

CAESAR

Results for AMR EQA

2013

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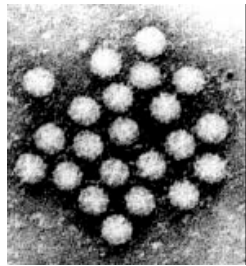
UK NEQAS Organisation Overview

UK NEQAS for Microbiology is one of a number of UK NEQAS schemes which provide quality assessment in most disciplines of laboratory medicine.

- 1969 - schemes for clinical biochemistry and haematology were introduced
- 1971 – schemes for microbiology added
- 1986 – parasitology and antibiotic assay

Schemes were initiated by and continue to be overseen by the professions and learned societies. Up until March 1992, schemes were financially supported by central funding from the Department of Health (DH). Since April 1992, schemes are funded by income derived from participants' subscriptions. Schemes are physically located with host authorities, usually health authorities and in the case of the microbiology schemes, Public Health Protection England, London.

2013 - 33 dedicated staff, UK NEQAS laboratory, ISO 17043 accreditation



Virology

•19 schemes



Mycology

•2 schemes



Bacteriology

•15 schemes*



Parasitology

•7 schemes

Identification

- Biochemistry
- Ag (IF / agglutination...)
- Growth characteristics
- Molecular

Typing / subtyping

- Biochemistry
- Ag
- Molecular

Quantification

- Microscopic
- Molecular

Susceptibility

- phenotype
- genotype

Serology

- EIA
- Agglutination
- Line assays
- IF

43 SCHEMES

*Bacteriology trial distributions ('small schemes')

UK NEQAS Stand 90

www.ukneqasmicro.org.uk

Internet Explorer browser window showing the UK NEQAS For Microbiology website.

Address bar: <http://www.ukneqasmicro.org.uk/>

Page Title: UK NEQAS FOR MICROBIOLOGY

Navigation Menu:

- Home
- Registered Participants
- Schemes
- Scoring
- New Participant Enquiries
- About Us
- Contact Us

Our Services & Links:

- Benefits of EQA
- Distribution Timetable
- Participating Countries
- Login Reports/Results
- Guidance on use of secure site
- Special Survey Login
- Interpretative Comments Login
- Order Repeat Specimens
- FAQ
- Links to Related Websites

EQA provision with UK NEQAS

The United Kingdom National External Quality Assessment Service for Microbiology offers a number of features and benefits: Professionally led and educational service. The service is organised by professional microbiologists...

[Read more...](#)

Introduction to schemes

UK NEQAS for Microbiology provides external quality assessment for clinical laboratories that carry out examinations in; General bacteriology, Virology, Serological testing, Blood donor testing (blood borne viruses and syphilis) and Parasitology...

[Read more...](#)

News, Meetings and Events

- NHS Email Addresses
- December 2013 Newsletter
- Parasitology Teaching Dates 2014 - 2015
- Bacteriology Specimen Specific Schemes

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Objectives of CAESAR External Quality Assessment

- To assess the accuracy of susceptibility test results reported by participating laboratories
- To assess the comparability of routine susceptibility test results between laboratories and countries
- Education

EQA process

- Panel strains selected resembling resistance phenotypes of bacterial strains under surveillance at ECDC
- Strains characterised and tested in two reference laboratories*
- Both laboratories confirmed MICs and interpreted results using international breakpoint criteria - EUCAST and CLSI
- MICs determined by the ISO reference method for MIC determinations by broth micro-dilution

* EUCAST Reference Laboratory, Vaxjo, Sweden and BSAC Reference Laboratory, Specialist Chemotherapy Reference Laboratory, Cardiff, Wales

Countries participating

Azerbaijan



3

Belarus



8

Georgia



1

Kyrgyzstan



3

Kosovo



7

Montenegro



1

Macedonia



16

Serbia



14

Russian
Federation



32

Turkey



78

Participation in CAESAR EQA 2013

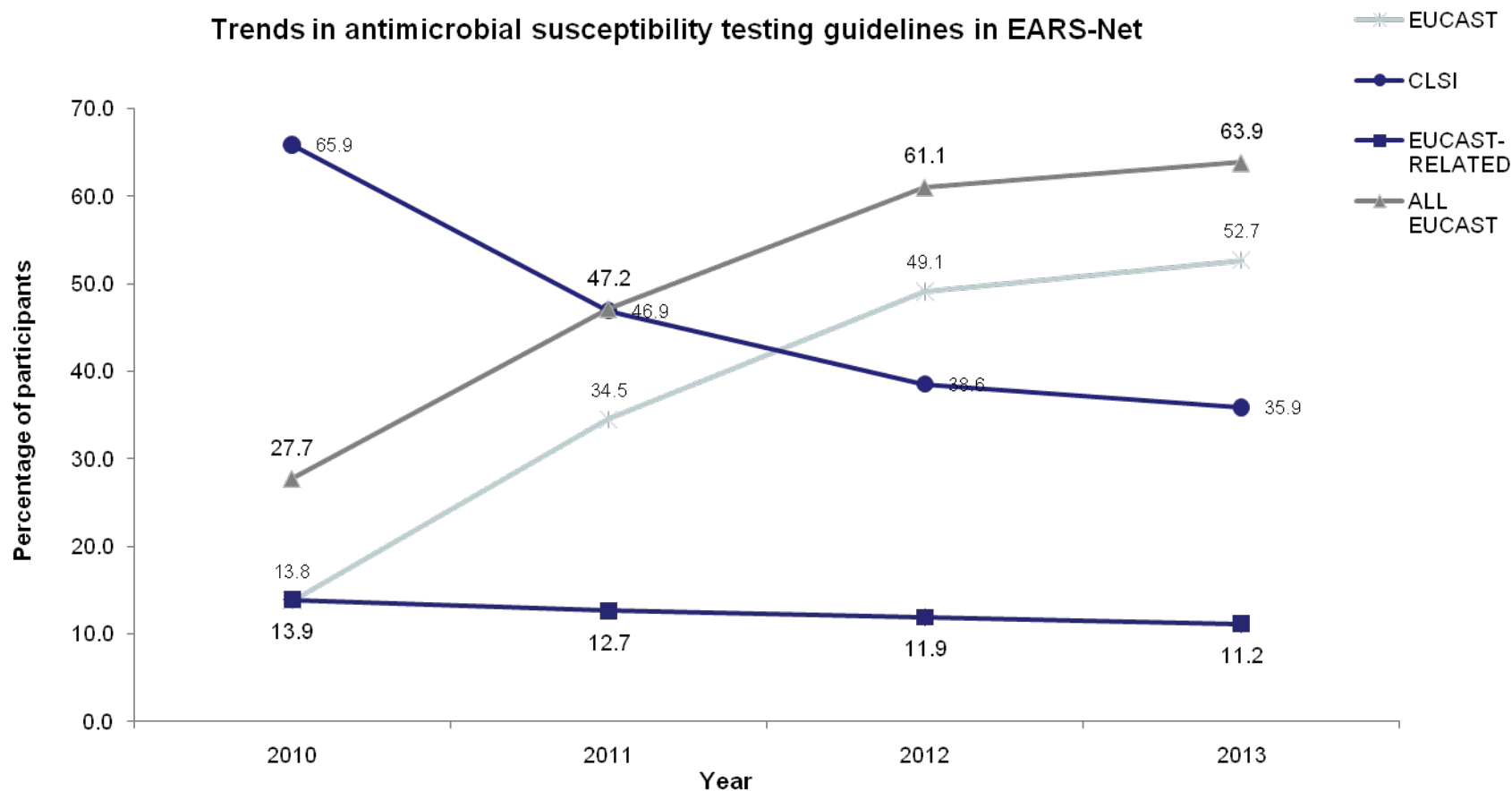
Countries	9*
Laboratories	131
Laboratories responding	92%

*Excluding Russia – permit application unsuccessful

Methods vs guidelines used in CAESAR EQA 2013

Guideline	Automated	Disk	MIC or Gradient (G)MIC	Other unspecified	Total
EUCAST		11	1 _(G)	2	14
CLSI	59	45	2		104
Total	59	56	3	2	120

Trends in antimicrobial susceptibility testing guidelines in EARS-Net 2013

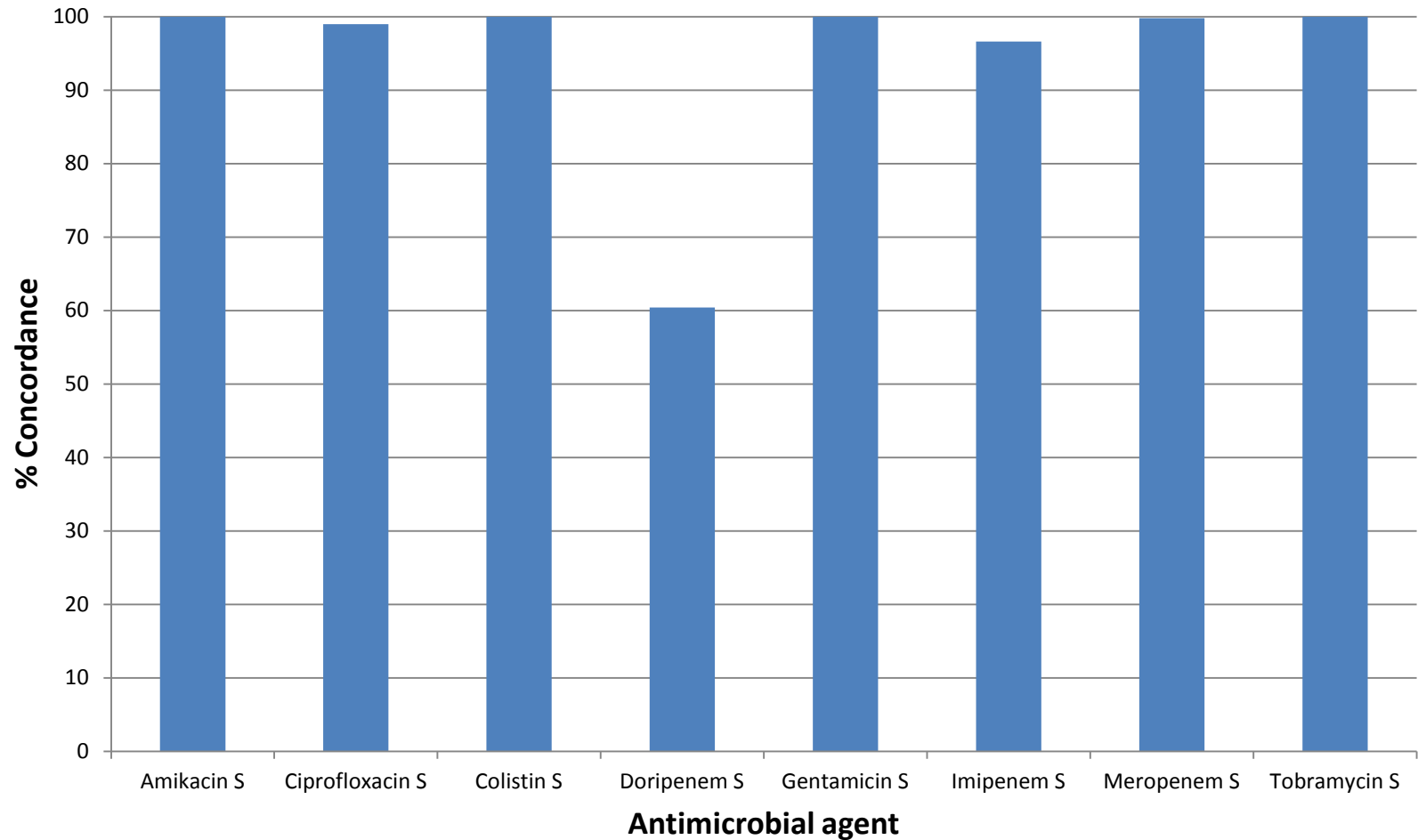


***Acinetobacter baumannii* specimen 1950**

(susceptible to all reference agents tested)

Antimicrobial agent	Reference MIC (mg/L)	EUCAST	CLSI
Amikacin	2	S	S
Ciprofloxacin	0.25 - 0.5	S	S
Colistin	0.25 - 0.5	S	S
Doripenem	0.12	S	-
Gentamicin	0.5	S	S
Imipenem	0.12 – 0.25	S	S
Meropenem	0.25	S	S
Tobramycin	1	S	S

Acinetobacter baumannii specimen 1950



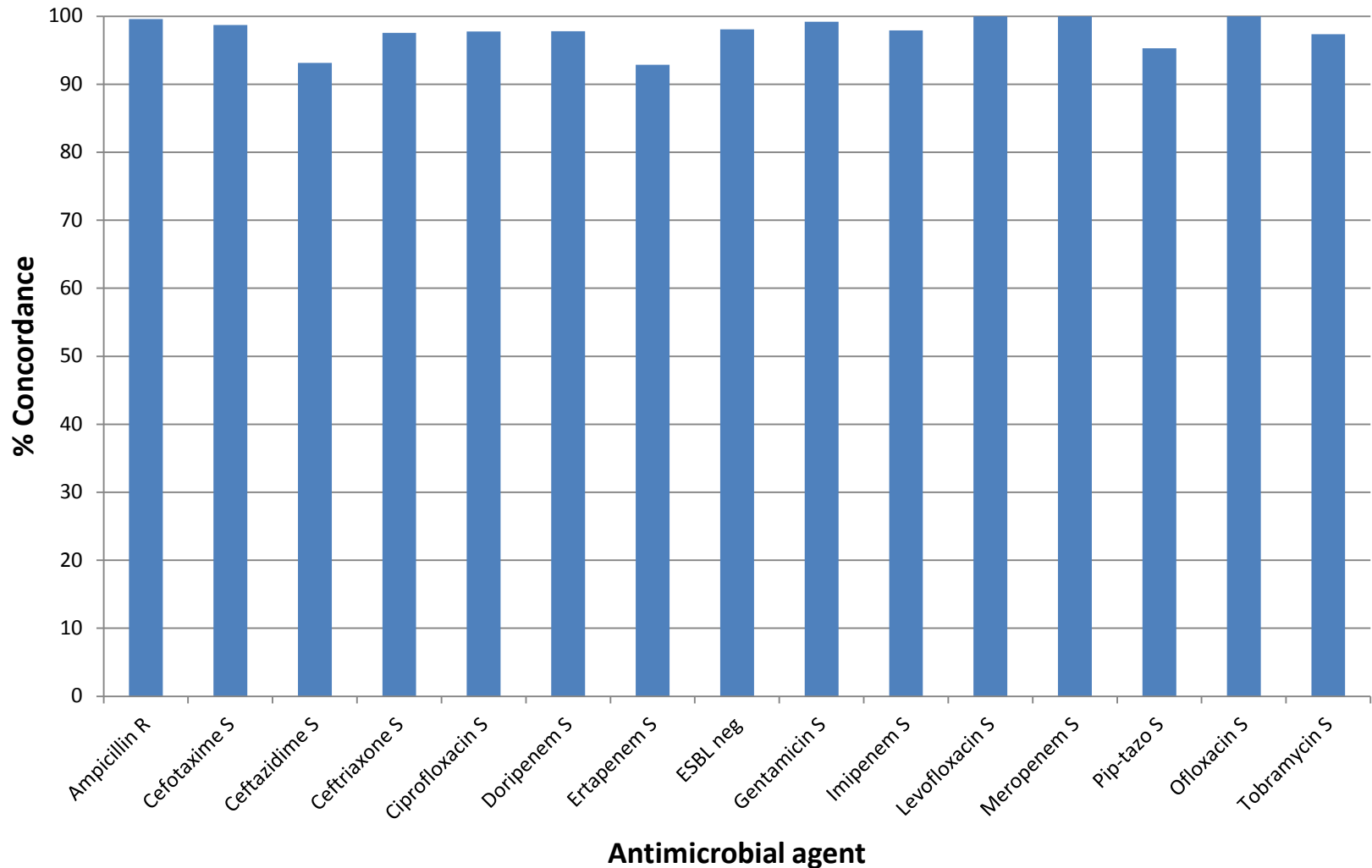
Escherichia coli specimen 1951

Antimicrobial agent	Reference MIC (mg/L)	EUCAST	CLSI
Amikacin	1	S	S
Amoxicillin	≥128	R	R
Amoxicillin-clavulanate	8(8)	S	S
Ampicillin	≥128	R	R
Cefotaxime	0.015 – 0.06	S	S
Ceftazidime	0.06 – 0.12	S	S
Ceftriaxone	0.06	S	S
Ciprofloxacin	0.015	S	S
Doripenem	0.015 – 0.12	S	S

Escherichia coli specimen 1951

Antimicrobial agent	Reference MIC (mg/L)	EUCAST	CLSI
Ertapenem	≤0.004 – 0.008	S	S
Gentamicin	≤0.06 – 0.5	S	S
Imipenem	0.12	S	S
Levofloxacin	-	-	-
Meropenem	0.015	S	S
Ofloxacin	-	-	-
Piperacillin-tazobactam	1	S	S
Tobramycin	1	S	S
ESBL	-	Neg	Neg

Escherichia coli specimen 1951



***Escherichia coli* specimen 1951**

Amoxicillin-clavulanic acid (MIC 8mg/L)

CLSI S≤8 R≥32

EUCAST S ≤8 R>8

Participants' reporting susceptibility to amoxicillin-clavulanic acid (%)

		S	I	R
CAESAR	CLSI	72	9	19
	EUCAST	56	-	44
EARS-Net	CLSI	92	3	6
	EUCAST	86	7	7

***Klebsiella pneumoniae* specimen 1952**

OXA-48 carbapenemase

Antimicrobial agent	Reference MIC (mg/L)	EUCAST	CLSI
Amikacin	0.5 - 2	S	S
Amoxicillin	≥128	R	R
Amoxicillin-clavulanate	≥128(≥128)	R	R
Ampicillin	≥128	R	R
Cefotaxime	2	I	I
Ceftazidime	1	S	S
Ceftriaxone	1	S	S
Ciprofloxacin	0.03	S	S
Doripenem	1 - 4	S/I	S/R

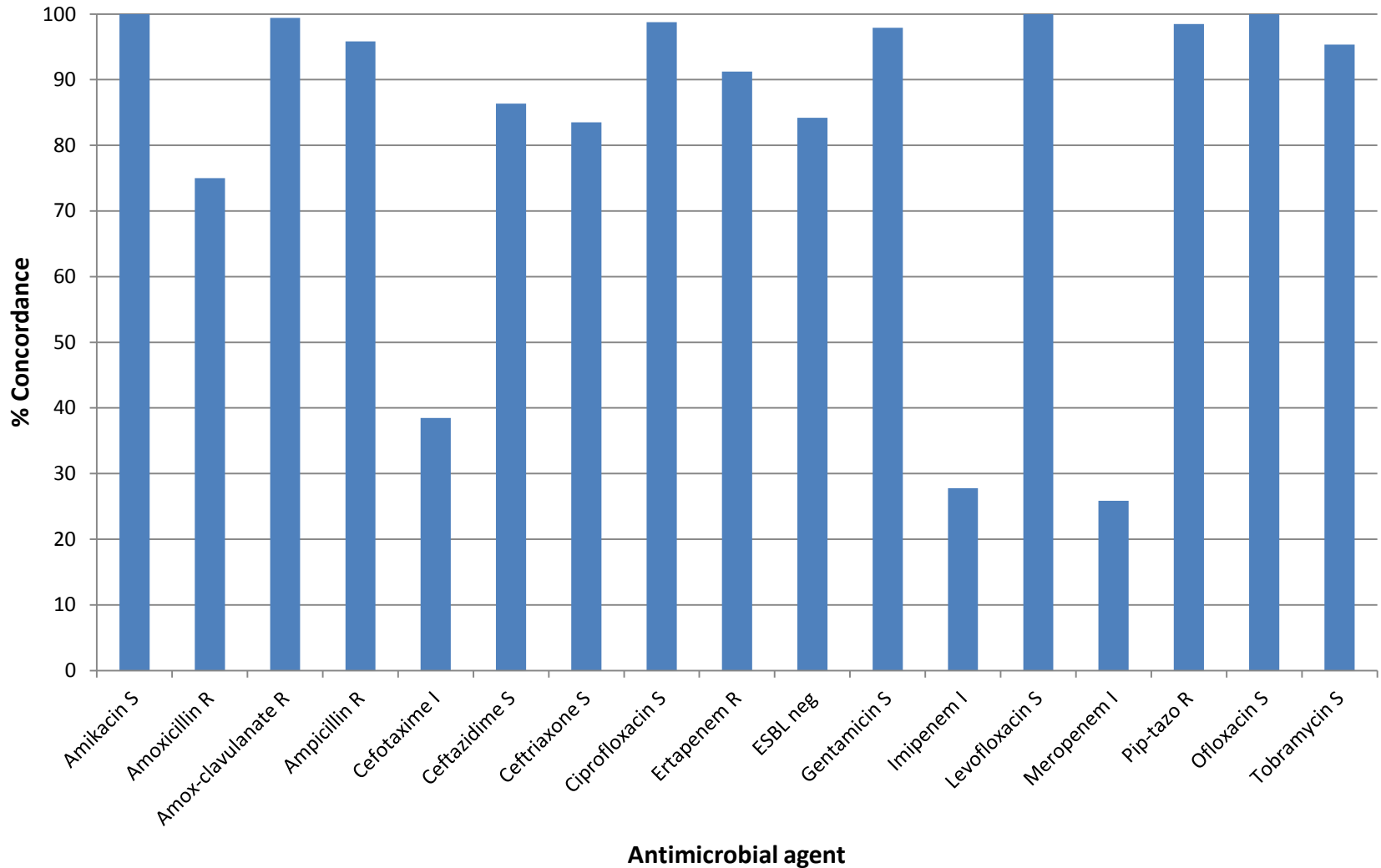
***Klebsiella pneumoniae* specimen 1952**

OXA-48 carbapenemase

Antimicrobial agent	Reference MIC (mg/L)	EUCAST	CLSI
Ertapenem	8 - 64	R	R
Gentamicin	0.25 - 0.5	S	S
Imipenem	4	I	R
Levofloxacin	-	-	-
Meropenem	4	I	R
Ofloxacin	-	-	-
Piperacillin-tazobactam	≥128	R	R
Tobramycin	0.25	S	S
ESBL	-	Neg	Neg

Klebsiella pneumoniae specimen 1952

OXA-48 carbapenemase

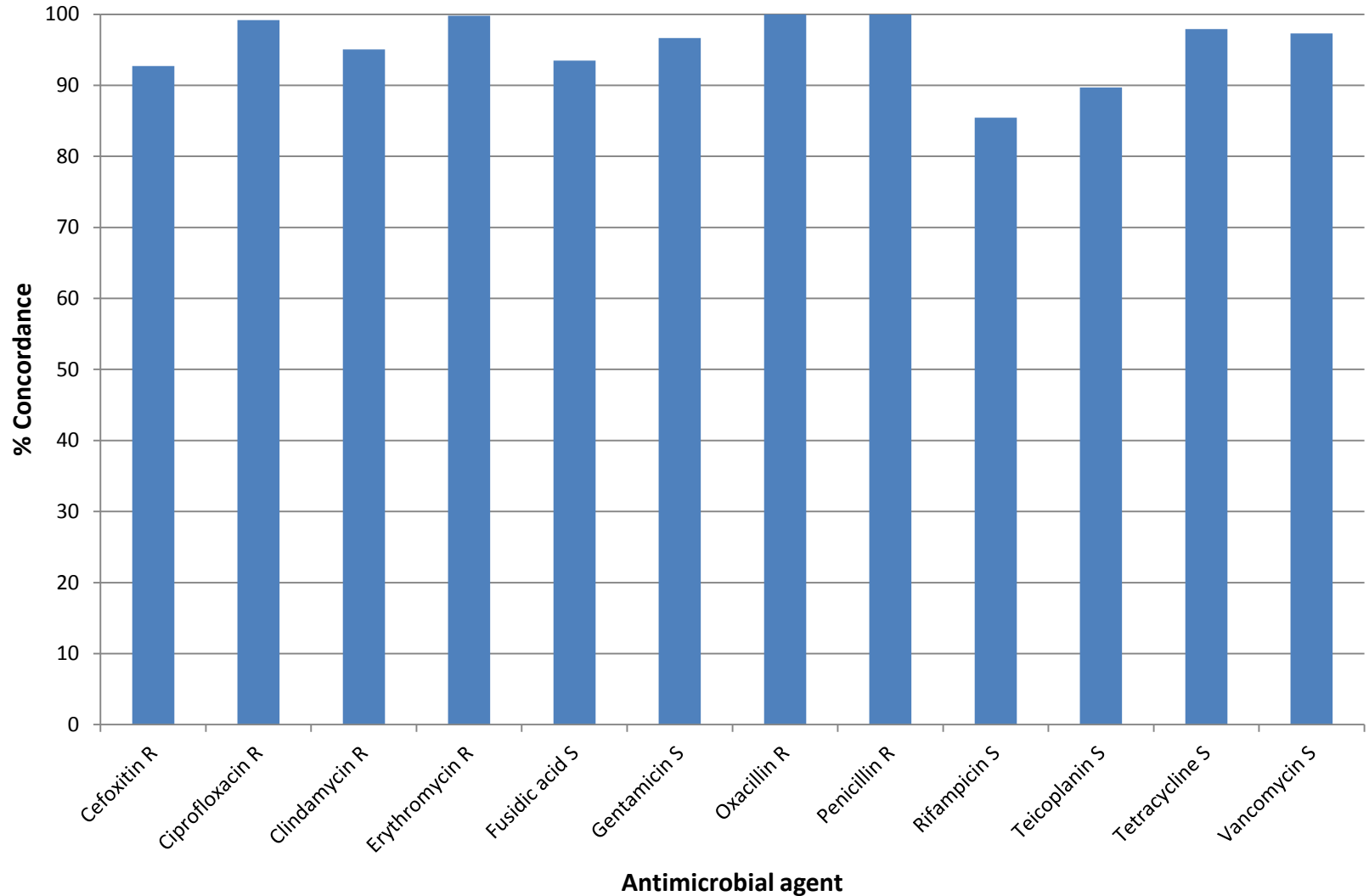


Staphylococcus aureus specimen 1953

MRSA

Antimicrobial agent	Reference MIC (mg/L)	EUCAST	CLSI
Cefoxitin	≥128	R	R
Ciprofloxacin	≥128	R	R
Clindamycin	≥128	R	R
Erythromycin	≥128	R	R
Fusidic acid	0.12 – 0.25	S	-
Gentamicin	0.25 – 0.5	S	S
Methicillin	Inferred from Cefox/Oxa	R	R
Oxacillin	≥128	R	R
Penicillin	≥128	R	R
Rifampicin	≤0.004 - 0.008	S	S
Teicoplanin	0.5 - 1	S	S
Tetracycline	0.25 – 0.5	S	S
Vancomycin	0.5 - 1	S	S

Staphylococcus aureus specimen 1953



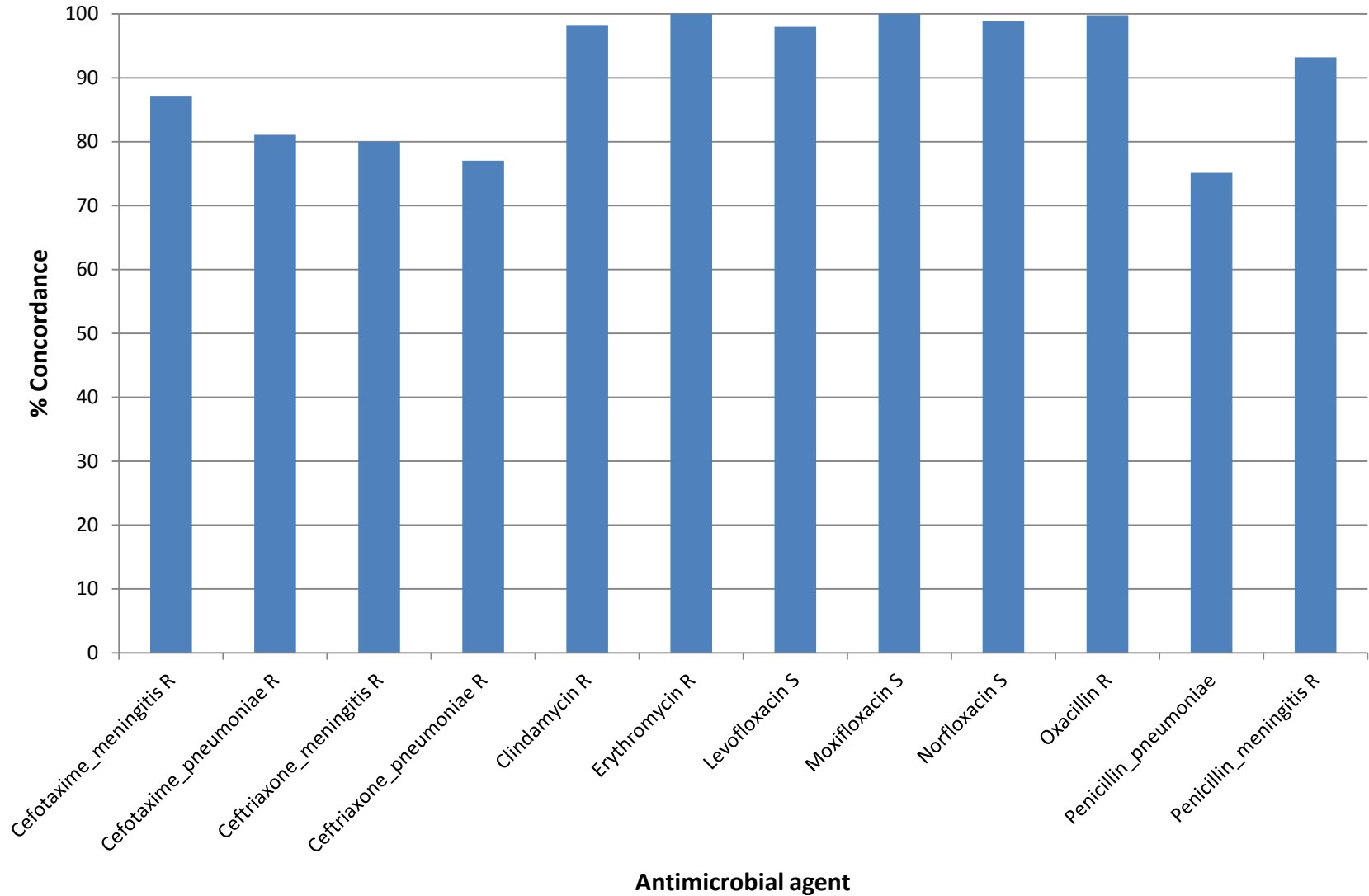
Streptococcus pneumoniae specimen 1954

Antimicrobial agent	Reference MIC (mg/L)	EUCAST	CLSI
Cefotaxime meningitis pneumonia	8 - 16	R R	R R
Ceftriaxone meningitis pneumonia	8	R R	R R
Clindamycin	-	-	-
Erythromycin	≥128	R	R
Levofloxacin	1	S	S
Moxifloxacin	0.06 – 0.12	S	S

Streptococcus pneumoniae specimen 1954

Antimicrobial agent	Reference MIC (mg/L)	EUCAST	CLSI
Norfloxacin	-	-	-
Oxacillin screen	-	R	R
Penicillin: meningitis pneumonia	4 - 8	R R	R I/R

Streptococcus pneumoniae specimen 1954



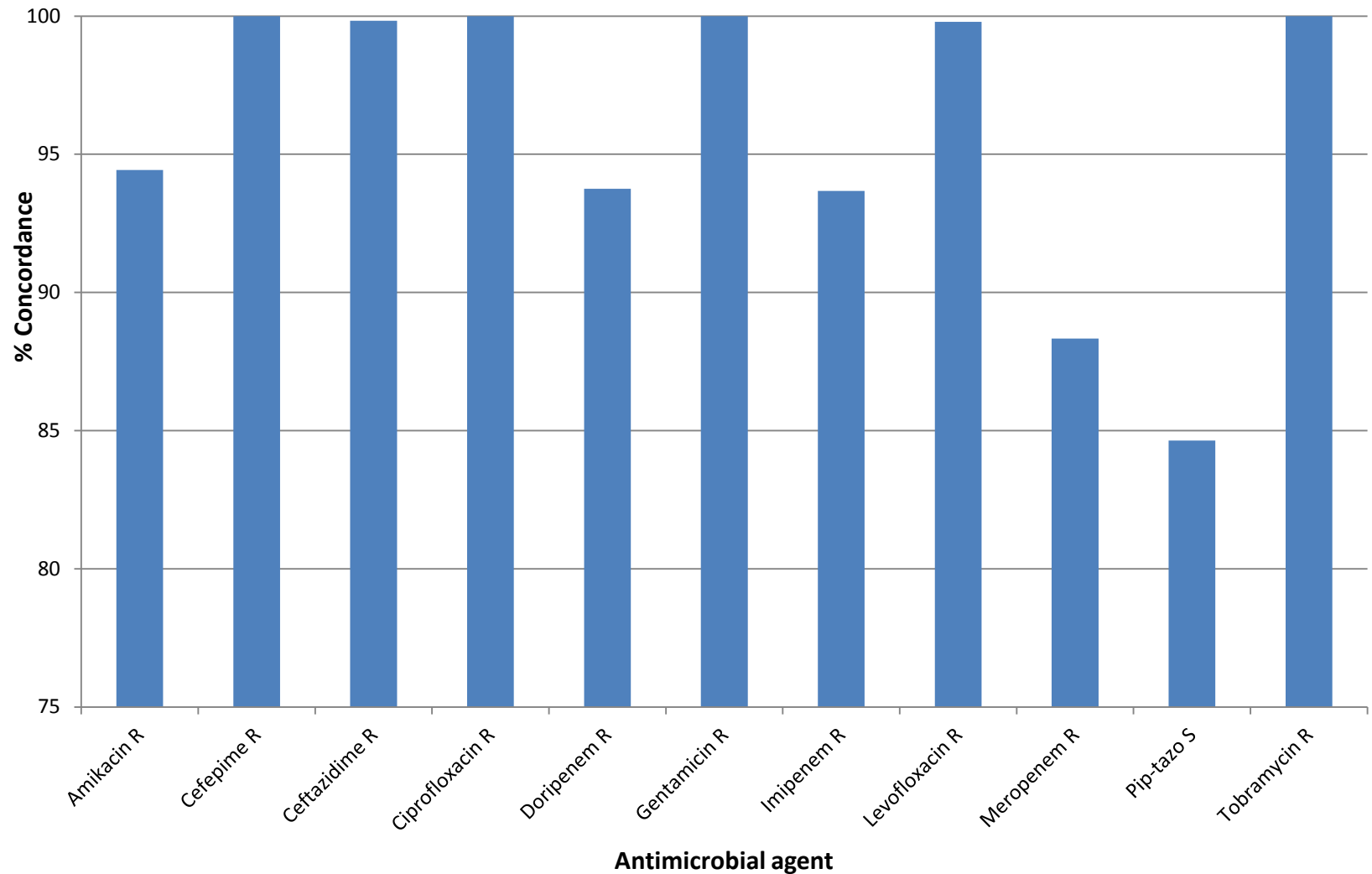
Pseudomonas aeruginosa specimen 1955

(carbapenem resistance: {typ} up-regulated flux and *oprD* loss)

Antimicrobial agent	Reference MIC (mg/L)	EUCAST	CLSI
Amikacin	64 - ≥ 128	R	R
Cefepime	-	-	-
Ceftazidime	≥ 128	R	R
Ciprofloxacin	32		
Doripenem	≥ 16		
Gentamicin	≥ 128	R	R
Imipenem	16	R	R
Levofloxacin	-	-	-
Meropenem	16 - 32	R	R
Piperacillin-tazobactam	16	S	S
Tobramycin	≥ 128	R	R

Pseudomonas aeruginosa specimen 1955

(carbapenem resistance: {typ} up-regulated flux and *oprD* loss)



Conclusions 2013

- Performance good for most organism-agent combinations
- Discrepancies more common when:
 - Susceptibility borderline
 - Critical differences between guidelines
 - Failure to follow guidelines

**Many thanks to all laboratories
and national co-ordinators**

UK

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