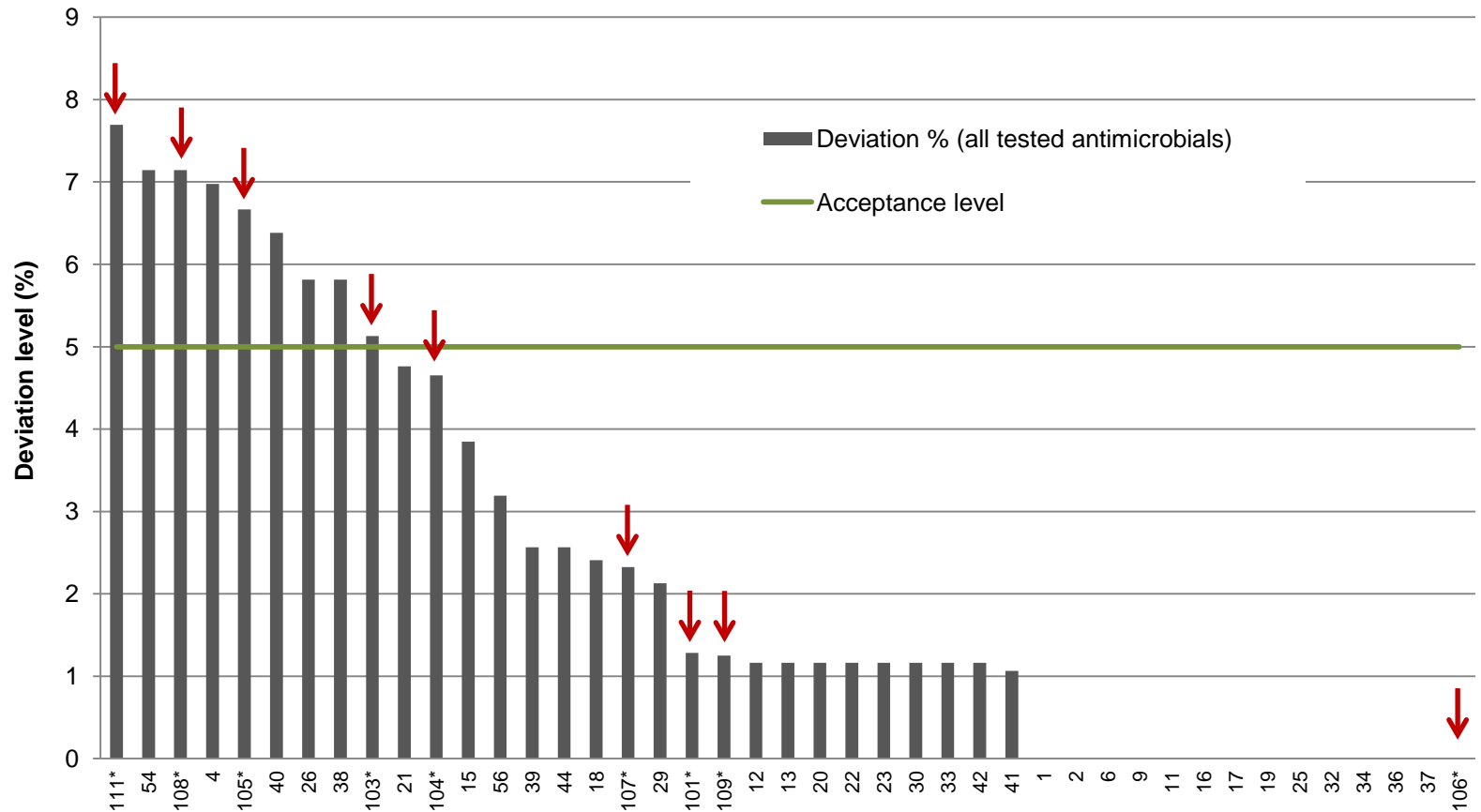
χ^2 -tests (within networks)

Significant difference

MIC $><$ DD

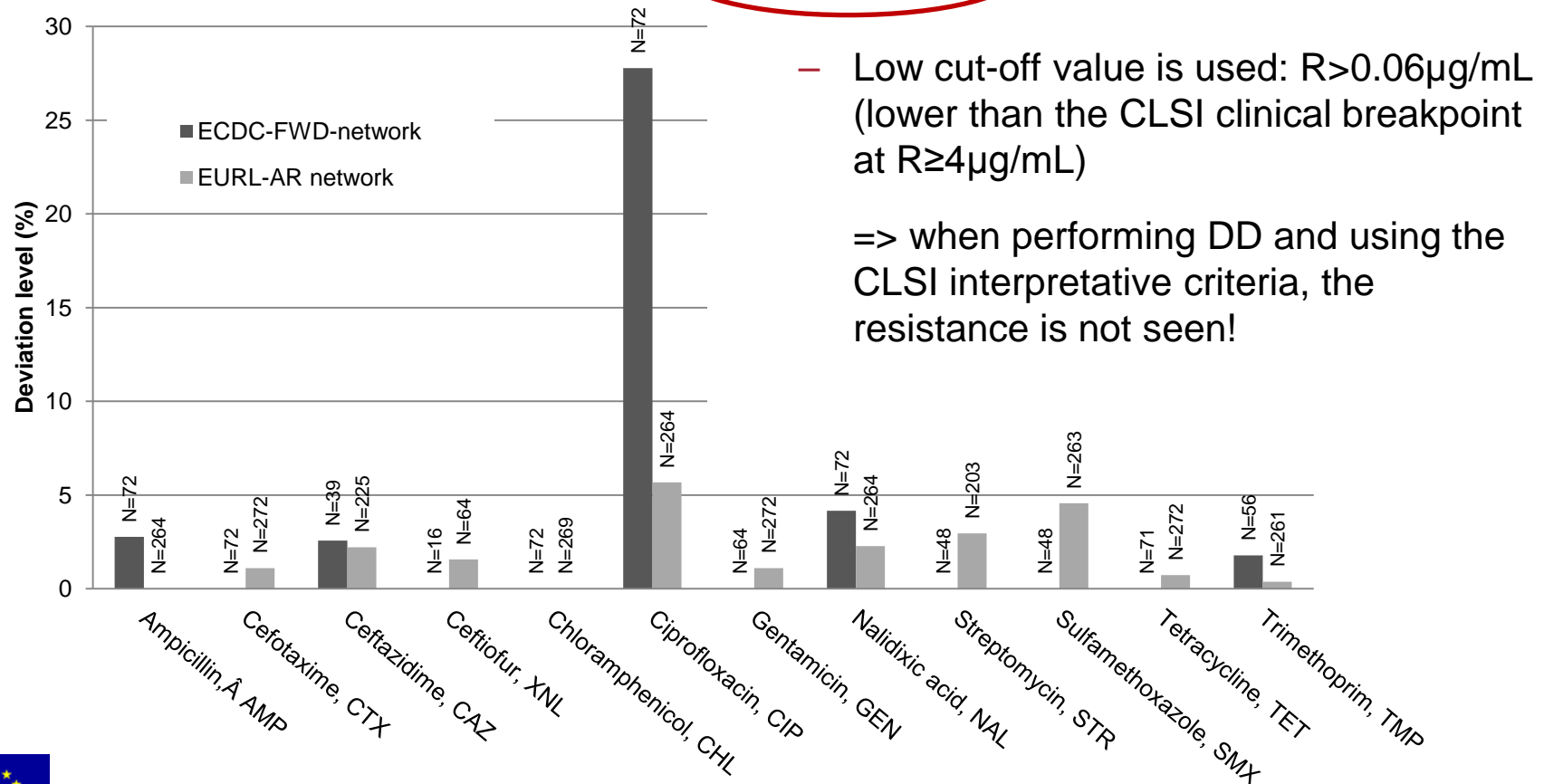
E-test $><$ DD

Salmonella results – pr. lab

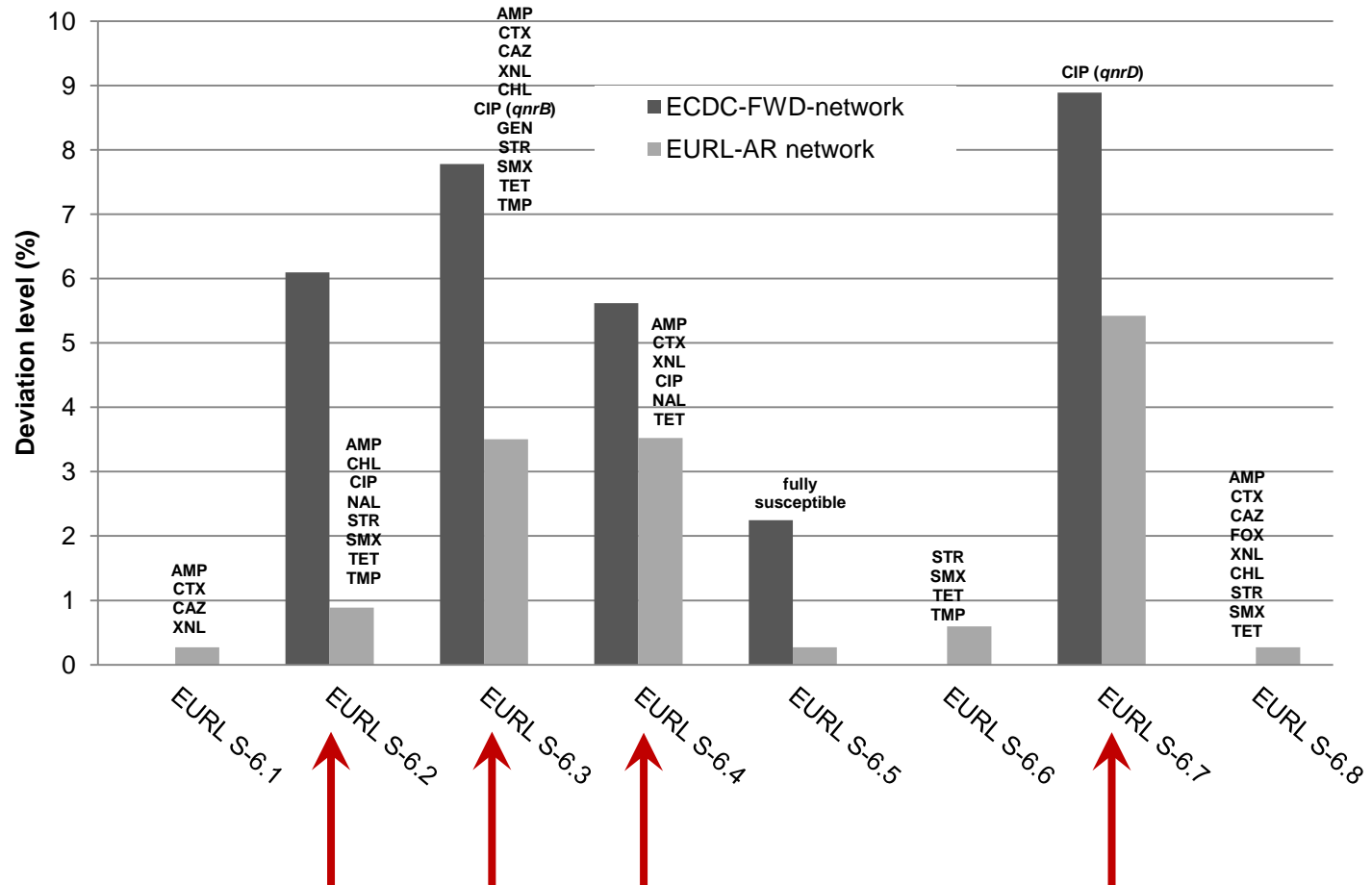


Salmonella - antimicrobials

Ciprofloxacin

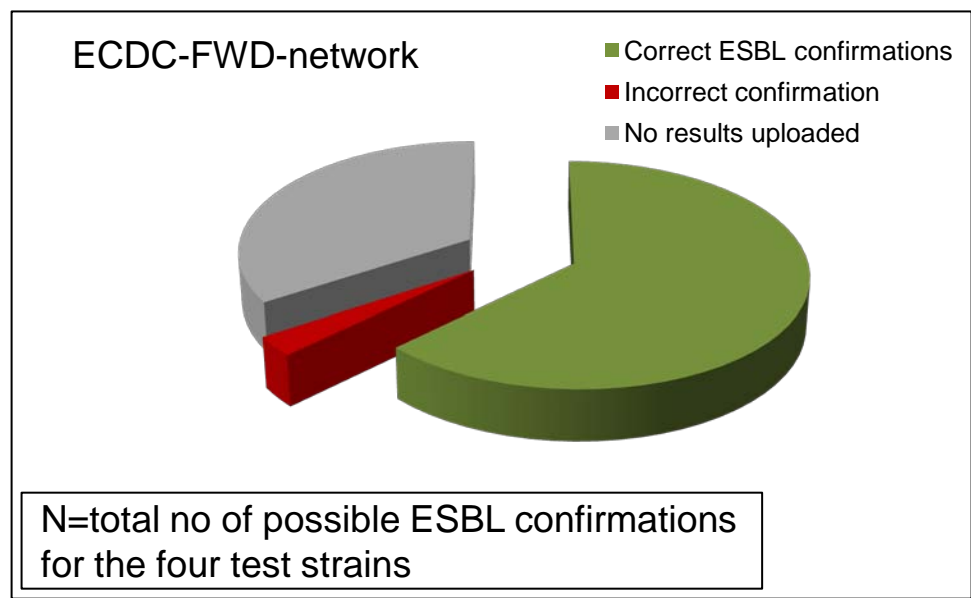
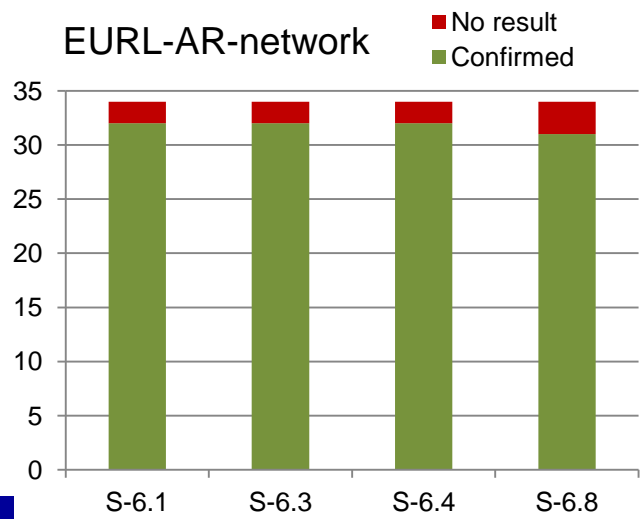


Salmonella – strains



Detection of ESBL-producing *Salmonella*

- Three were ‘true ESBLs’:
 - > S-6.1 (bla_{TEM-52})
 - > S-6.3 ($bla_{CTX M-15}$ and bla_{SHV-12})
 - > S-6.4 ($bla_{CTX M-15}$)
- One was ampC-producer
 - > S-6.8 (bla_{CMY-2})



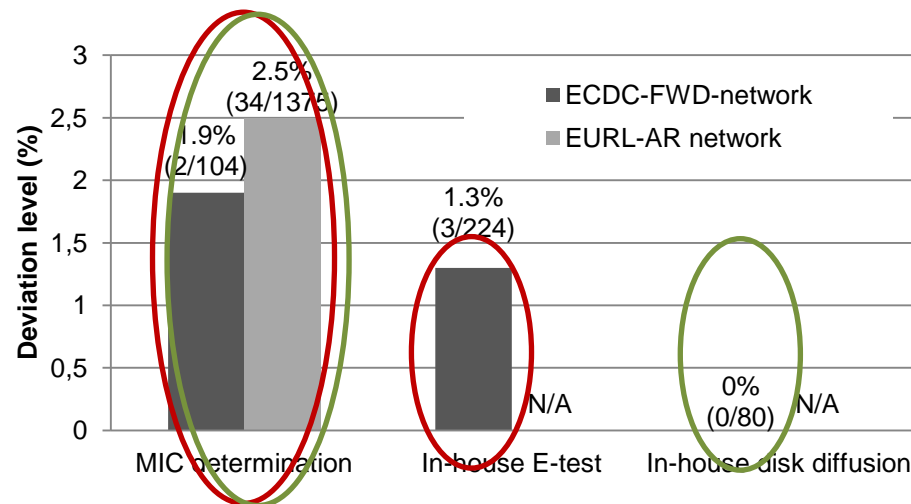
N=total no of possible ESBL confirmations for the four test strains



Methods used - *Campylobacter*

	MIC determination	In-house E-test	In-house disk diffusion
ECDC FWD network	2	6	2
EURL-AR network	26	-	(1)*

*not included in the evaluation



χ^2 -tests (across networks)

No significant difference

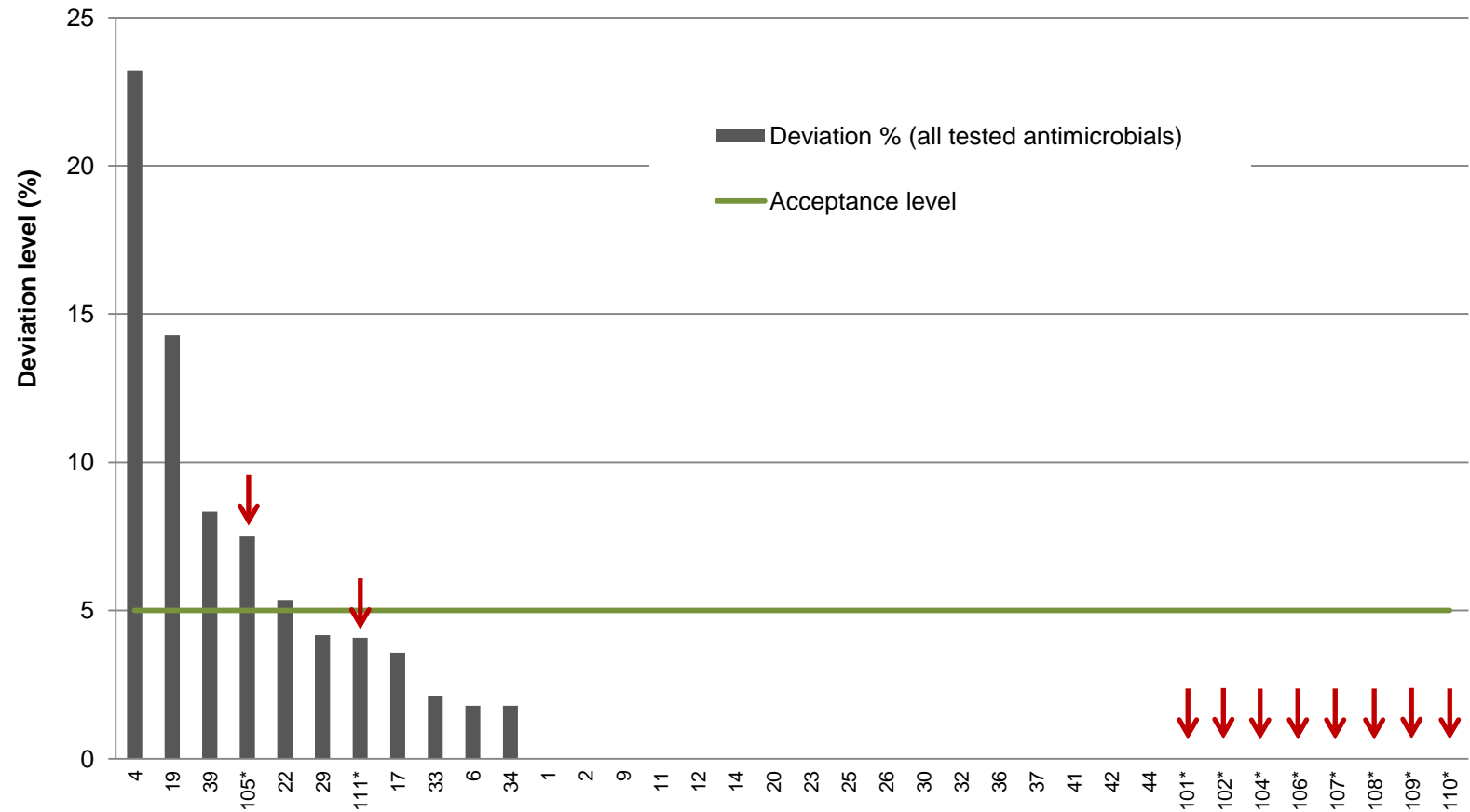
MIC $><$ DD

MIC $><$ E-test

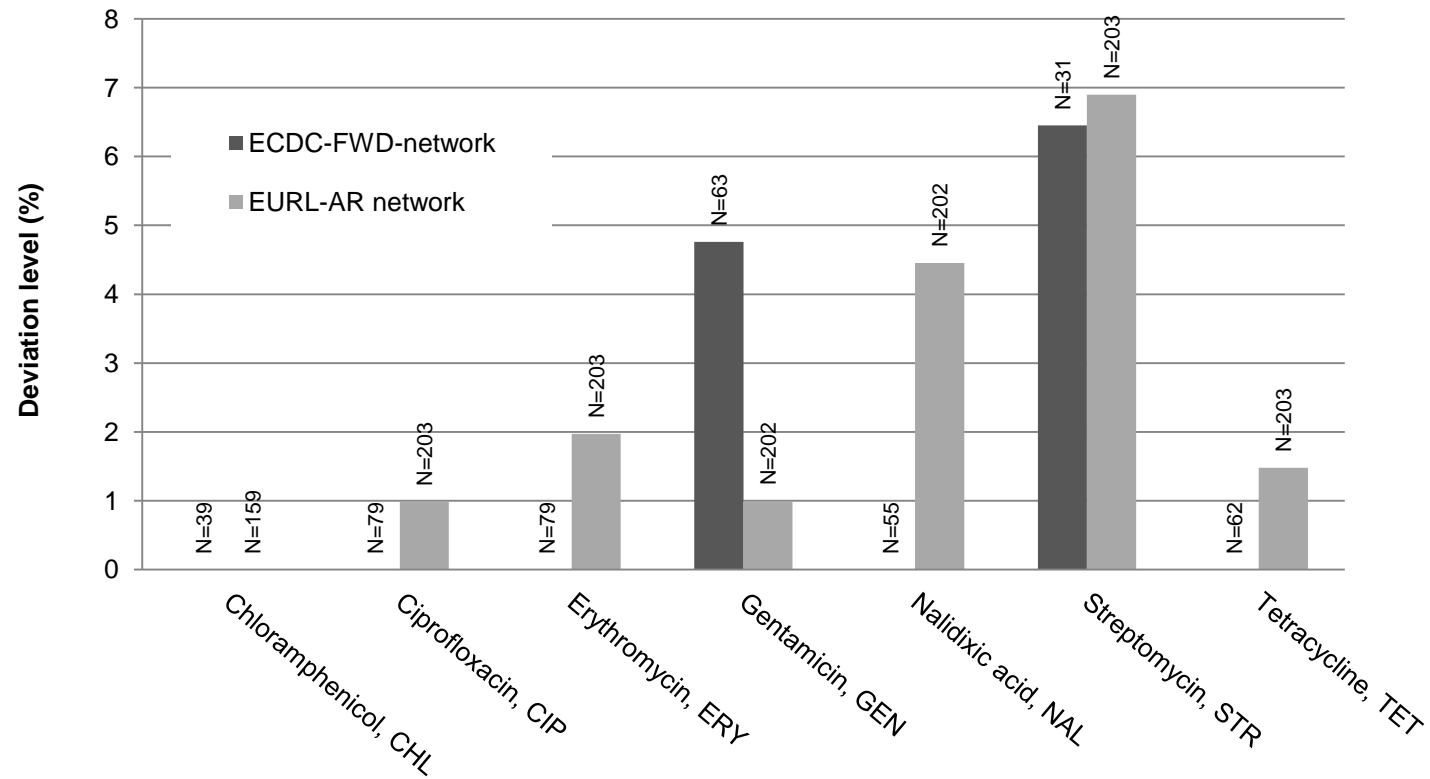
In-house methods:

QC-control?!

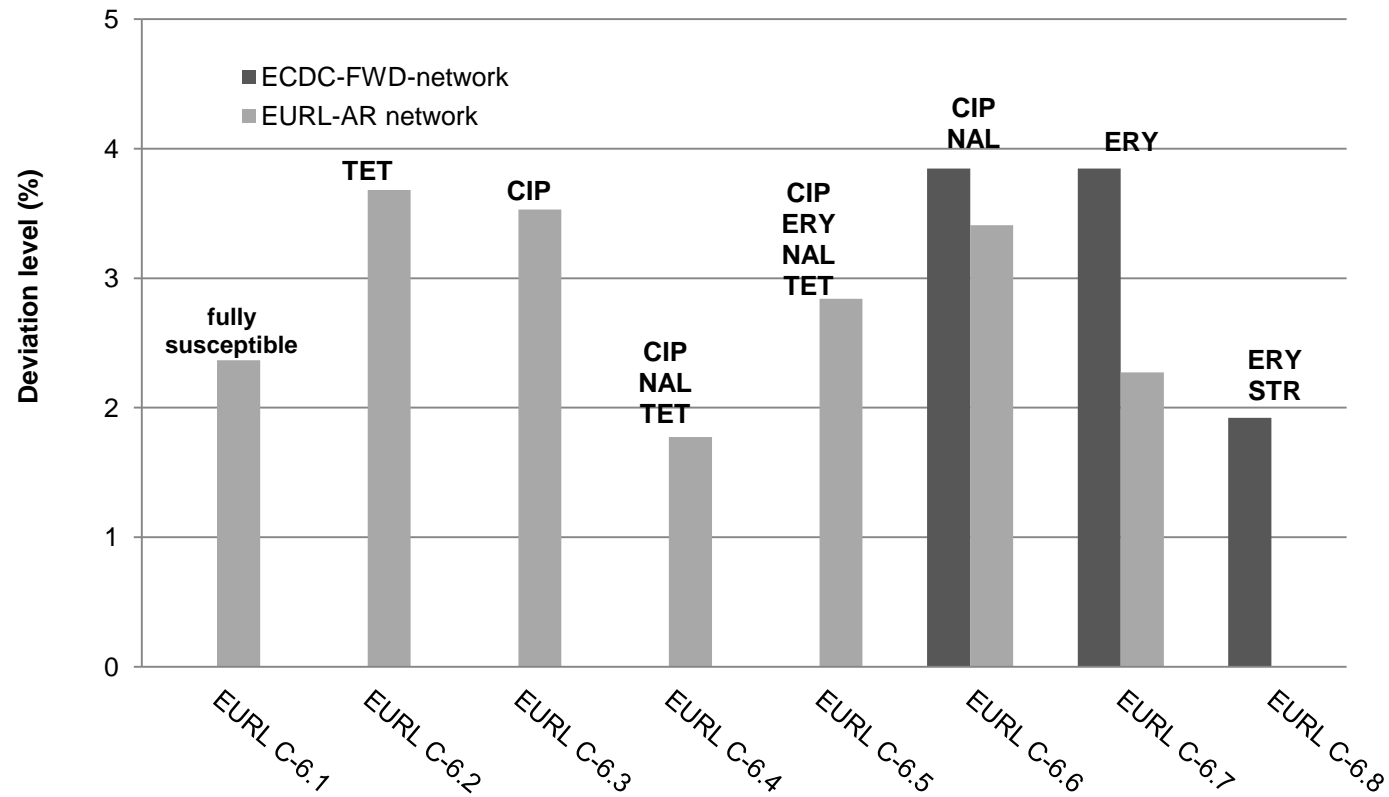
Campylobacter results – pr. lab



Campylobacter - antimicrobials



Campylobacter – strains



Summing up

- > Assess and compare the quality of AST-data
- > Identify areas which would require attention

Salmonella

96.1%

98.1%

- 9 FWD-labs and 34 NRL-AR-labs
- Challenges:
 - > Ciprofloxacin (disk diffusion)
 - > ESBL-producers – critically relevant

Campylobacter

98.8%

97.5%

Three outliers

- 10 FWD-labs and 26 NRL-AR-labs
- Challenges:
 - > International references for QA and interpretative criteria (DD and E-test)

