



DTU Food
National Food Institute

EQAS 2015

Salmonella and E. coli

EURL-AR workshop, April 14-15th, 2016

Participation

Salmonella

31 countries

31 sets of *Salmonella* results

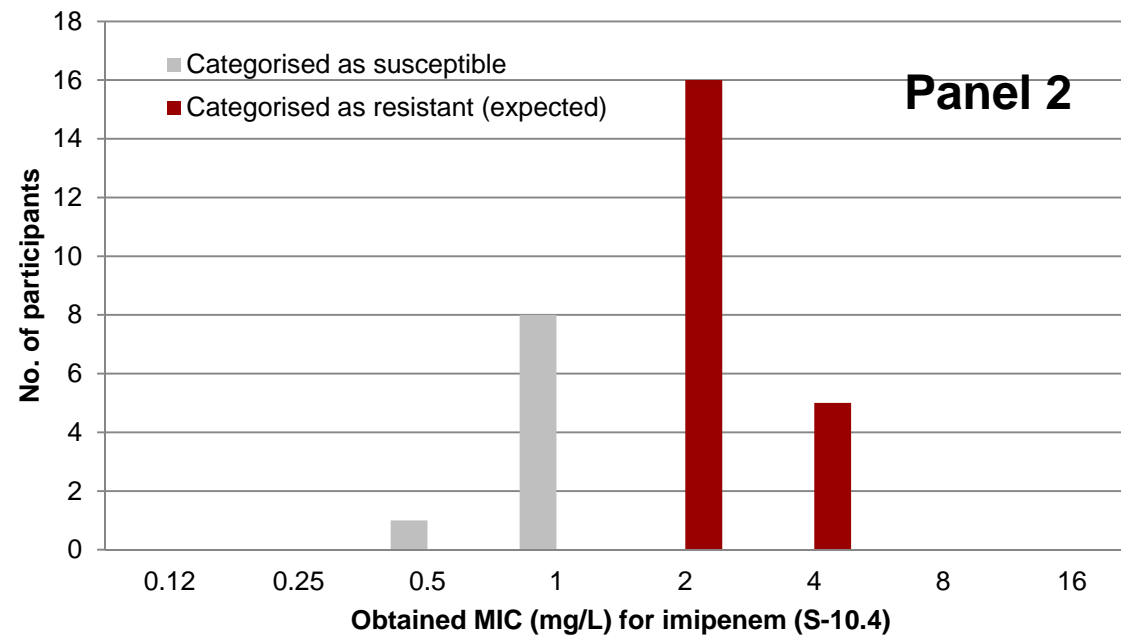
E. coli

31 countries

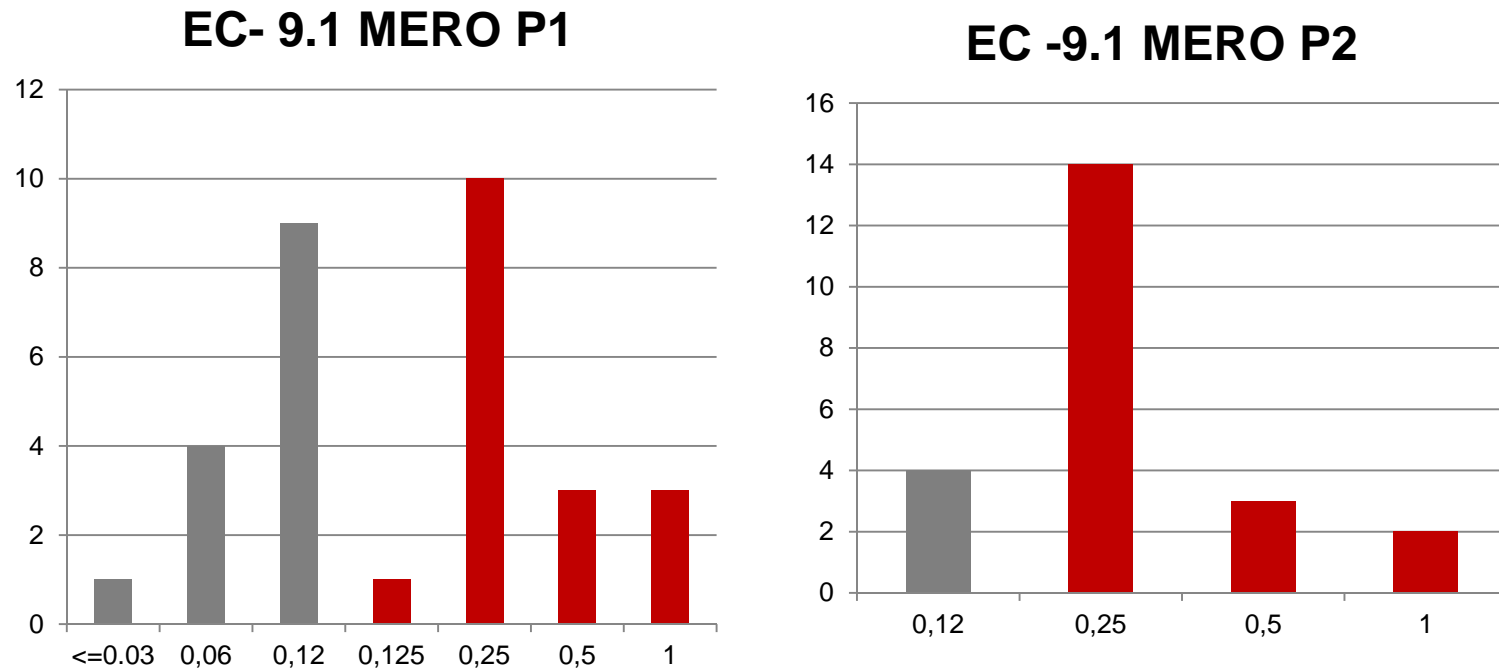
31 sets of *E. coli* results



S-10.4/imipenem excluded 30% deviations

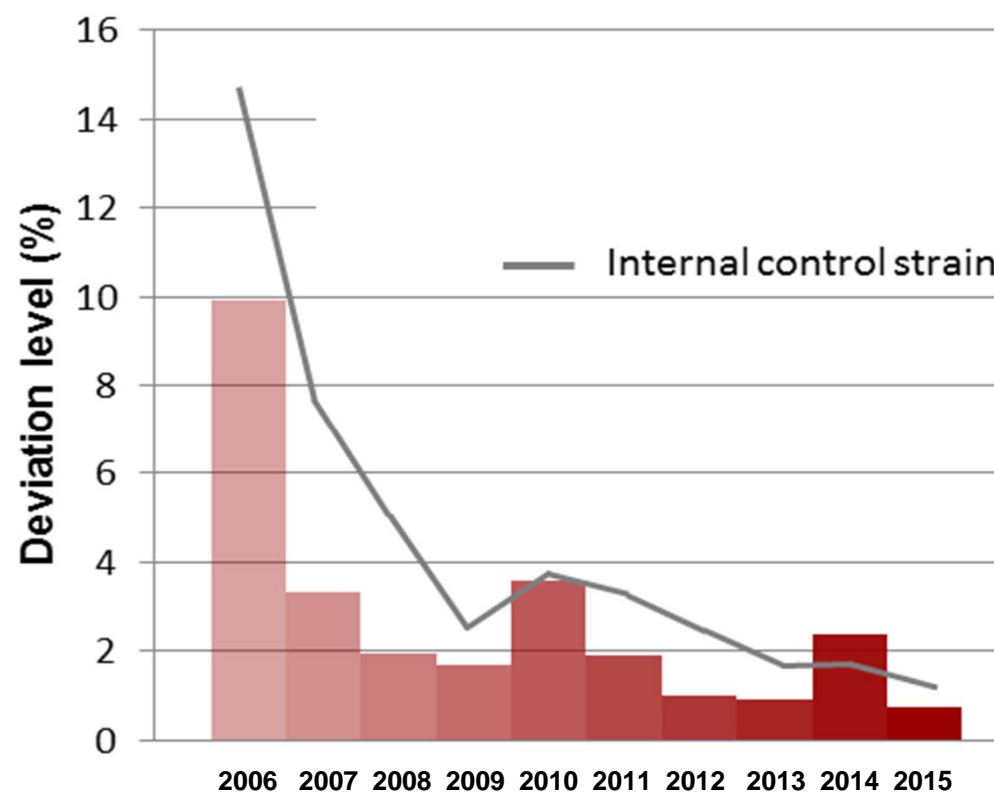


EC 9.1/meropenem (33% deviations in general)
45% deviations in panel 1 and 17% in panel 2

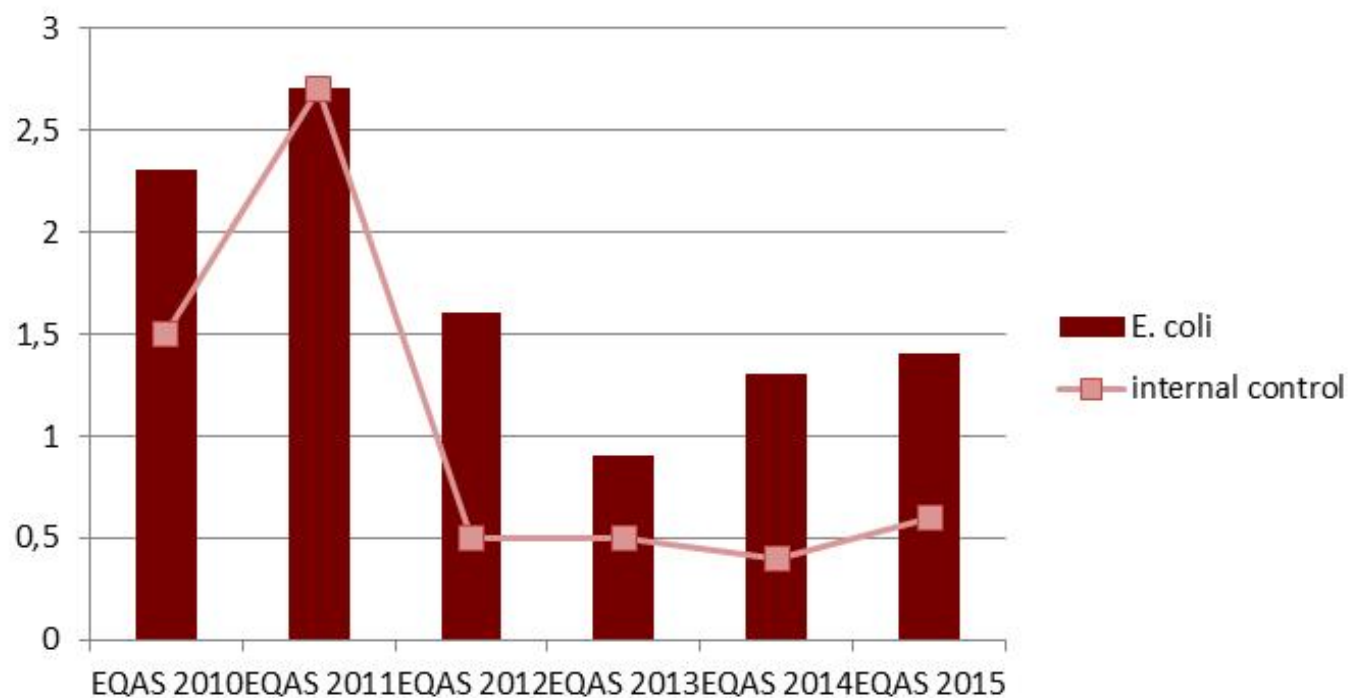


Participants had better results in second panel; probably due to considering the results in relation to other carbapenems in the panel

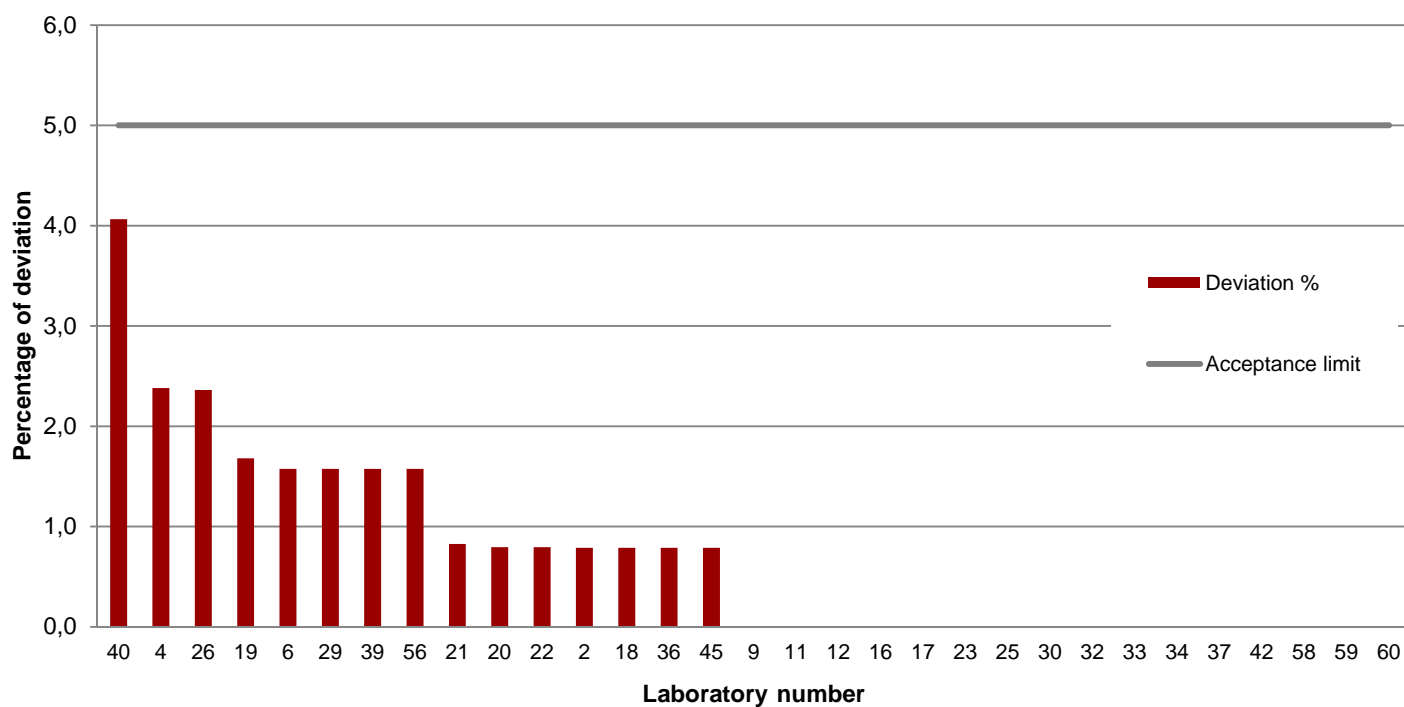
Comparison to former EQASs - *Salmonella*



Comparison to former EQASs – *E. coli*



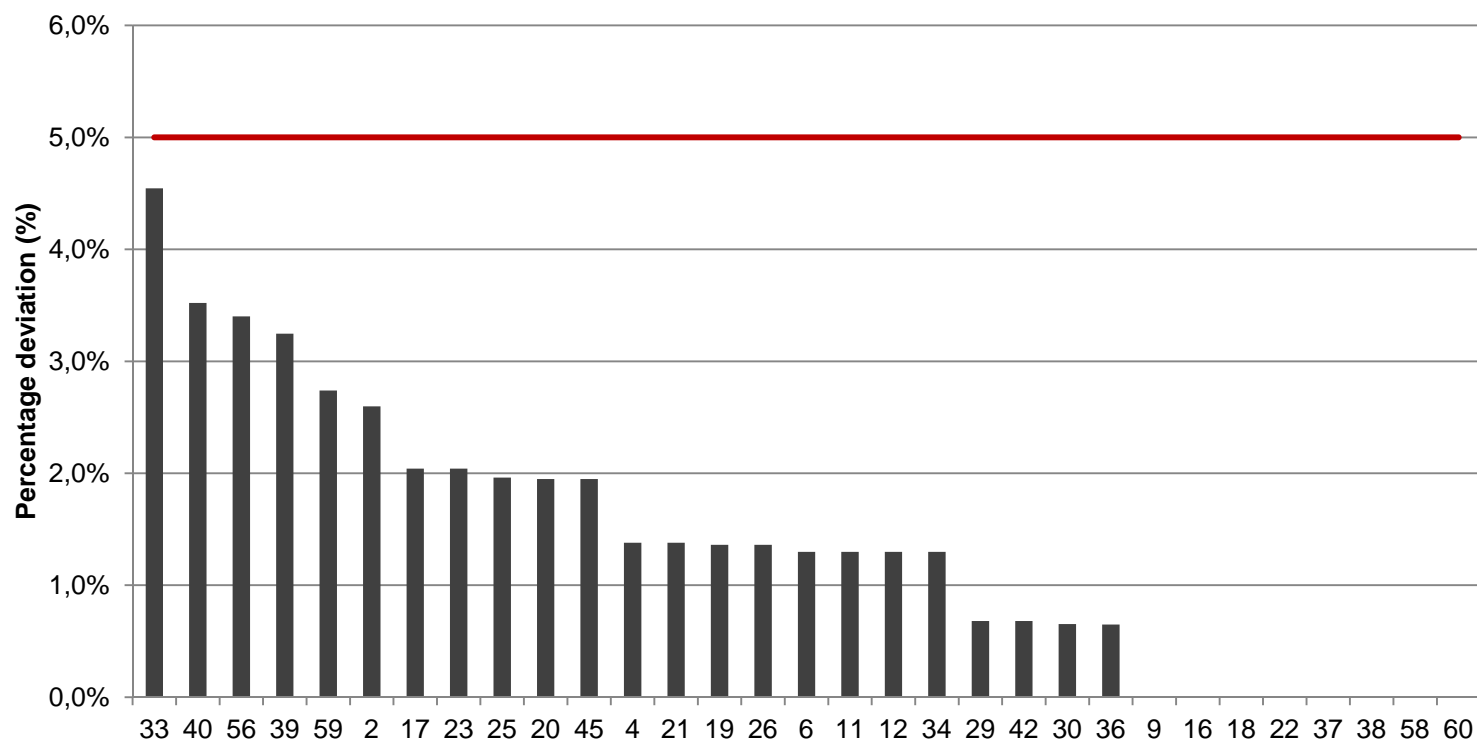
Salmonella results – pr. lab



All participants had deviation levels below 5%



E. coli results – pr. lab



All participants had deviation levels below 5%



ESBL-producing test strains

ESBL-detection is mandatory in the *Salmonella* EQAS

	Strain S-10.3	Strain S-10.4	Strain S-10.7	Strain S-10.8	
ESC-genes harboured in the test strain	<i>bla</i> _{TEM-1} <i>bla</i> _{CTX-M-9}	<i>bla</i> _{TEM-1} <i>bla</i> _{OXA-48}	<i>bla</i> _{TEM-1} <i>bla</i> _{SHV-12} <i>bla</i> _{CTX-M-15}	<i>bla</i> _{TEM-52}	
ESBL-, pAmpC- and carbapenemase-producing strain – expected results	ESBL	carbapenemase	ESBL	ESBL	
Obtained results	Confirmed ESBL-producer	30/31 (97%)	-	30/31 (97%)	
	Confirmed ESBL + pAmpC-producer	-	-	1/31 (3%)	
	Confirmed pAmpC-producer	-	-	-	-
	Confirmed carbapenemase-producer	-	30/31 (97%)	-	-
	Confirmed unusual phenotype	1/31 (3%)	1/31 (3%)	-	-
	Not ESBL-, pAmpC- or carbapenemase-producing	-	-	-	-

Marked in grey: incorrect results



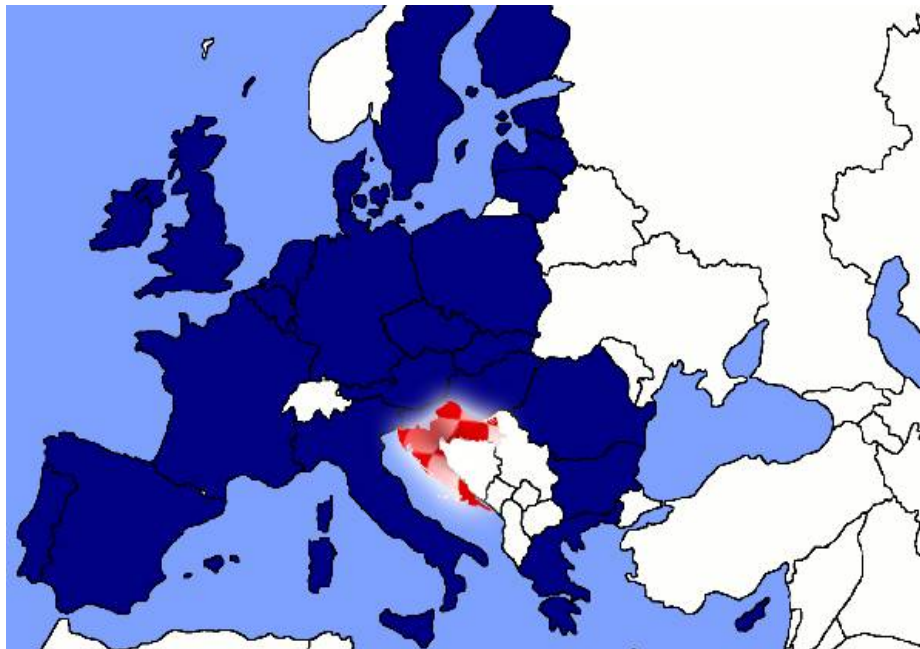
ESBL-producing test strains

ESBL-detection is mandatory in the *E. coli* EQAS

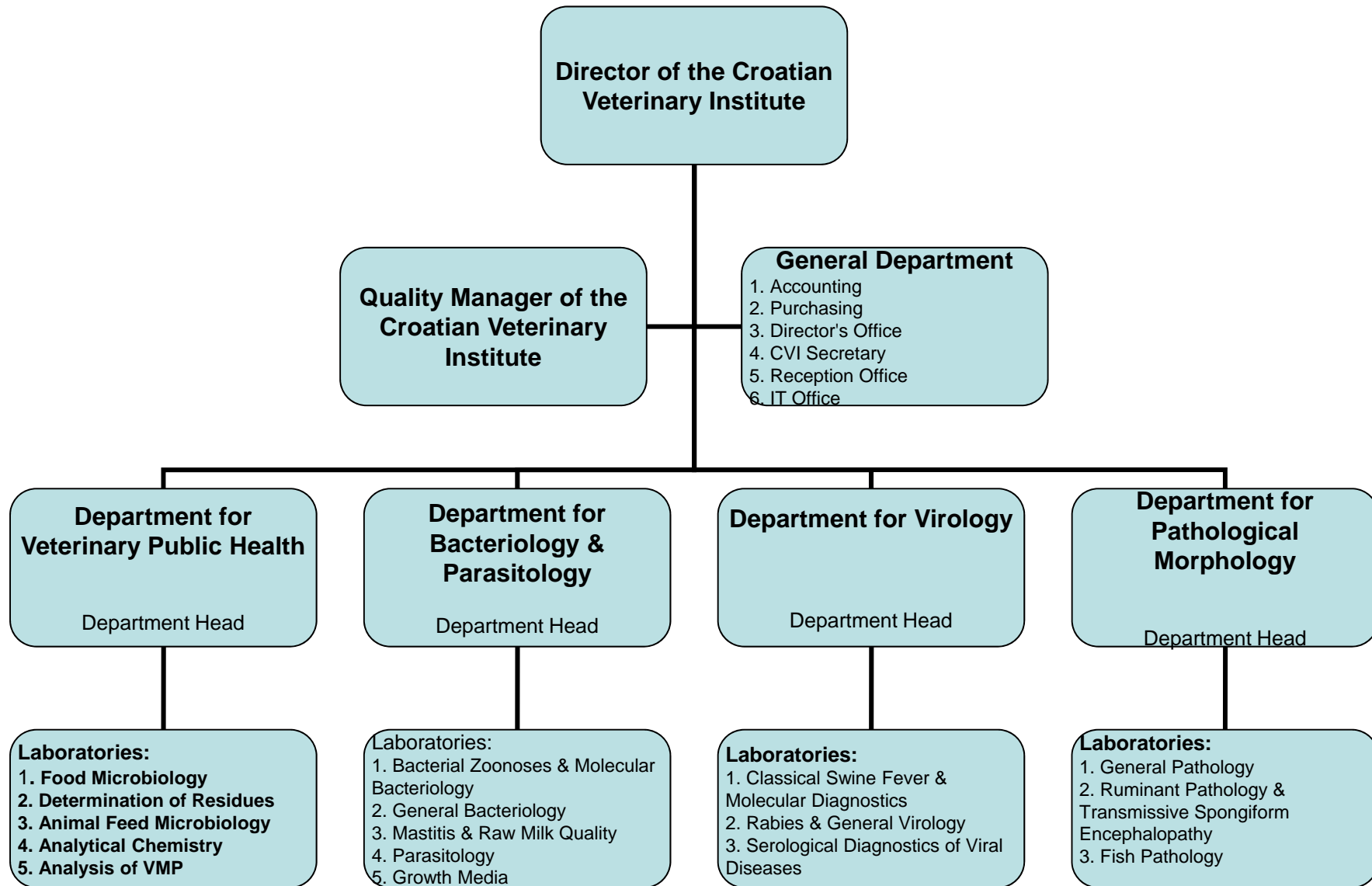
Percentage reporting correct ESBL-results		EC-9.1	EC-9.3	EC-9.4	EC-9.5	EC-9.7	EC-9.8
ESBL-genes harboured in the test strain		OXA-48	CTX-M-1	CMY-2	SHV-12	CTX-M1 and CMY-2	TEM-52
ESBL-, pAmpC- and carbapenemase-producing strain – expected results		carbapenemase	ESBL	pAmpC or ESBL+pAmpC	ESBL	ESBL+pAmpC	ESBL
Obtained results	Presumptive ESBL-producer	-	30/31 (96.8%)	-	31/31 (100%)	1/31 (3.2%)	30/31 (96.8*)
	Presumptive pAmpC-producer	-	-	12/31 (38.7%)	-	-	-
	Presumptive ESBL+pAmpC	-	-	19/31 (61.3%)	-	30/31 (96.8%)	1/31 (3.2%)
	Presumptive carbapenemase-producer	23/31 (74.2%)	-	-	-	-	-
	unusual phenotype	-	-	-	-	-	-
	Not ESBL-, pAmpC- or carbapenemase-producing	8/31 (25.8%)	1/31 (3.2%)	-	-	-	-



Croatian Veterinary Institute



Organization



Laboratory for general bacteriology and mycology

- NRL Antimicrobial resistance
 - 2008 – accreditation of DD method
 - 2011 - accreditation of microdilution method
- NRL *Salmonella* spp. isolation
- NRL *Salmonella* spp. serotyping

What did our NRL get out of participating in EQAS

- The cheapest way for the best method testing
 - Evaluation of the staff included in performance
 - Validation of reagents
- Harmonisation
- Comparison of the results
 - With other NRLs
 - Own results over the past years

Because there is always need and place for improvements
- EURL - Very quick help in solving problems
- Obtain the strains with known properties / quality control
 - *E. coli* 25922 – CIP, TET, MERO, NAL, FOT, CHL, TGC, TAZ, COL, GEN – the highest expected MIC value is lower than the lowest dilution of the antimicrobial to be tested
- Evaluation by the National Accreditation Agency



Plans for the future



Thank You for Your Attention