

Resistance in *P. aeruginosa*: Belgium 2005

J. Van Eldere

KULeuven & University Hospital
Gasthuisberg

2005 surveillance study

- 40 hospitals in Belgium and Luxemburg
- Clinically significant non-duplicated isolates from samples taken > 48 hrs after admission
 - Collection period: 2005
 - Blood, deep respiratory isolates, sterile body fluids, urine
 - Maximum of 40 isolates/ hospital
- 1250 isolates of which 90% analysed

Belgian Psae surveillance 2005

CLSI / EUCAST breakpoints

	% S	% I	% R
mero	87,9	4,5	7,6
piptazo	90,9	0	9,1
cefta	83,8	4,3	11,8
cefep	79,7	10,7	9,6
aztreo	65,0	20,6	14,3
genta	77,4	0	22,6
tobra	83,9/83,9	0	16,1/16,1
amika	90,1 / 81,7	0 / 8,4	9,9 / 9,9
cipro	76,5 / 72,6	2,5 / 3,9	21,0 / 23,5
levo	72,2 / 61,0	5,0 / 11,2	22,7 / 27,8



National surveillance (Mystic) CLSI breakpoints

year	AB	N=	% S	% I	% R
2004	Mero	242	79.34	4.55	16.12
2004	Pip-taz	242	78.39	0	21.07
2004	Cefta	242	76.45	5.37	18.18
2004	Cefe	241	61.83	12.03	26.14
2003	Genta	78	30.77	11.54	57.69
2004	Amika	242	70.25	11.16	18.6
2004	Cipro	242	70.25	9.09	20.66

Belgian Psae surveillance 2005

	MIC ₅₀	MIC ₉₀
mero	1	8
piptazo	8	64
cefta	2	32
cefep	4	16
aztreo	8	32
genta	2	64
tobra	1	128
amika	4	16
cipro	0.25	32
levo	1	32

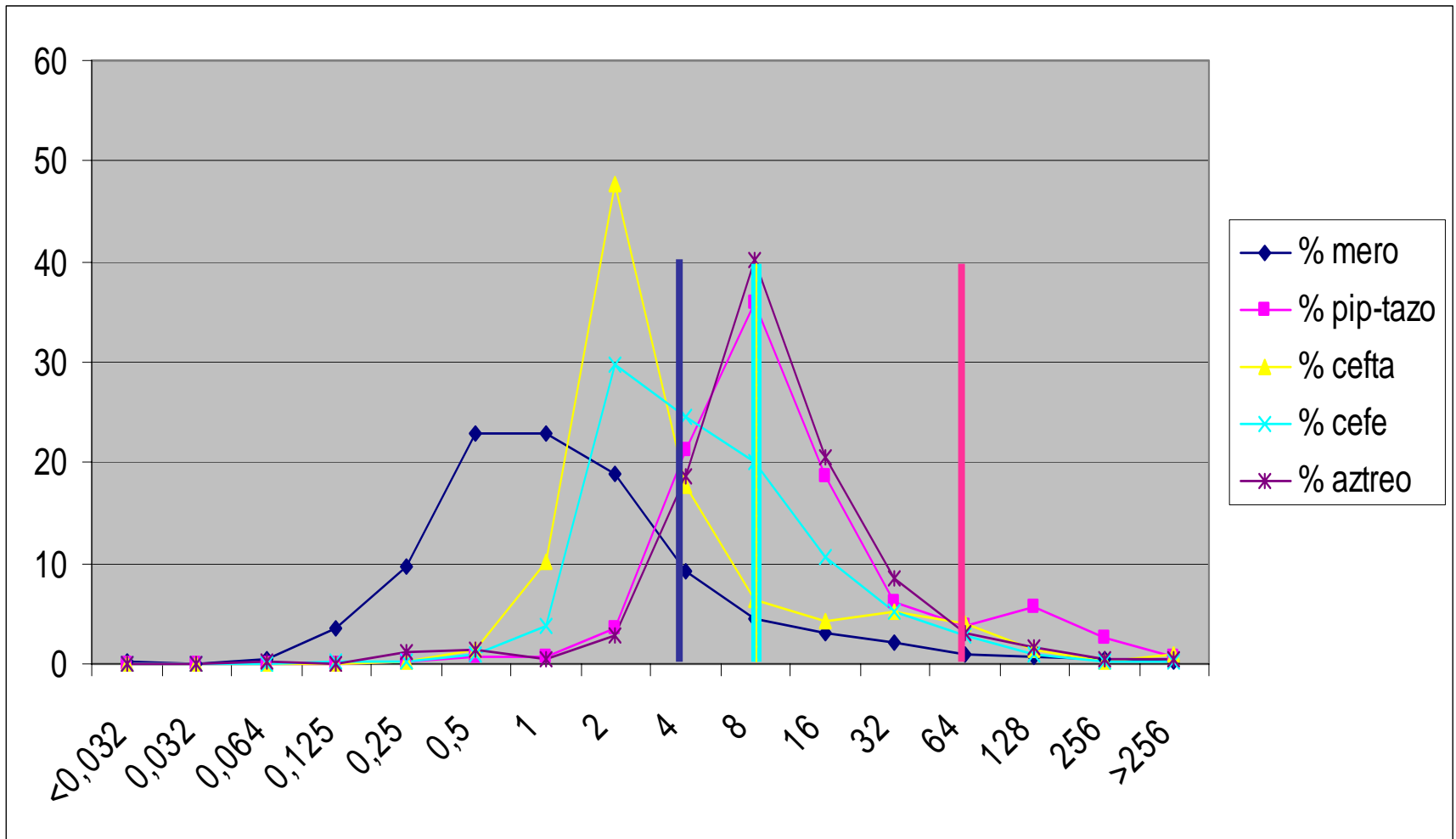


National surveillance (Mystic)

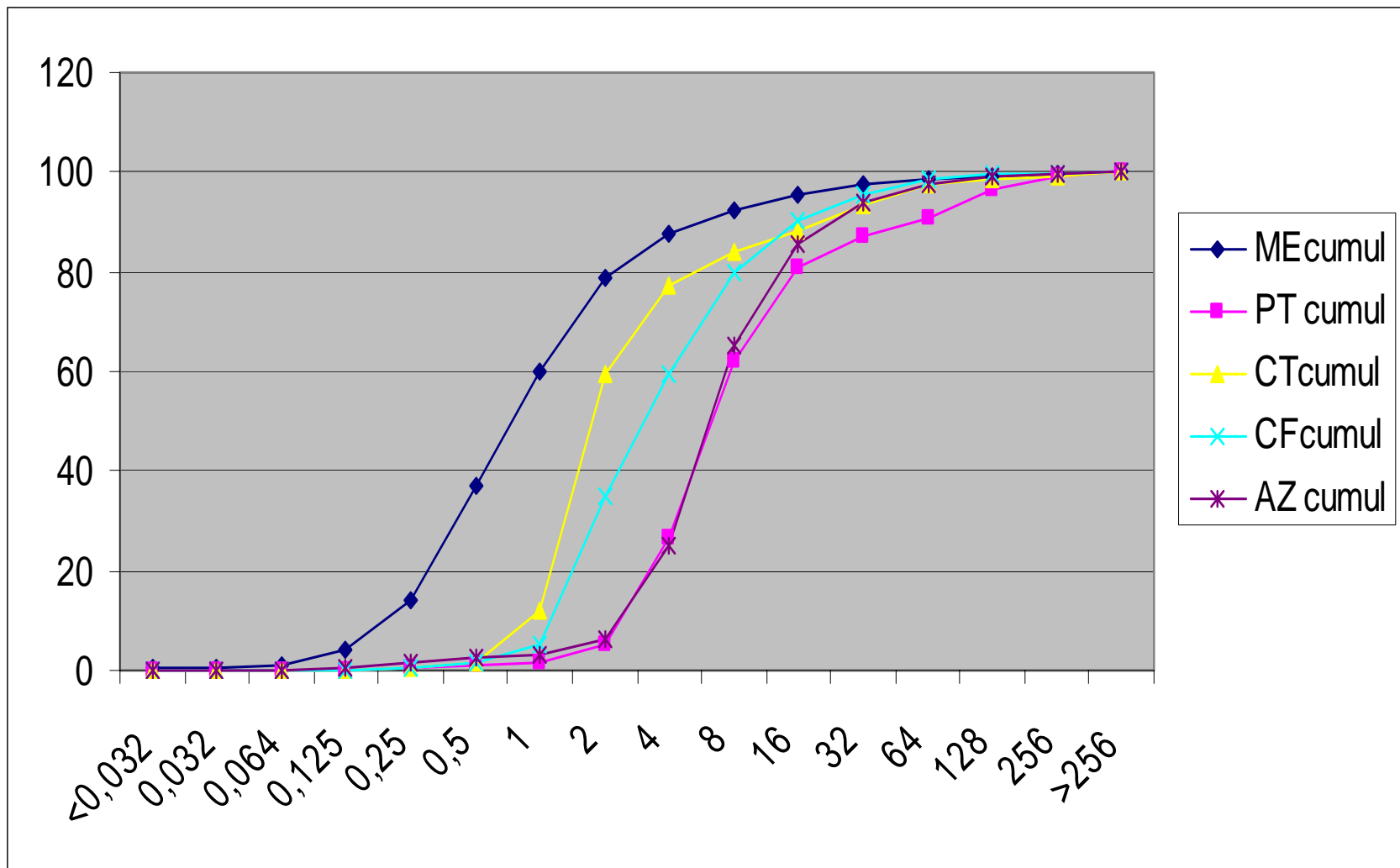
year	AB	N=	Sus.%	Int. %	Res. %	Sus ≤	Res ≥
2003	Genta	78	30.77	11.54	57.69	4	16
2004	Amika	242	70.25	11.16	18.6	16	64
2004	Cipro	242	70.25	9.09	20.66	1	4
2004	Mero	242	79.34	4.55	16.12	4	16
2004	Cefe	241	61.83	12.03	26.14	8	32
2004	Cefta	242	76.45	5.37	18.18	8	32
2004	Pip- taz	242	78.39	0	21.07	64	128

Belgian Psae surveillance 2005

MIC distribution β -lactams

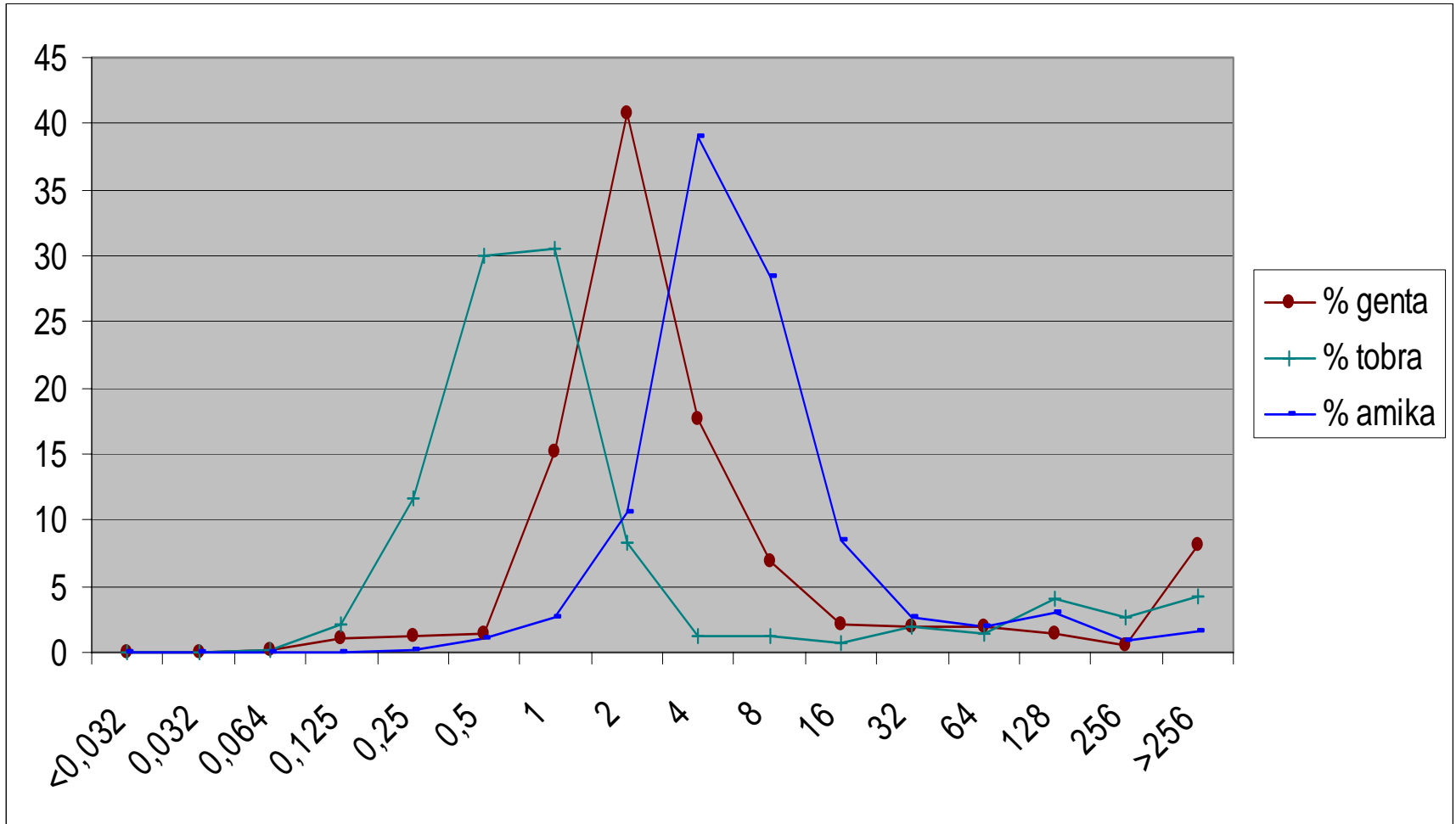


Belgian Psae surveillance 2005 cumulative MIC distribution β -lactams



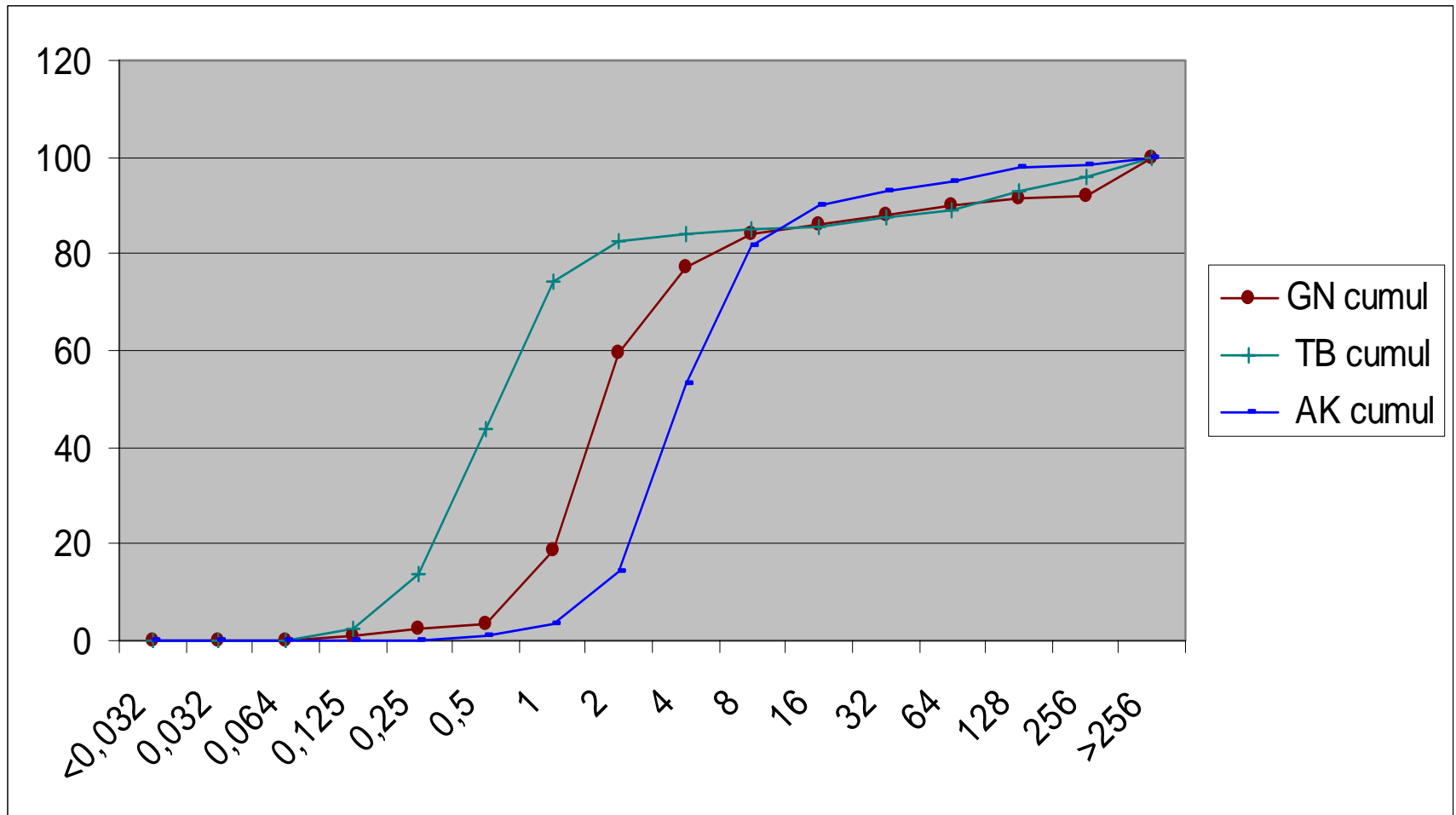
Belgian Psae surveillance 2005

MIC distribution aminoglycosides



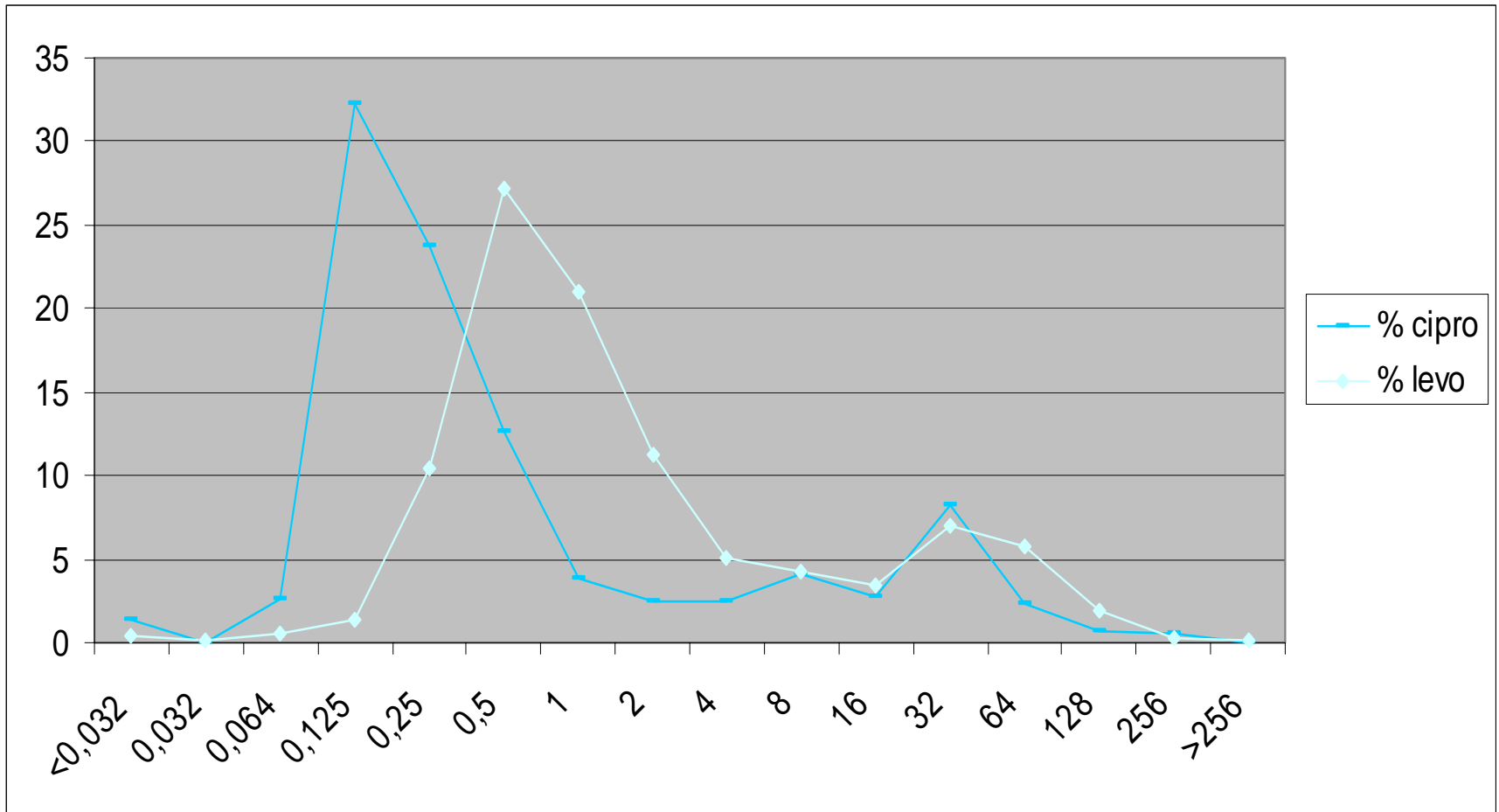
Belgian Psae surveillance 2005

cumulative MIC distribution aminoglycosides

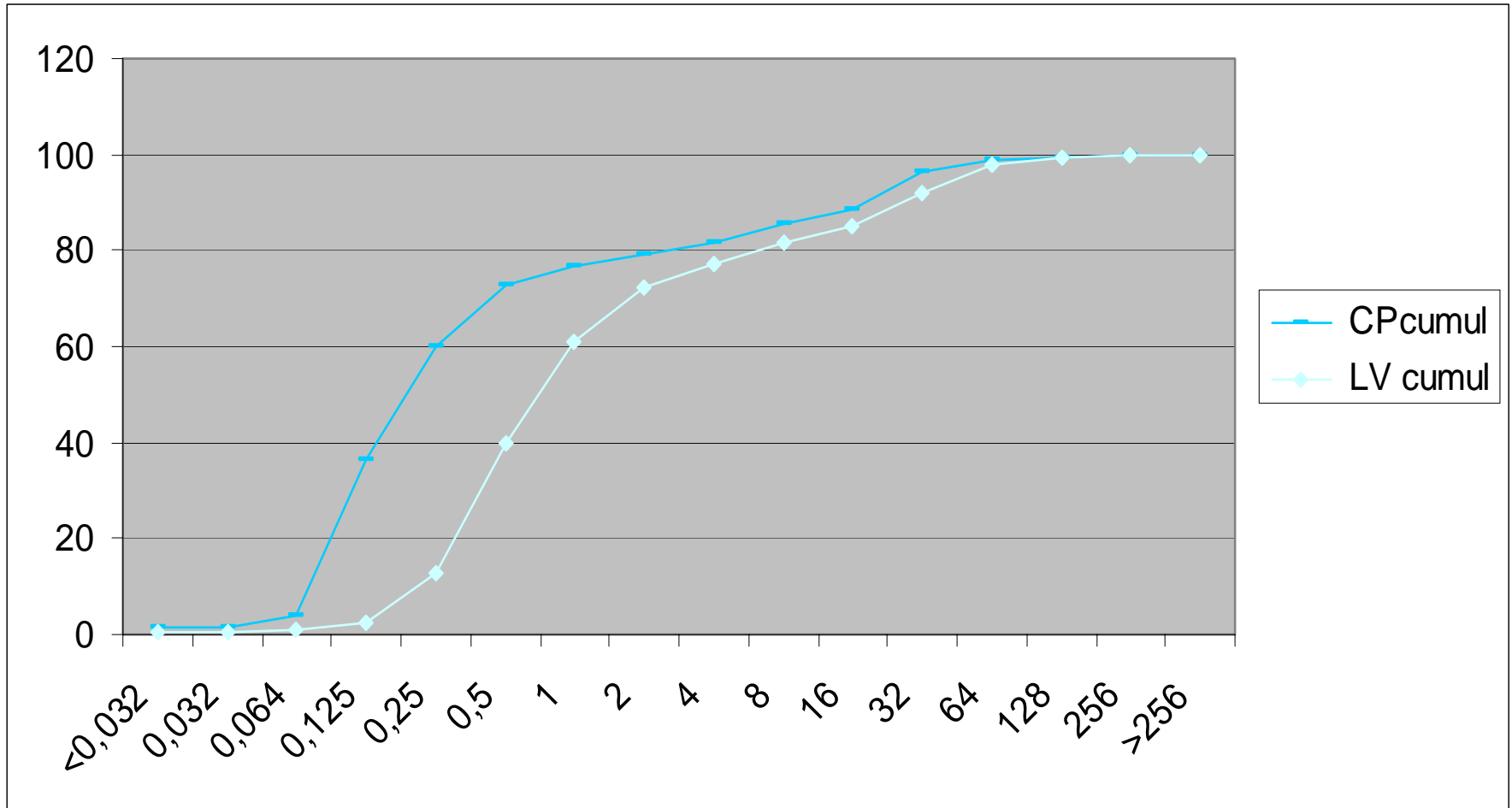


Belgian Psae surveillance 2005

MIC distribution FQ's



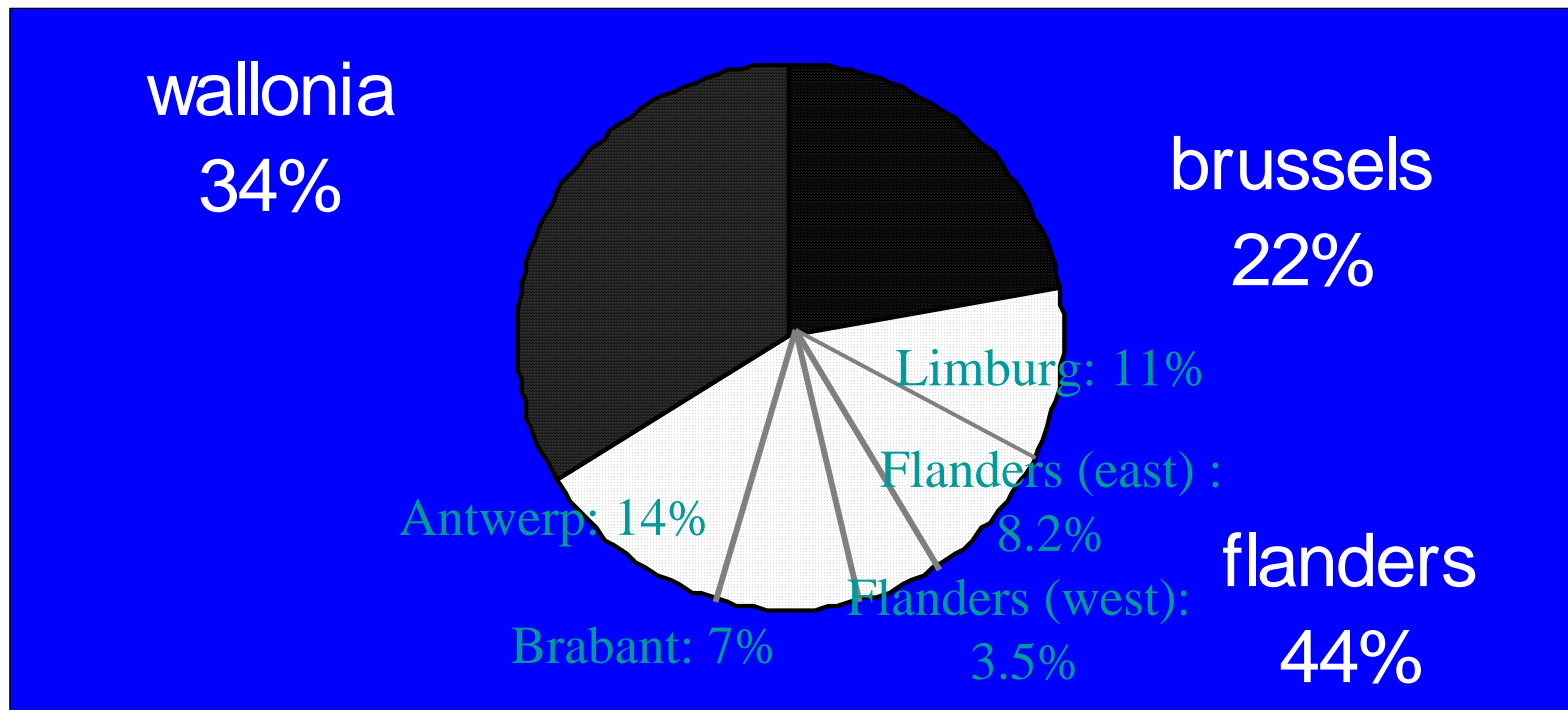
Belgian Psae surveillance 2005 cumulative MIC distribution FQ's



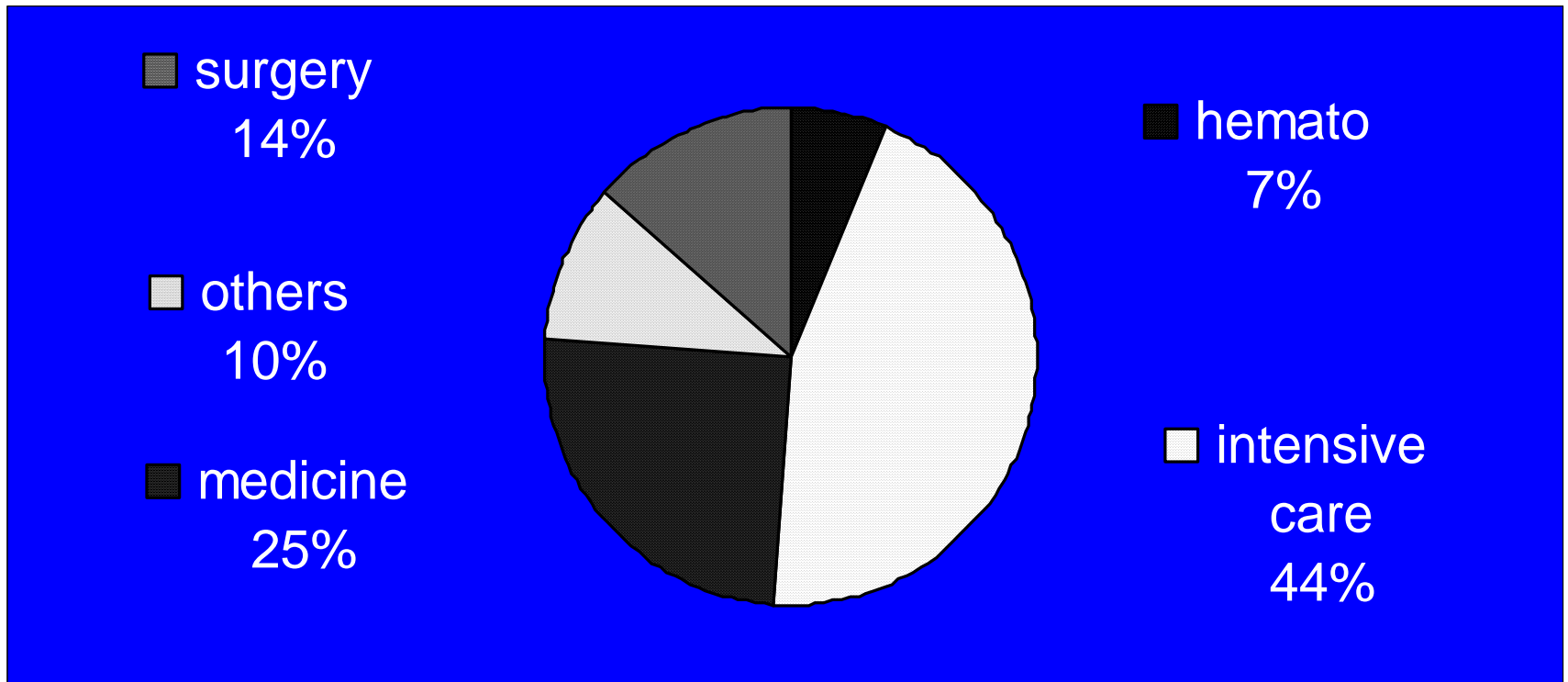
1999 surveillance study

- 35 hospitals in Belgium and Luxemburg
- Clinically significant non-duplicated isolates from samples taken > 48 hrs after admission
 - Collection period: 1999
 - Blood, deep respiratory isolates, sterile body fluids, urine
 - Maximum of 40 isolates/ hospital
- 715 isolates

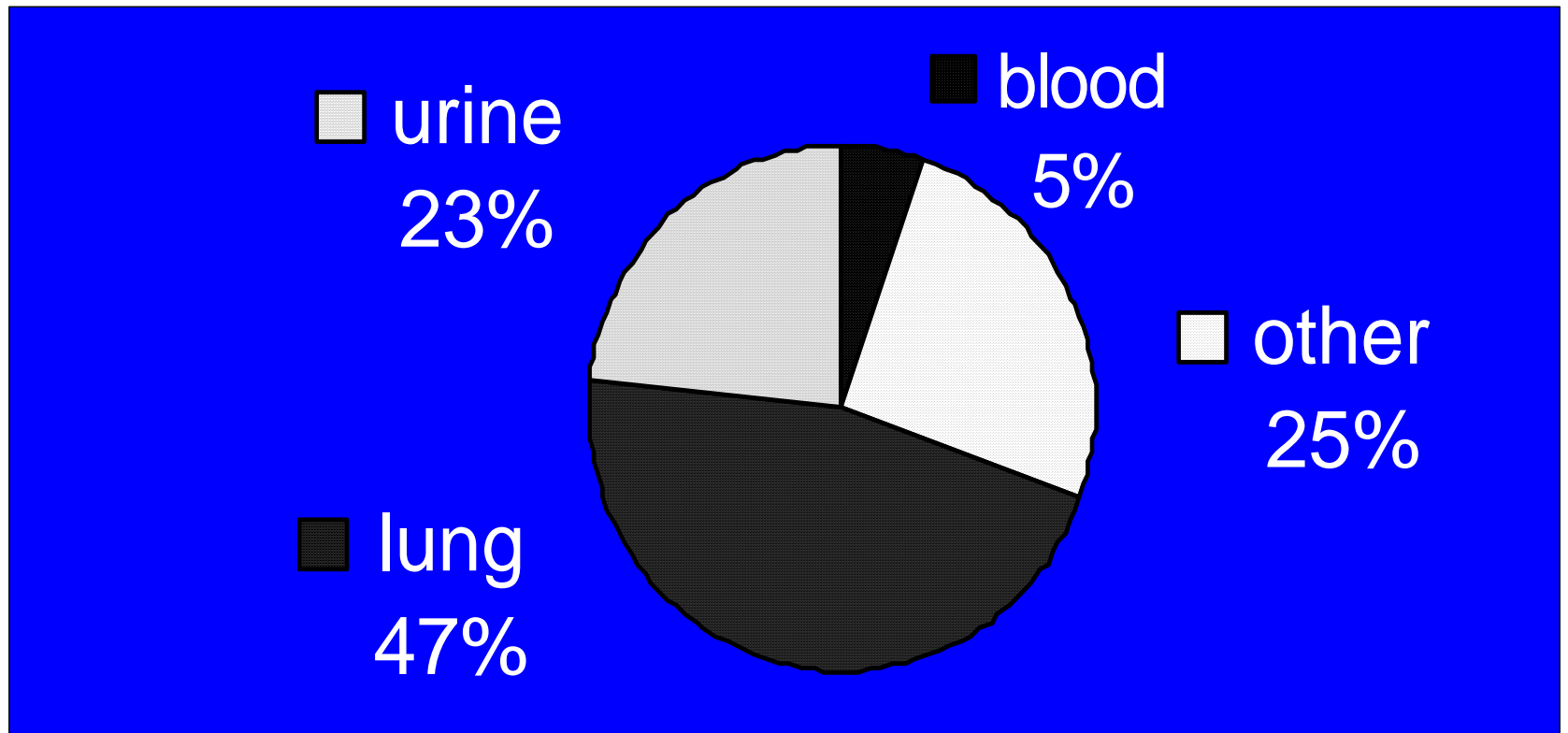
Regional origin of samples



Origin of patients

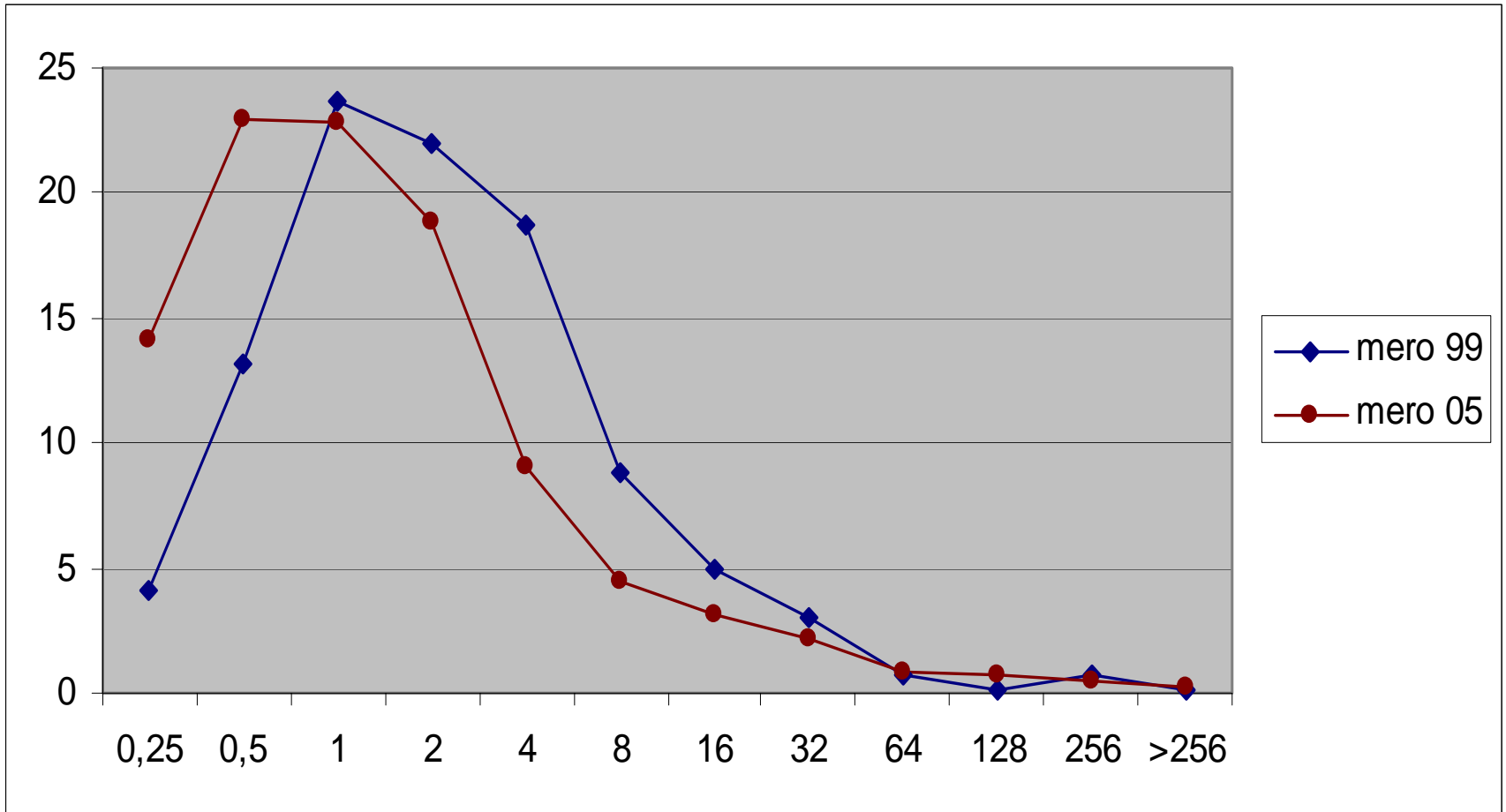


Origin of samples



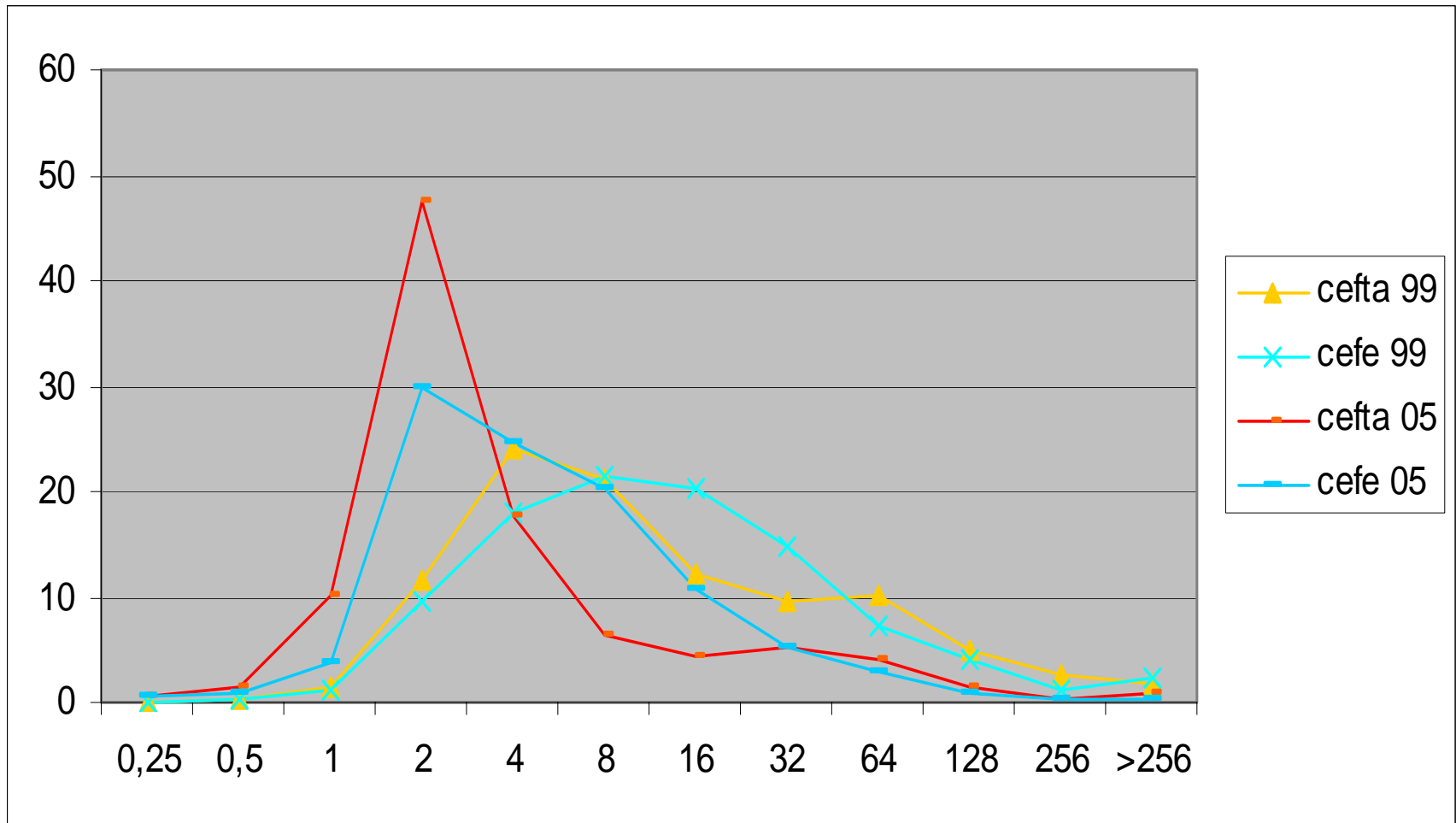
Belgian Psae surveillance : '99-'05

MIC distribution β -lactams



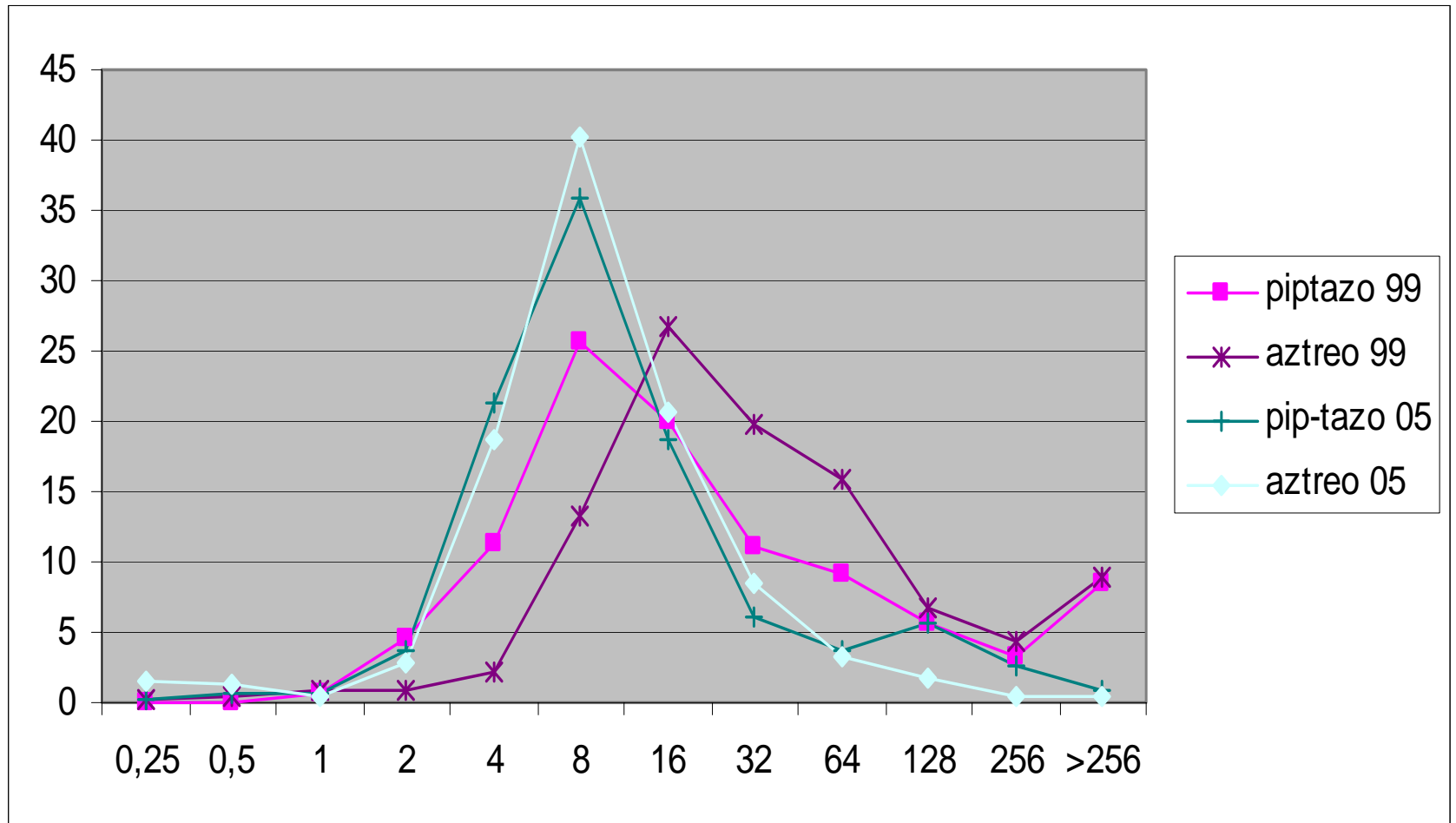
Belgian Psae surveillance : '99-'05

MIC distribution β -lactams



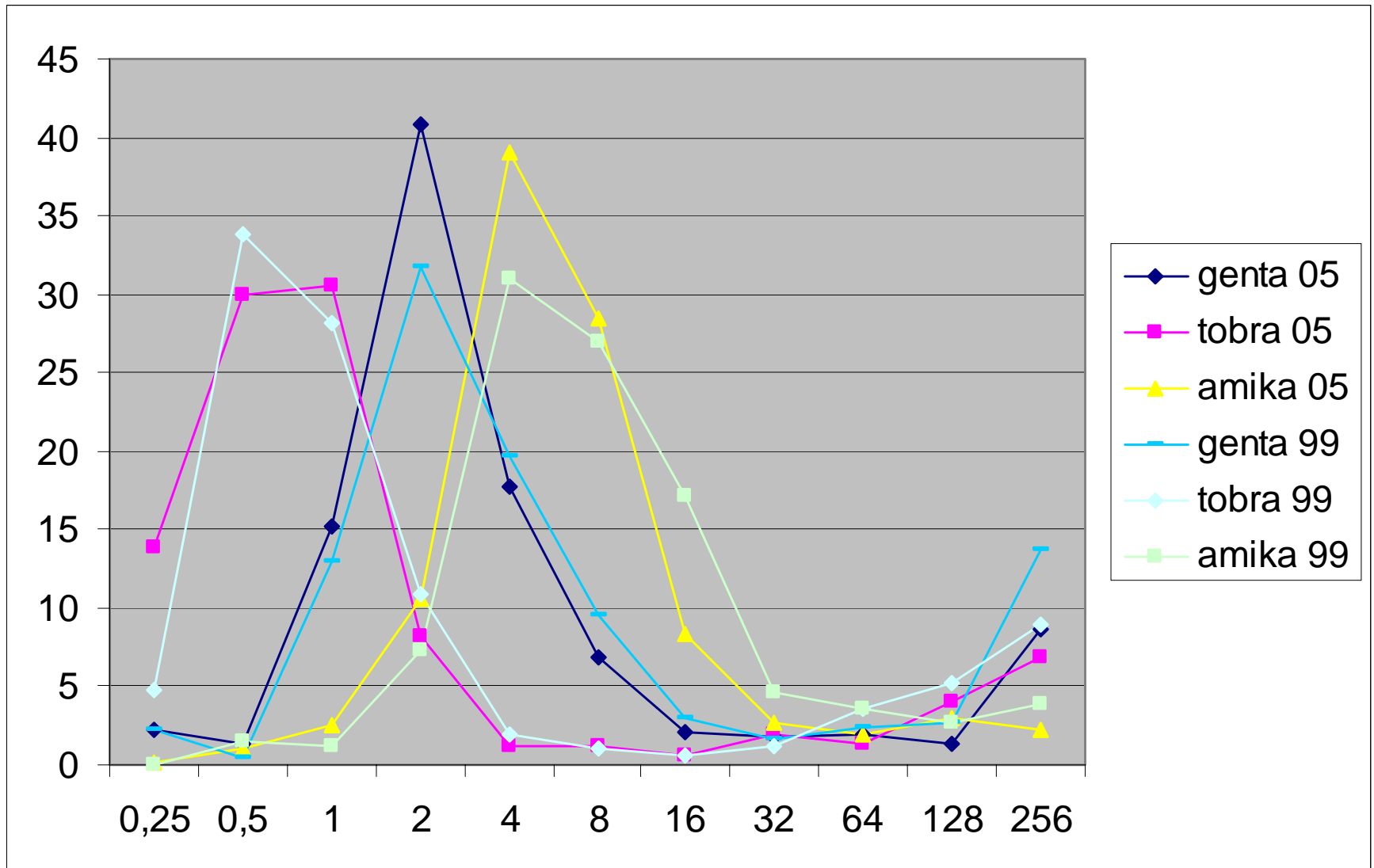
Belgian Psae surveillance : '99-'05

MIC distribution β -lactams



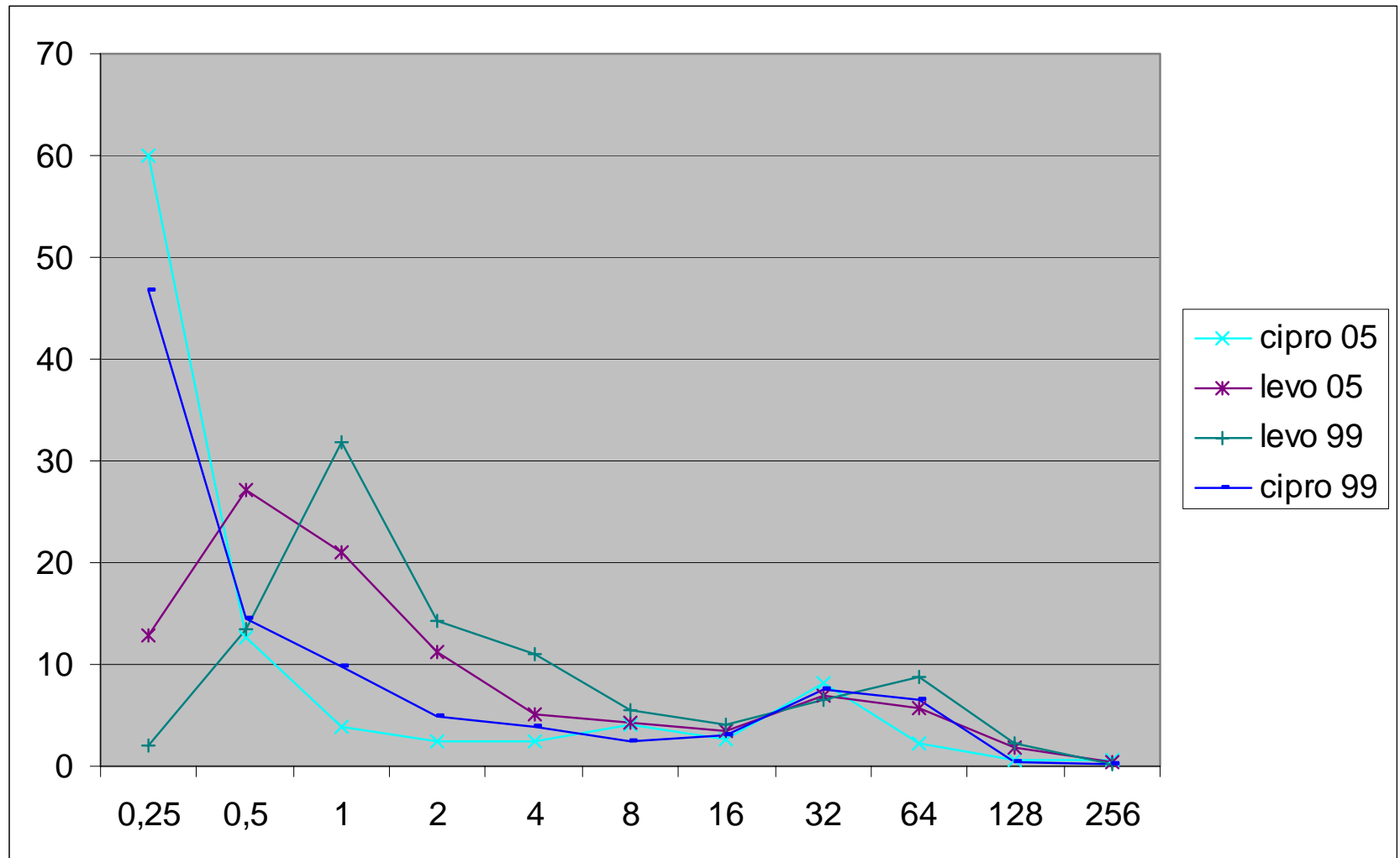
Belgian Psae surveillance : '99-'05

MIC distribution aminoglycosides



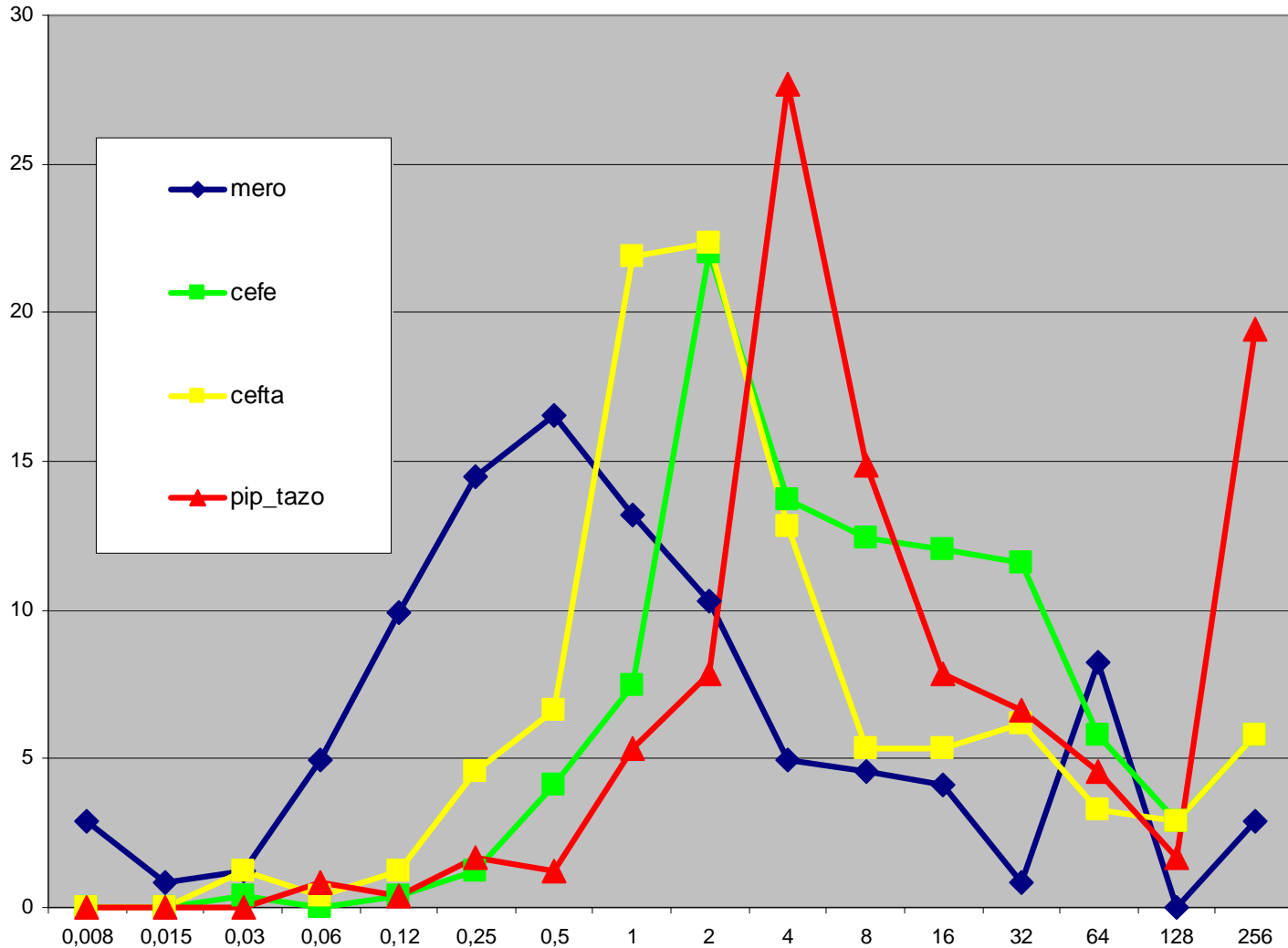
Belgian Psae surveillance : '99-'05

MIC distribution FQ's





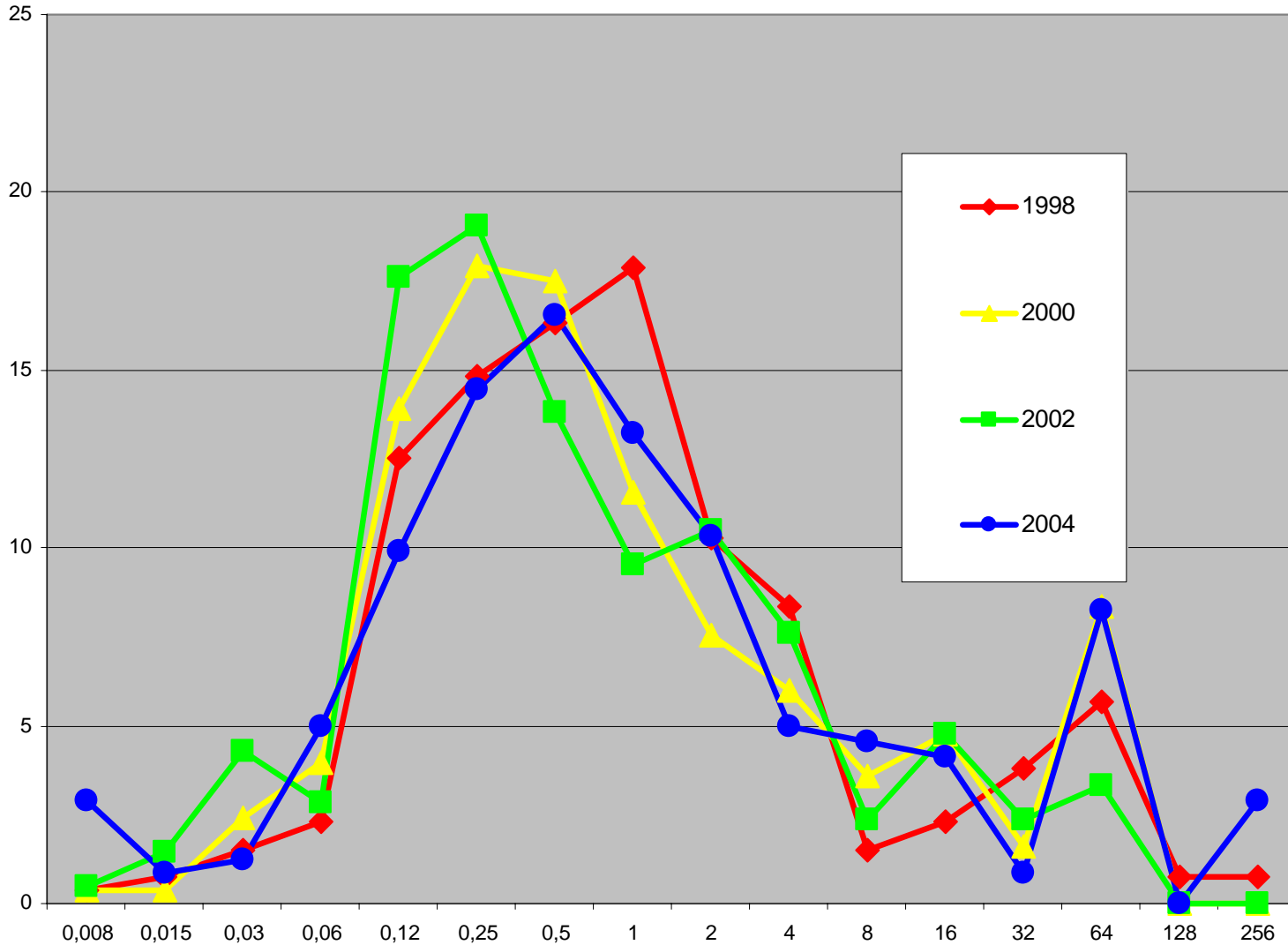
Mystic surveillance: various β -lactams



Mystic



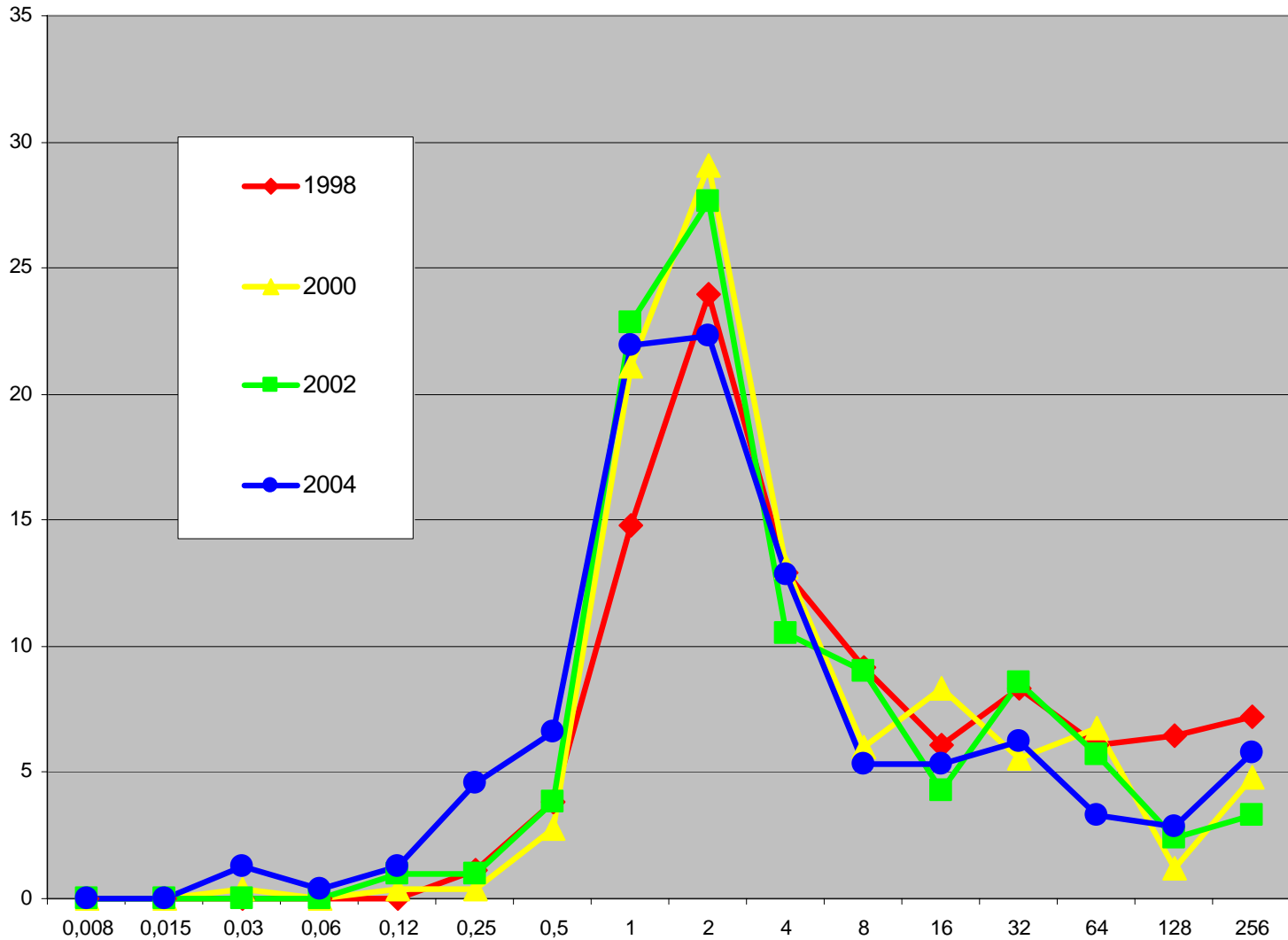
Mystic surveillance: mero



Mystic



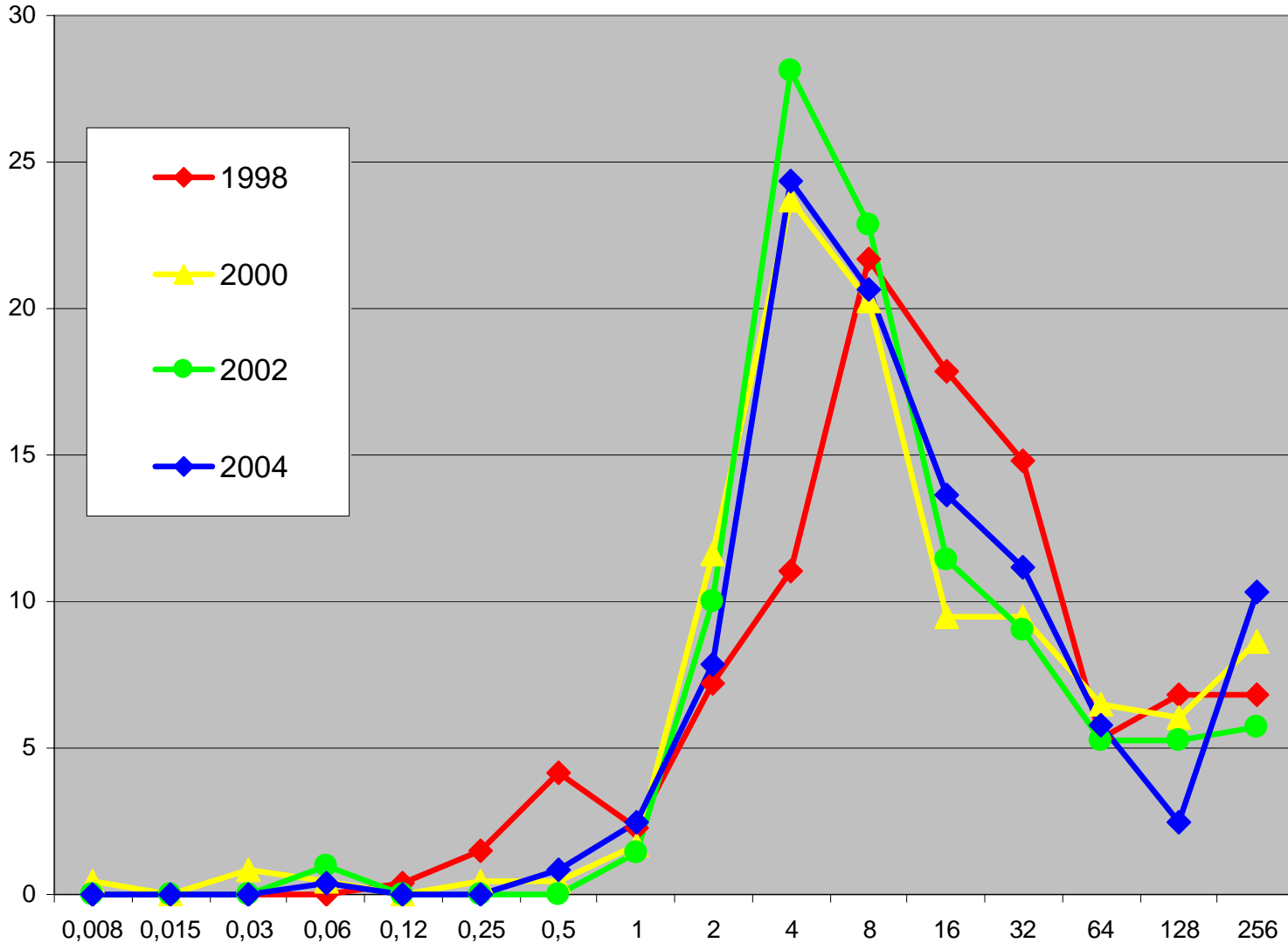
Mystic surveillance: cefta



Mystic



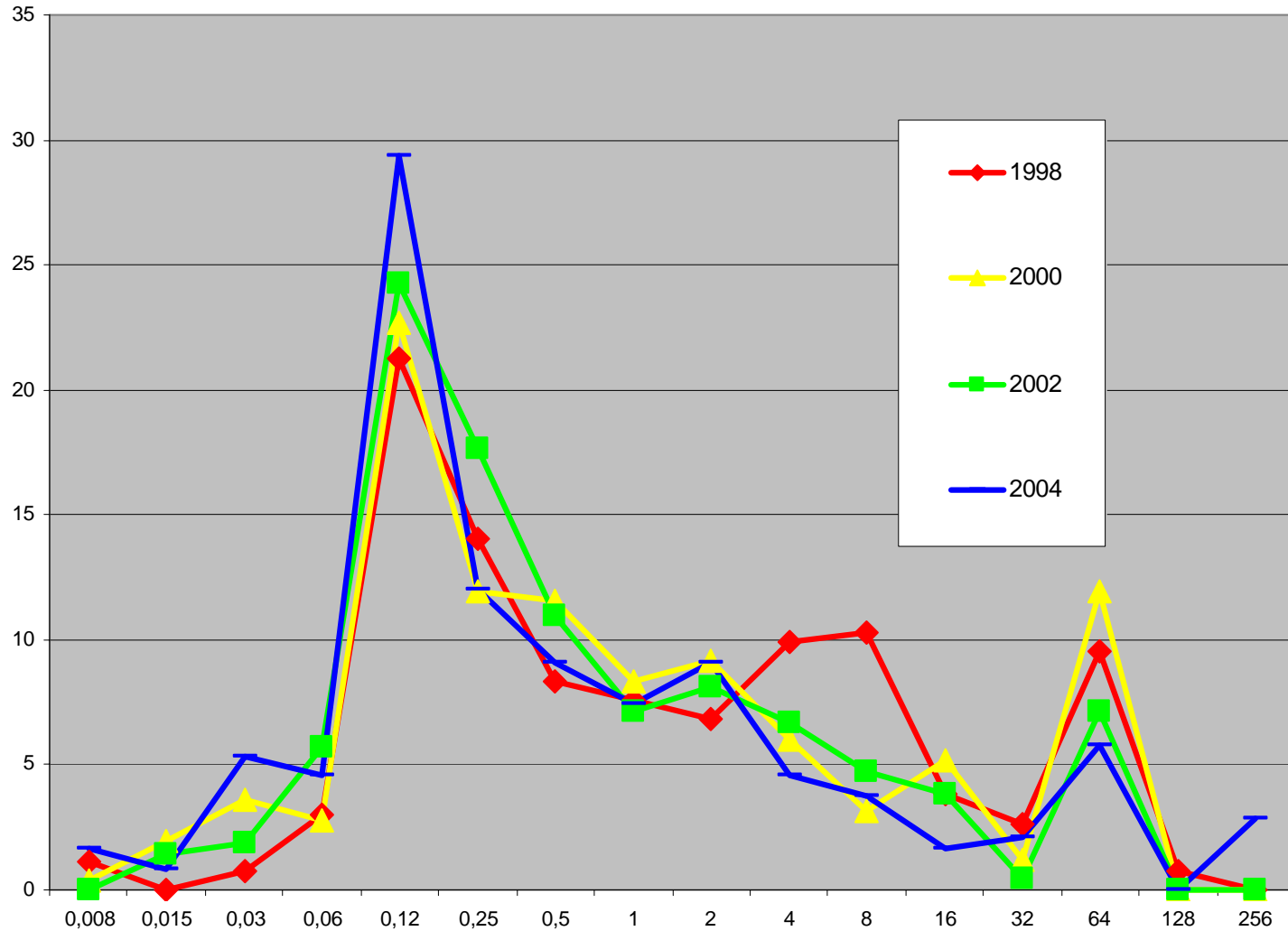
Mystic surveillance: amika



Mystic



Mystic surveillance: cipro



Mystic

conclusion

- decreased resistance to β -lactams & FQ's; stabilisation resistance to aminoglycosides
 - consistent with other surveillance studies
- Large differences between hospitals
- Sub-analyses still to be done:
 - According to region, patient origin, sample origin
 - Link to antibiotic usage
 - Monte-carlo simulation target attainment empirical treatment
 - Genotyping

