

**HUSRES Annual Report 2005**  
**Martti Vaara**



**[www.huslab.fi](http://www.huslab.fi)**

**[www.intra.hus.fi](http://www.intra.hus.fi)**

The basis of this HUSRES 2005 report is the HUSLAB/Whonet database 2005, which contains susceptibility data on about 131.000 bacteria isolated and studied in 2005 by HUSLAB.

The isolates originate from patients in Helsinki University Hospital, other hospitals in Helsinki - Uusimaa region as well as outpatient health centers.

HUSRES 2005 report contains data on thirty clinically most important bacterial species/groups.

Previous annual reports from 2001 are also located at [www.huslab.fi](http://www.huslab.fi)

# Staph. aureus 2005 (%R+I)

**Pus and blood isolates at six hospitals (M,T,L,K,N,Ma,Sä) in Helsinki University Central Hospital, from out-patients and from other sources. The material does not include MRSA-strains isolated from MRSA screening cultures. One isolate per patient (the most resistant)**

Material	n	Oxa	Ery	Cli	Lev	Rif	Fus	Tob	Net	Gen	SxT
HUCH (7 hosp)	2135	12	16	14	12	2	5	11	0	7	2
Blood isolates	236	3	11	7	2	1	4	3	0	4	0
Outpatients	2073	5	9	7	6						
All sources	6672	7	11	8	7						

**Linezolid (%R+I, total n= 297): 0**

# Multiresistance phenotypes in MRSA strains 2005, resistance profiles displayed by $\geq 5$ isolates

HUSLAB material from Helsinki and Uusimaa districts. One isolate per patient (the first isolate)

									% freq	n of isolates with this pattern
Oxa	Ery	Cli	Lev	Tob					61 %	271
Oxa	Ery	Cli	Lev	Tob	SxT	Rif			1 %	5
Oxa	Ery	Cli	Lev	Tob	SxT		Net		1 %	6
Oxa	Ery	Cli	Lev	Tob		Rif			3 %	14
Oxa									12 %	53
Oxa							Fus		3 %	13
Oxa			Lev						4 %	17
Oxa			Lev	Tob					3 %	14
Oxa	Ery	Cli			SxT				1 %	6

Total number of isolates studied: 441

Resistance (to other than Oxa) defined here as non-susceptibility (= R+I)

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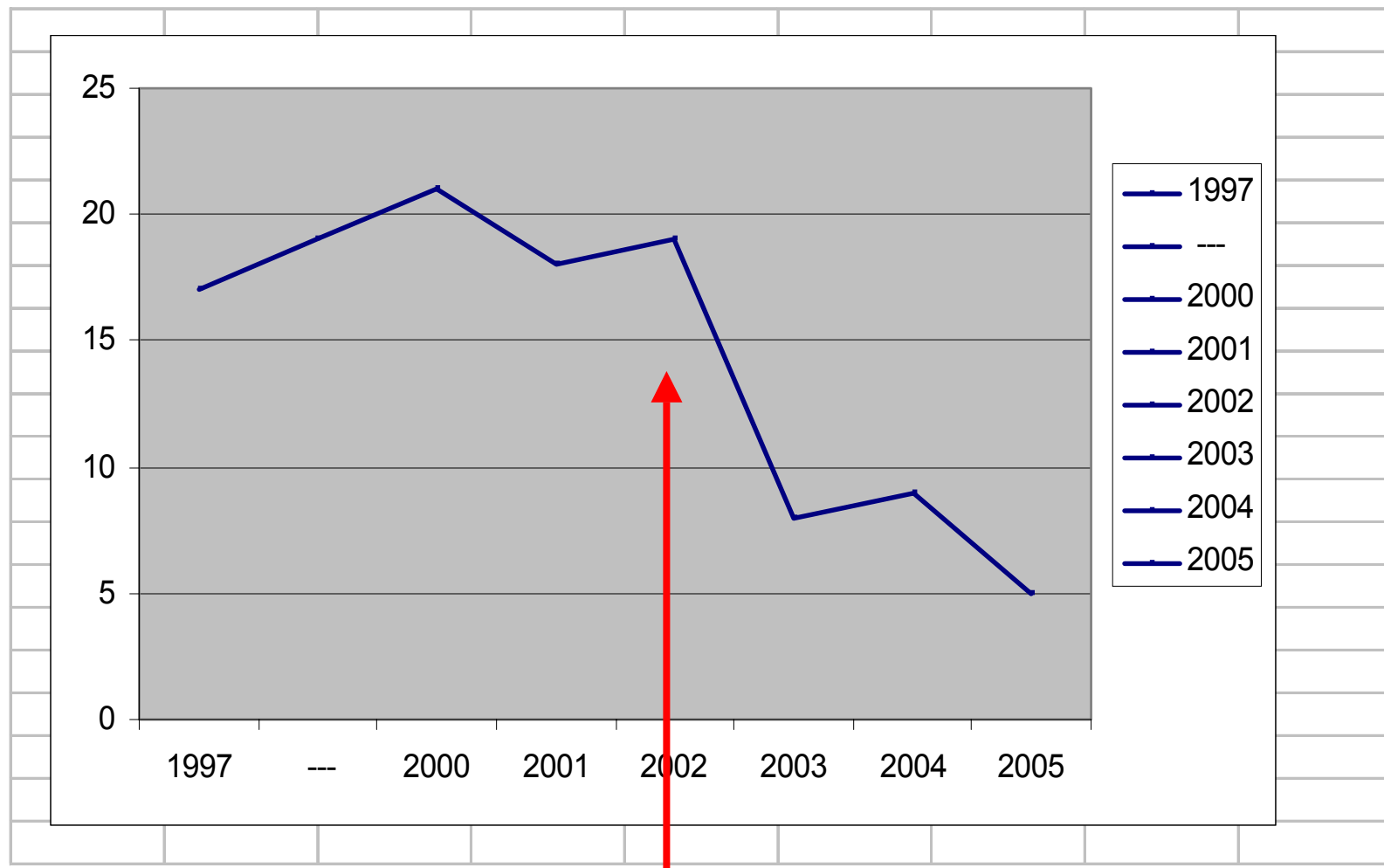
# Staph. epidermidis 2005 (%R+I)

Pus and blood isolates. HUSLAB material from hospitals in Helsinki and Uusimaa districts.  
One isolate per patient (the most resistant)

Material	n	Oxa	Ery	Cli	Lev	Rif	Fus	Tob	Net	Gen	SxT
Meilahti hosp.	803	86	72	65	69	23	58	64	5	50	61
Childrens' hosp	165	86	58	46	30	9	54	60	5	60	53
All sources	3028	76	62	52	51	18	53	52	4	45	52

Linezolid (%R+I, total n= 125): 0

# St. epidermidis, resistance to netilmycin at the Childrens' hospital



Discontinuation of netilmycin use

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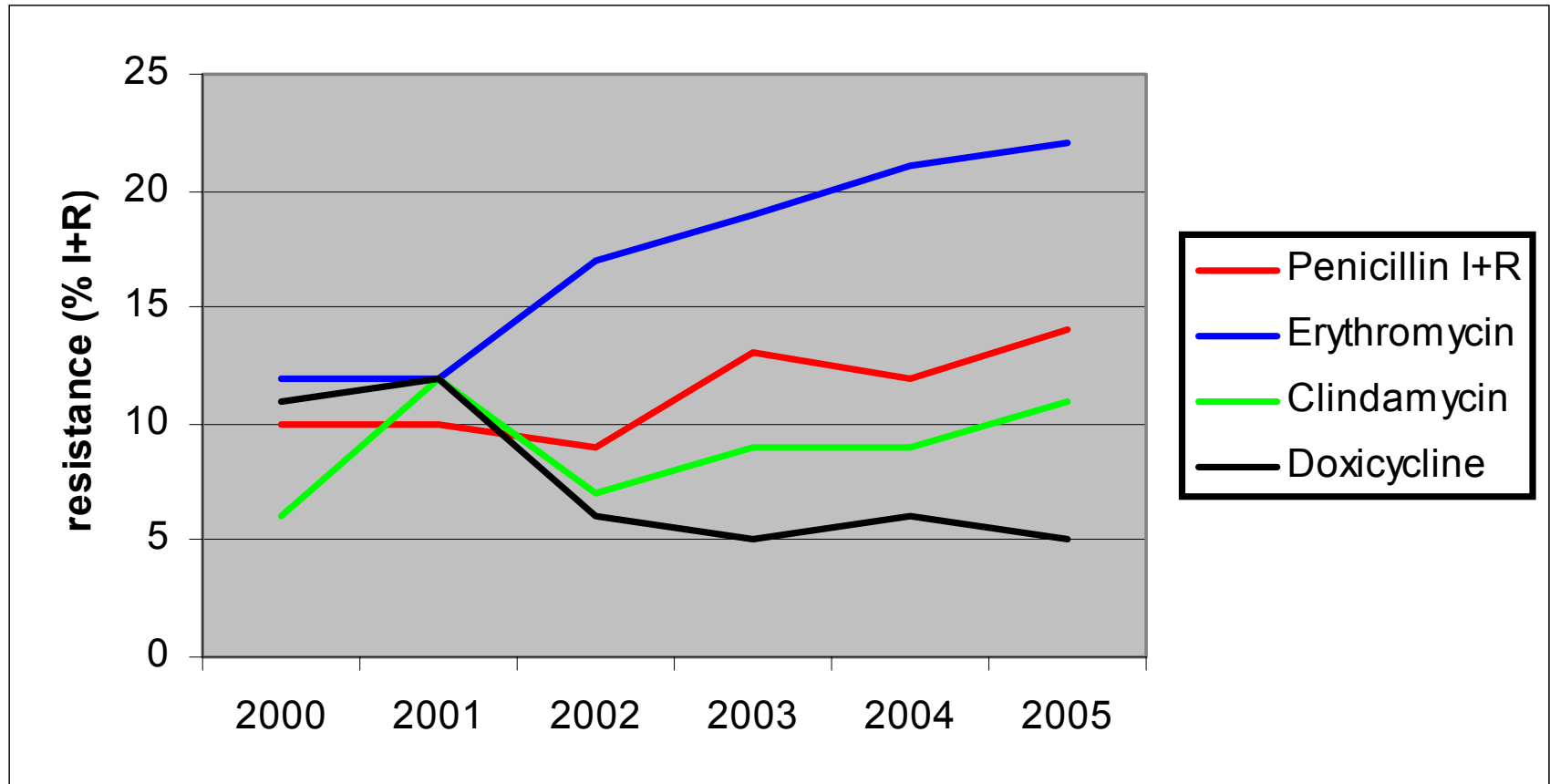
# Streptococcus pneumoniae 2005 (%R+I)

HUSLAB material from Helsinki and Uusimaa districts. One isolate per patient (the first isolate)

	All	Blood	ENT	Age ≤15 y	Age ≥65 y
Penicillin - R	1,2	0,6	2,3	1,6	0
Penicillin - I	12,5	6,1	17	11,7	18
Ceftriaxone - R	0,1	0	0	0,3	0
Ceftriaxone - I	0,3	0	0	0,3	1
Erythromycin	22	18	23	25	22
Clindamycin	11	9	14	12	11
Doxycycline	5		5	4	6
Sulphamet-Trim.	22		29	20	26
Levofloxacin		0			
Moxifloxacin		0			
Telithromycin		0			
<i>n</i>	729	164	172	315	100

# Str. pneumoniae, resistance 2000 - 2005

## HUSLAB material



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# Multiresistance among *Str. pneumoniae* 2005, multiresistance profiles displayed by $\geq 10$ isolates

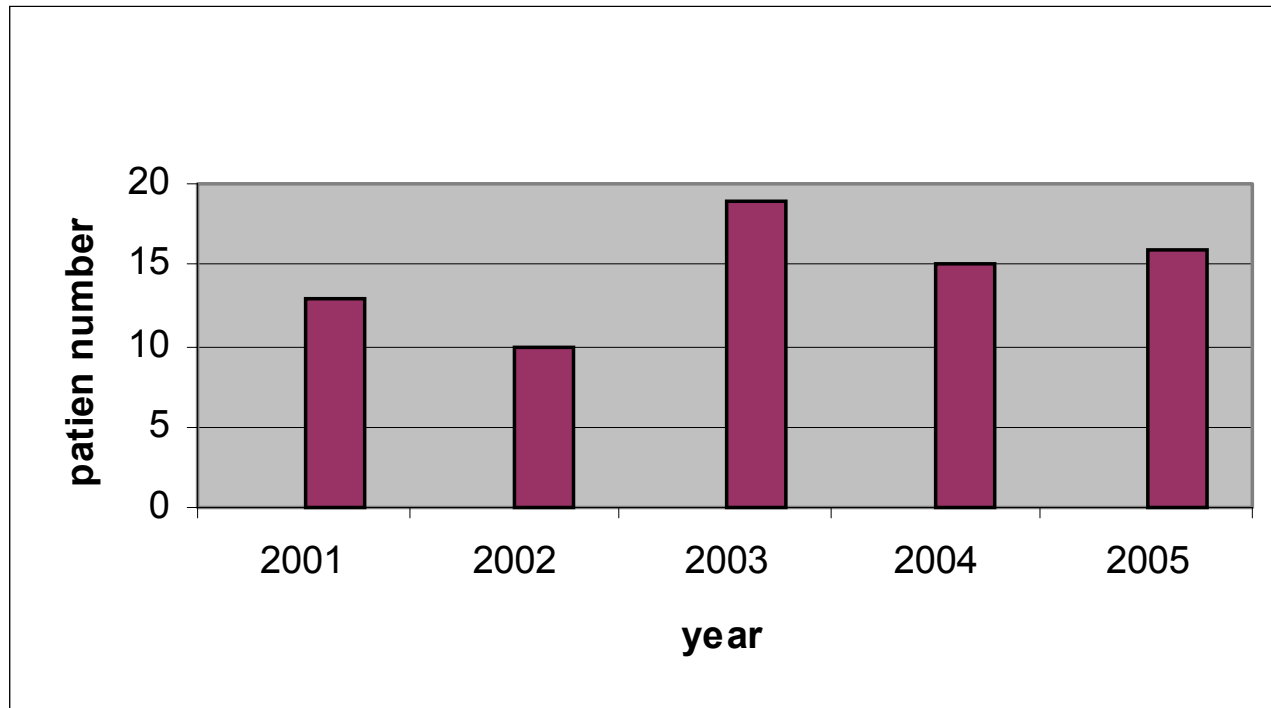
HUSLAB material from Helsinki and Uusimaa districts. One isolate per patient (the first isolate)

					% freq	n of isolates with this pattern
<b>Pen</b>	<b>Ery</b>	<b>Cli</b>	<b>SxT</b>	<b>Dox</b>	<b>2.2 %</b>	<b>16</b>
<b>Pen</b>	<b>Ery</b>	<b>Cli</b>	<b>SxT</b>		<b>3.7 %</b>	<b>27</b>
<b>Pen</b>	<b>Ery</b>		<b>SxT</b>		<b>1.9 %</b>	<b>14</b>

Total number of isolates studied: 729

Multiresistance defined here as non-susceptibility  
(= R+I) to  $\geq$  three antibacterial agents

**Very multiresistant pneumococci  
(PenR/I, Ery, Cli, SxT, Dox)  
HUSLAB material 2001-2005**



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# Beta-hemolytic streptococci 2005 (%R+I)

HUSLAB material from Helsinki and Uusimaa Districts.  
One isolate per patient (the first isolate).

	<b>S. pyogenes</b>	<b>S. agalact.</b>	<b>Group G</b>
<b>Penicillin</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Cephalosp. I gen</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Erythromycin</b>	<b>4</b>	<b>8</b>	<b>11</b>
<b>Clindamycin</b>	<b>2</b>	<b>5</b>	<b>2</b>
<b>n</b>	<b>4003</b>	<b>3388</b>	<b>2316</b>

**Group G: S. dysgalactiae spp. equisimilis group G strains**

# Streptococcus viridans group, blood isolates 2005

HUSLAB material from Helsinki and Uusimaa Districts.  
One isolate per patient (the first isolate).

<b>Penicillin -I</b>	<b>14</b>
<b>Penicillin -R</b>	<b>2</b>
<b>Ceftriaxone -I</b>	<b>1</b>
<b>Ceftriaxone -R</b>	<b>0</b>
<b>Erythromycin I+R</b>	<b>26</b>
<b>Clindamycin</b>	<b>8</b>
<b>Gentamycin -high res.</b>	<b>3</b>
<b>Vancomycin</b>	<b>0</b>

n = 110

# Str. anginosus [milleri] group 2005 (%R+I)

Pus and blood isolates, HUSLAB material from Helsinki and Uusimaa Districts.  
One isolate per patient (the first isolate).

n = 491

<b>Penicillin</b>	<b>1</b>
<b>Cephalospor. I gen.</b>	<b>0</b>
<b>Erythromycin</b>	<b>8</b>
<b>Clindamycin</b>	<b>6</b>
<b>Vancomycin</b>	<b>0</b>

# Enterococci 2005

**%R+I (pus & blood); %R (urine). HUSLAB material from Helsinki and Uusimaa districts. One isolate per patient (the most resistant).**

	<b>E. faecalis</b>			<b>E. faecium</b>		
	<b>pus</b>	<b>blood</b>	<b>urine</b>	<b>pus</b>	<b>blood</b>	<b>urine</b>
<b>Ampicillin</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>79</b>	<b>83</b>	<b>90</b>
<b>Imipenem</b>	<b>0</b>	<b>0</b>		<b>80</b>	<b>88</b>	
<b>Linezolid-I</b>	<b>0,1</b>	<b>4</b>		<b>0</b>	<b>2</b>	
<b>Linezolid-R</b>	<b>0,1</b>	<b>0</b>		<b>0</b>	<b>2</b>	
<b>Vancomycin</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0,2</b>	<b>0</b>	<b>0</b>
<b>Gentam. (hi)</b>		<b>26</b>			<b>4</b>	
<b>Levofloxacin</b>		<b>9</b>			<b>94</b>	
<b>Moxifloxacin</b>		<b>3</b>			<b>85</b>	
<b>Norfloxacin</b>			<b>36</b>			<b>90</b>
<b>Nitrofurantoin</b>			<b>0,5</b>			<b>26</b>
<b>Sulph-trimeth</b>			<b>25</b>			<b>67</b>
<b>n</b>	<b>1730</b>	<b>72</b>	<b>4337</b>	<b>534</b>	<b>46</b>	<b>900</b>

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# **Pseudomonas aeruginosa 2005, the effect of WHONET mode on the resistance figures**

**Pus isolates from Meilahti hospital (part of Helsinki University Central Hospital).**

<b>WHONET analysis mode</b>	<b>n</b>	<b>Ctaz</b>	<b>Mero</b>	<b>Pi-Tz</b>	<b>Tob</b>	<b>Ami</b>	<b>Cip</b>
<b>All isolates</b>	<b>527</b>	<b>10</b>	<b>21</b>	<b>14</b>	<b>20</b>	<b>10</b>	<b>35</b>
<b>One/patient, first isolate</b>	<b>245</b>	<b>5</b>	<b>15</b>	<b>9</b>	<b>15</b>	<b>7</b>	<b>28</b>
<b>One/patient, most resistant</b>	<b>245</b>	<b>8</b>	<b>17</b>	<b>13</b>	<b>16</b>	<b>7</b>	<b>31</b>

# Pseudomonas aeruginosa 2005 (%R+I)

Pus isolates (panel A) and blood isolates (panel B). One isolate per patient (the most resistant isolate). HUSLAB material from selected hospitals in Helsinki and Uusimaa Districts.

Pus isolates from	n	Ctaz	Mero	Pi-Tz	Tob	Ami	Cip
Meilahti	245	8	17	13	16	7	31
Töölö	171	5	19	11	9	4	46
Helsinki City hospitals	202	5	9	10	18	9	41
Maria	35	3	9	14	26	11	32
Childrens´	35	3	0	3	0	0	9
Uusimaa regional hospitals	289	4	9	6	6	4	25
Outpat. in Health Cntrs	436	2	4	5	6	2	15

Blood isolates from	n	Ctaz	Mero	Pi-Tz	Tob	Ami	Cip
Meilahti	29	7	31	3	31	31	41
Other sources	44	2	0	2	2	2	12



# Multiresistance among *Ps. aeruginosa* bacteremia isolates in Meilahti hospital 2004 - 2005, number of strains with a particular resistance pattern

HUSLAB material. One isolate per patient (the most resistant)

							other
						ward 131	wards
<b>Ptz</b>	<b>Caz</b>	<b>Mer</b>	<b>Cip</b>	<b>Tob</b>	<b>Ami</b>	<b>2</b>	<b>0</b>
-	-	<b>Mer</b>	<b>Cip</b>	<b>Tob</b>	<b>Ami</b>	<b>10</b>	<b>1</b>
-	-	-	<b>Cip</b>	<b>Tob</b>	<b>Ami</b>	<b>0</b>	<b>1</b>
-	-	<b>Mer</b>	<b>Cip</b>	-	-	<b>0</b>	<b>1</b>
-	<b>Caz</b>	-	-	-	-	<b>0</b>	<b>1</b>
-	-	-	<b>Cip</b>	-	-	<b>2</b>	<b>3</b>
-	-	-	-	-	-	<b>0</b>	<b>26</b>

Total number of isolates studied: 47

Resistance defined here as non-susceptibility (= R+I)

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**Ps. aeruginosa in Meilahti hospital,  
frequency of isolates resistant to  $\geq$  four of the six commonly  
available agents <sup>a)</sup>**

<sup>a)</sup> Ctaz, Mero, Pi-Tz, Cip, Tob, Ami

HUSLAB material. One isolate per patient

<b>Frequency (%) of isolates resistant to</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>
<b>all six (= panresistant)</b>	<b>3.0</b>	<b>1</b>	<b>0,4</b>
<b>five</b>	<b>4,2</b>	<b>3,4</b>	<b>1,9</b>
<b>four</b>	<b>11,1</b>	<b>6,5</b>	<b>5,7</b>
<b>total number of isolates studied</b>	<b>334</b>	<b>294</b>	<b>265</b>

**Resistance defined here as non-susceptibility (= R+I)**

# **Pseudomonas aeruginosa 2005 (%R+I), urine isolates**

**One isolate per patient (the most resistant isolate). HUSLAB material from selected hospitals in Helsinki and Uusimaa Districts.**

<b>Material from</b>	<b>n</b>	<b>Ctaz</b>	<b>Mero</b>	<b>Pi-Tz</b>	<b>Tob</b>	<b>Cip</b>
<b>Meilahti</b>	<b>141</b>	<b>2</b>	<b>8</b>	<b>4</b>	<b>11</b>	<b>24</b>
<b>Töölö</b>	<b>36</b>	<b>3</b>	<b>3</b>	<b>3</b>	<b>3</b>	<b>17</b>
<b>Helsinki City hospitals</b>	<b>349</b>	<b>4</b>	<b>4</b>	<b>6</b>	<b>11</b>	<b>25</b>
<b>Maria</b>	<b>226</b>	<b>1</b>	<b>3</b>	<b>4</b>	<b>8</b>	<b>24</b>
<b>Childrens´</b>	<b>46</b>	<b>2</b>	<b>4</b>	<b>2</b>	<b>2</b>	<b>2</b>
<b>Uusimaa regional hospitals</b>	<b>197</b>	<b>5</b>	<b>5</b>	<b>5</b>	<b>9</b>	<b>28</b>
<b>Outpat. in Health Cntrs</b>	<b>633</b>	<b>1</b>	<b>2</b>	<b>5</b>	<b>9</b>	<b>23</b>

# Acinetobacter spp. 2005 (%R+I)

**Pus and blood isolates from selected hospitals in Helsinki University Central Hospital.  
One isolate per patient (the most resistant)**

<b>Hospital</b>	<b>n</b>	<b>Ctaz</b>	<b>Mero</b>	<b>Pi-Tz</b>	<b>Tob</b>	<b>Cip</b>	<b>SuTri</b>
<b>Meilahti</b>	<b>88</b>	<b>16</b>	<b>10</b>	<b>13</b>	<b>11</b>	<b>16</b>	<b>15</b>
<b>Töölö</b>	<b>153</b>	<b>33</b>	<b>25</b>	<b>29</b>	<b>33</b>	<b>35</b>	<b>33</b>
<b>Other sources</b>	<b>85</b>	<b>10</b>	<b>2</b>	<b>13</b>	<b>5</b>	<b>12</b>	<b>4</b>

# Acinetobacter spp. in Töölö hospital 2002 - 2005

## Resistance (%R+I)

Pus and blood isolates. One isolate per patient (the most resistant)

	<b>n</b>	<b>Ctaz</b>	<b>Mero</b>	<b>Pi-Tz</b>	<b>Tob</b>	<b>Cip</b>	<b>SuTri</b>
<b>2002</b>	<b>130</b>	<b>25</b>	<b>15</b>	<b>26</b>	<b>21</b>	<b>23</b>	<b>27</b>
<b>2003</b>	<b>112</b>	<b>17</b>	<b>10</b>	<b>20</b>	<b>14</b>	<b>13</b>	<b>17</b>
<b>2004</b>	<b>101</b>	<b>12</b>	<b>2</b>	<b>8</b>	<b>13</b>	<b>13</b>	<b>16</b>
<b>2005</b>	<b>153</b>	<b>33</b>	<b>25</b>	<b>29</b>	<b>33</b>	<b>35</b>	<b>33</b>

# **Acinetobacter in Töölö hospital, frequency of isolates resistant to $\geq$ four of the seven commonly available agents <sup>a)</sup>**

**a) Ctaz, Mero, Pi-Tz, Cip, Tob, Ami, SuTri**

**HUSLAB material. One isolate per patient**

<b>Frequency (%) of isolates resistant to</b>	<b>2004</b>	<b>2005</b>
<b>all seven (= panresistant)</b>	<b>1</b>	<b>19</b>
<b>six</b>	<b>1</b>	<b>0</b>
<b>five</b>	<b>5</b>	<b>5</b>
<b>four</b>	<b>2</b>	<b>4</b>
<b>total number of isolates studied</b>	<b>101</b>	<b>153</b>

**Resistance defined here as non-susceptibility (= R+I)**

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# Stenotrophomonas maltophilia 2005 (%R+I)

**Pus and blood isolates. One isolate per patient (the most resistant isolate).**

**HUSLAB material from hospitals in Helsinki and Uusimaa Districts.**

<b>Hospital</b>	<b><i>n</i></b>	<b>SxT</b>	<b>Levo</b>	<b>Tic-clav</b>
<b>Meilahti</b>	<b>133</b>	<b>6</b>	<b>22</b>	<b>59</b>
<b>Töölö</b>	<b>61</b>	<b>10</b>	<b>15</b>	<b>60</b>
<b>Childrens´</b>	<b>10</b>	<b>0</b>	<b>0</b>	<b>60</b>
<b>Other sources</b>	<b>217</b>	<b>8</b>	<b>13</b>	<b>57</b>

All *S. maltophilia* strains display natural resistance (R) to aminoglycosides, carbapenems and piperacillin-tazobactam and are non-susceptible (R or I) to ceftazidime

# Enterobacteriaceae 2005 (%R+I)

Pus and blood isolates at six hospitals (M,T,L,K,N,Ma,Sä) in Helsinki University Central Hospital. One isolate per patient (the most resistant)

	n	Cfur	Ctax	Pi-Tz	Tob	Levo	Mero
<b>E. coli</b>	<b>974</b>	<b>9,6</b>	<b>5,6</b>	<b>5,6*</b>	<b>7</b>	<b>12</b>	<b>0</b>
<b>Kl. pneumoniae</b>	<b>242</b>	<b>8,7</b>	<b>3,7</b>	<b>3,7*</b>	<b>5</b>	<b>6</b>	<b>0</b>
<b>Kl. oxytoca</b>	<b>148</b>	<b>11,5</b>	<b>0,7</b>	<b>4,2</b>	<b>1</b>	<b>2</b>	<b>0</b>
<b>Proteus mirabilis</b>	<b>107</b>	<b>1,8</b>	<b>0,9</b>	<b>0,9*</b>	<b>1</b>	<b>9</b>	<b>0</b>
<b>Ent. cloacae</b>	<b>363</b>	<b>45</b>	<b>29</b>	<b>29**</b>	<b>3</b>	<b>2</b>	<b>0,9</b>
<b>Enterobact. spp.</b>	<b>197</b>	<b>32</b>	<b>26</b>	<b>26**</b>	<b>4</b>	<b>1</b>	<b>1,6</b>
<b>Citrob. freundii</b>	<b>48</b>	<b>38</b>	<b>29</b>	<b>29**</b>	<b>0</b>	<b>2</b>	<b>0</b>
<b>Serratia marc.</b>	<b>114</b>	<b>97</b>	<b>11</b>	<b>11**</b>	<b>4</b>	<b>8</b>	<b>0</b>
<b>Proteus vulgaris</b>	<b>49</b>	<b>94</b>	<b>2</b>	<b>2**</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Morganella morg</b>	<b>70</b>	<b>83</b>	<b>9</b>	<b>9**</b>	<b>1</b>	<b>4</b>	<b>0</b>
<b>Total</b>	<b>2312</b>	<b>25</b>	<b>10</b>	<b>10</b>	<b>5</b>	<b>8</b>	<b>0,2</b>

\*: all ESBL strains reported here as nonsusceptible

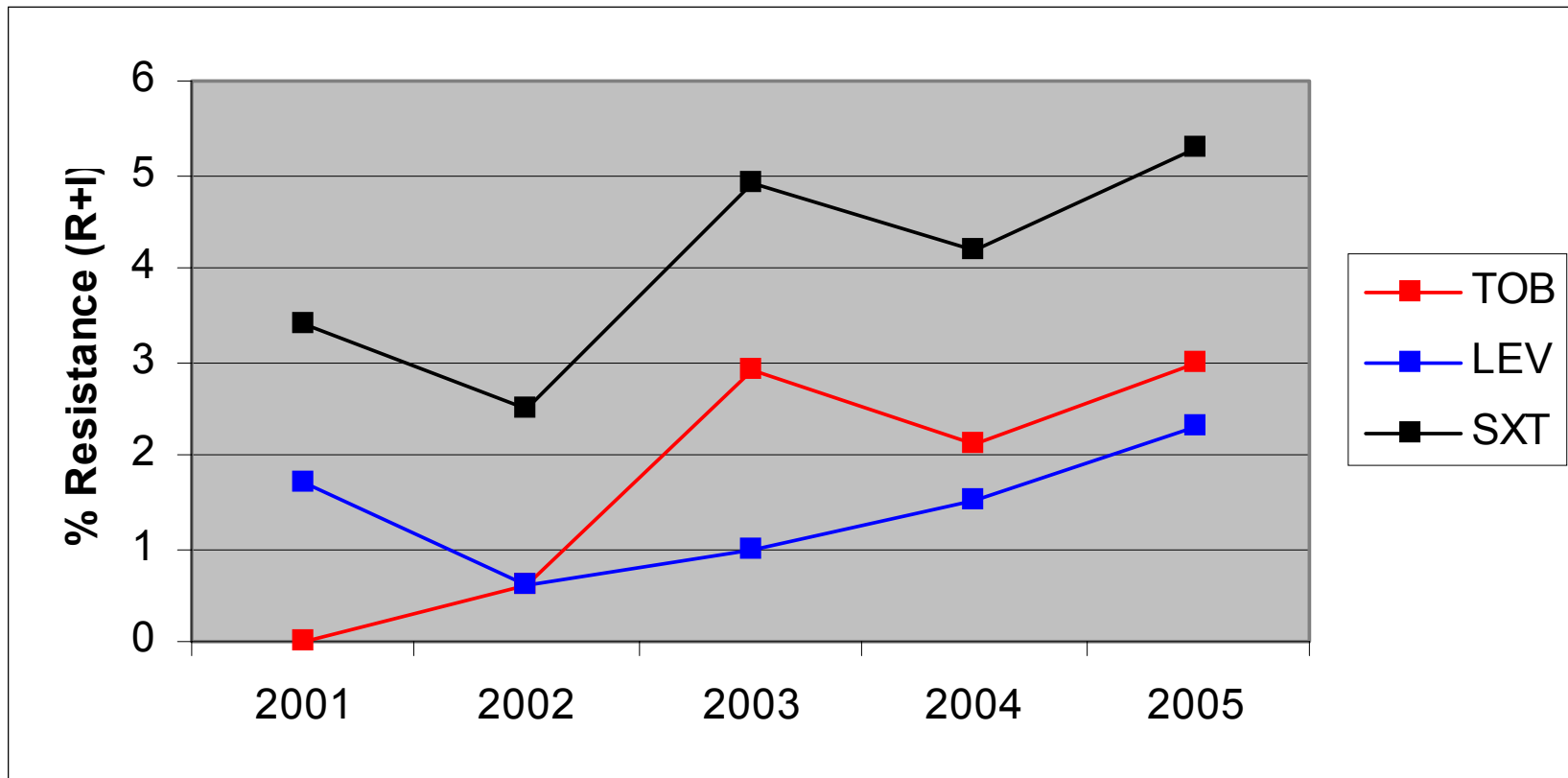
\*\* : all cefotaxime-resistant strains (mainly ampC strains) reported as nonsusceptible

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# Enterobacter cloacae, resistance in increase

Pus and blood isolates at six hospitals (M,T,L,K,N,Ma,Sä) in Helsinki University Central Hospital. One isolate per patient (the most resistant)



	n	% R+I to Ctax
2001	331	30,2
2002	321	27,7
2003	311	31,3
2004	334	32,3
2005	363	28,7

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# ESBL 2005 (% frequency) at different locations

HUSLAB material from Helsinki and Uusimaa districts. One isolate per patient (the most resistant)

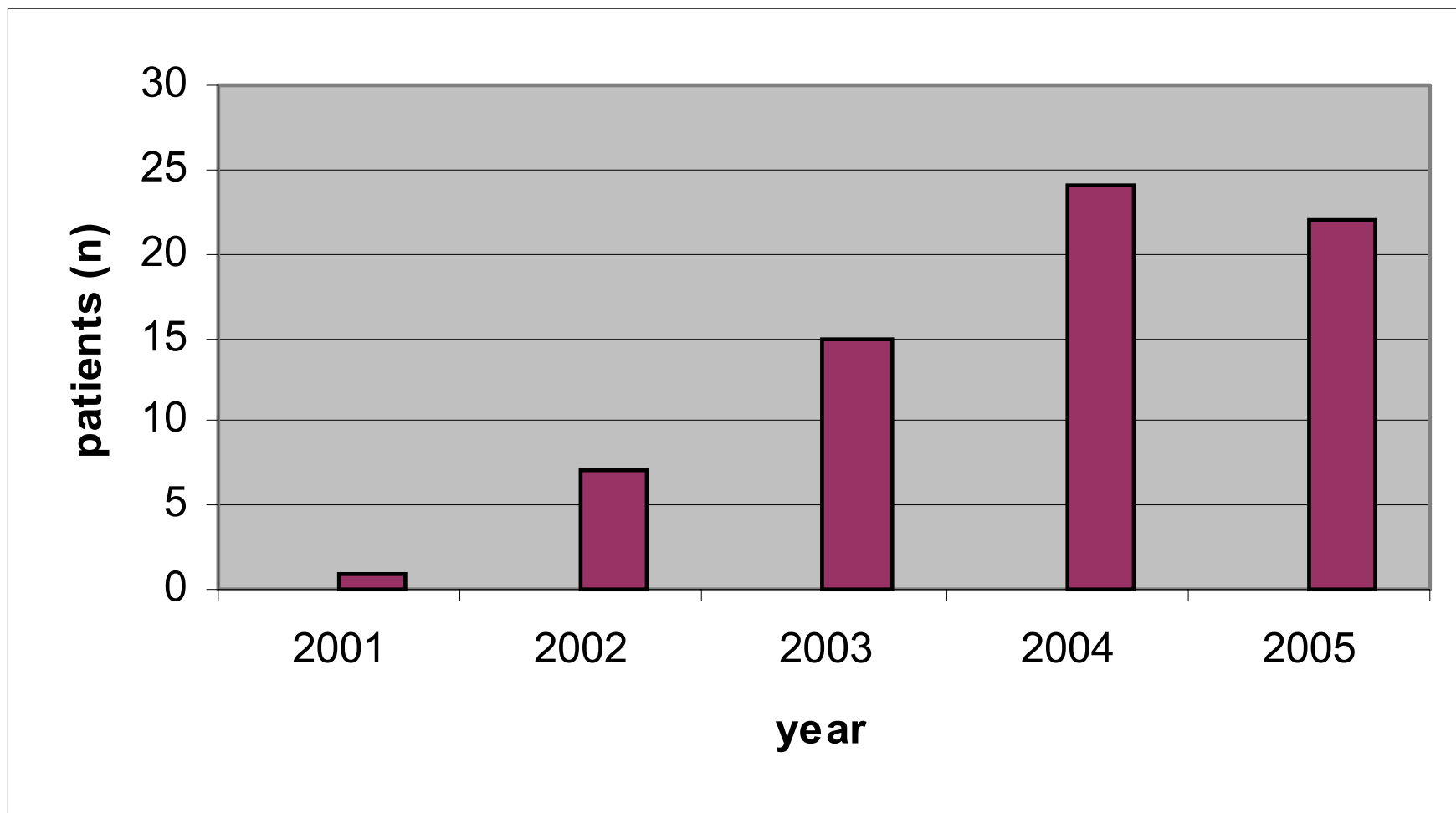
Material	E. coli		K. pneumoniae	
	pus & blood	urine	pus & blood	urine
HUCH (7 hospitals)	5,4	3,3	3,7	1,5
Helsinki City hospitals	16,4	11,8	4,8	4,1
Helsinki City outpatients		2,4		0,8
Uusimaa hospitals	1,2		1,8	
All sources	4,9	2,8	2,4	1,4
<i>Total n of isolates studied</i>	<b>2020</b>	<b>18654</b>	<b>497</b>	<b>2441</b>

# ESBL isolates (*n*) at different locations 2005

HUSLAB material from Helsinki and Uusimaa districts. One isolate per patient

Material	E. coli		K. pneumoniae	
	pus & blood	urine	pus & blood	urine
HUCH (7 hospitals)	52	137	9	9
Helsinki City hospitals	32	220	2	15
Helsinki City outpatients	12	233	1	9
Uusimaa hospitals	7	32	1	4
<b>All sources</b>	<b>98</b>	<b>530</b>	<b>12</b>	<b>34</b>

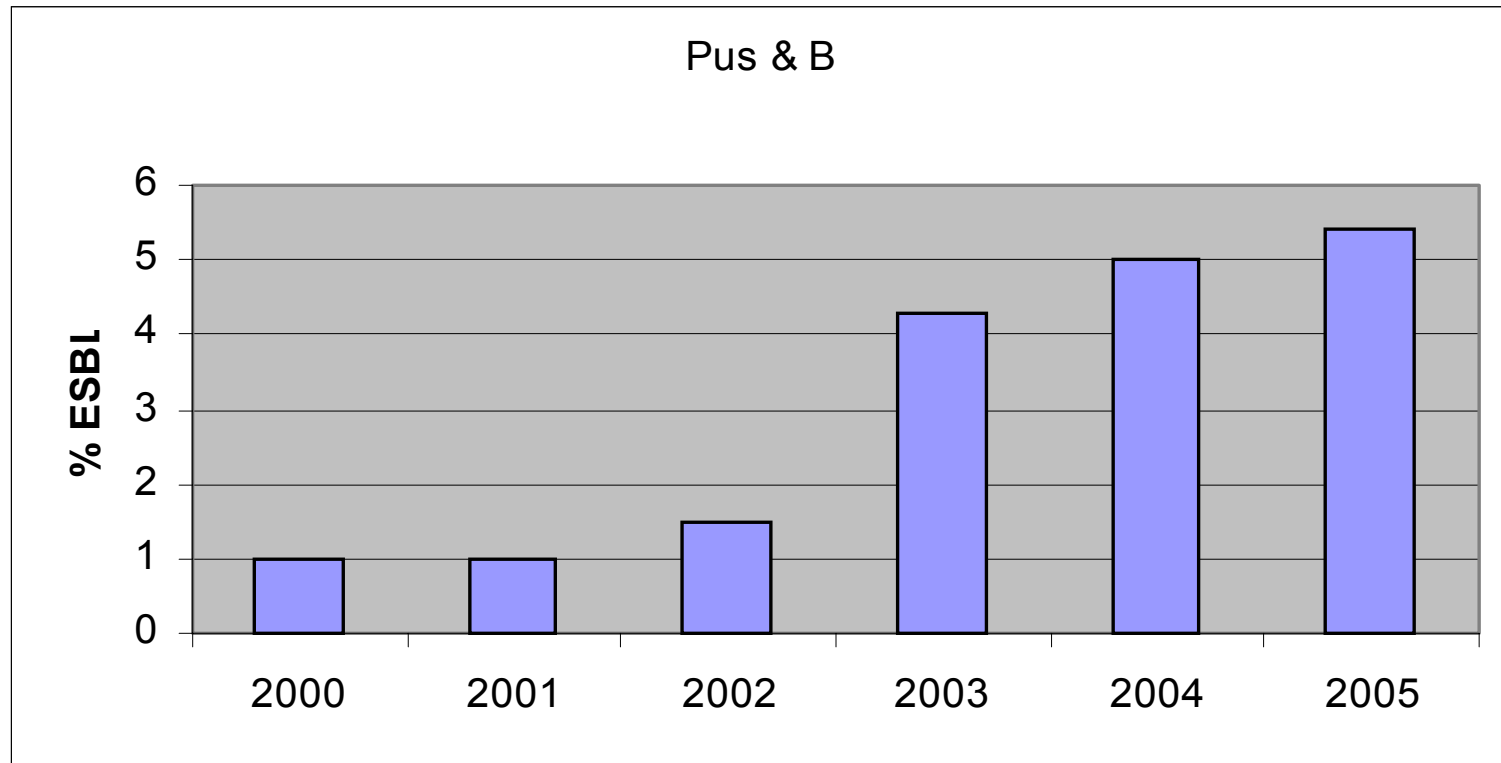
## Bacteremias caused by E. coli ESBL, HUSLAB material 2001-2005



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# E. coli ESBL strains at HUCH/Helsinki 2000 - 2005

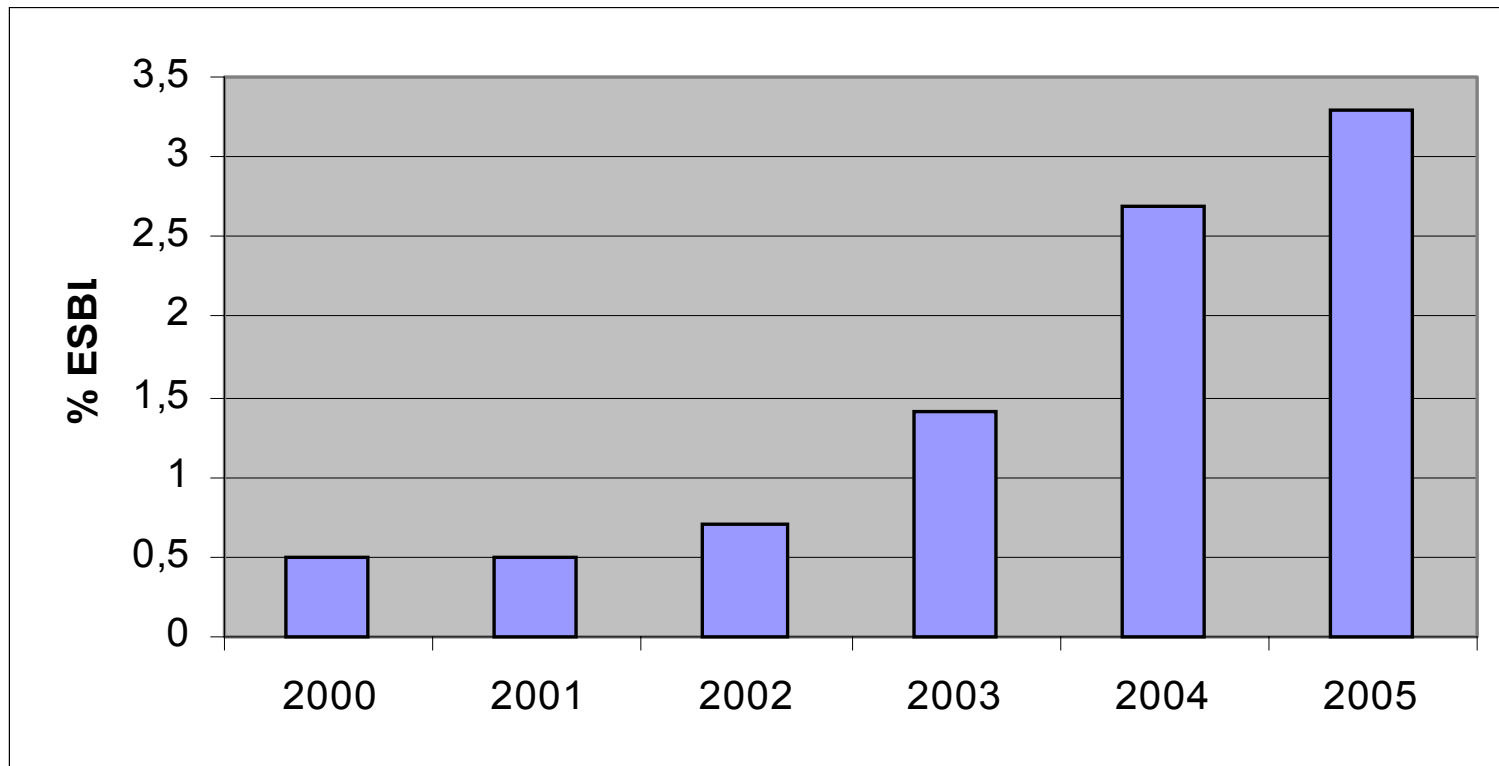
Pus and blood isolates, one strain per patient



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# E. coli ESBL strains at HUCH/Helsinki 2000 - 2005

Urine isolates, one strain per patient

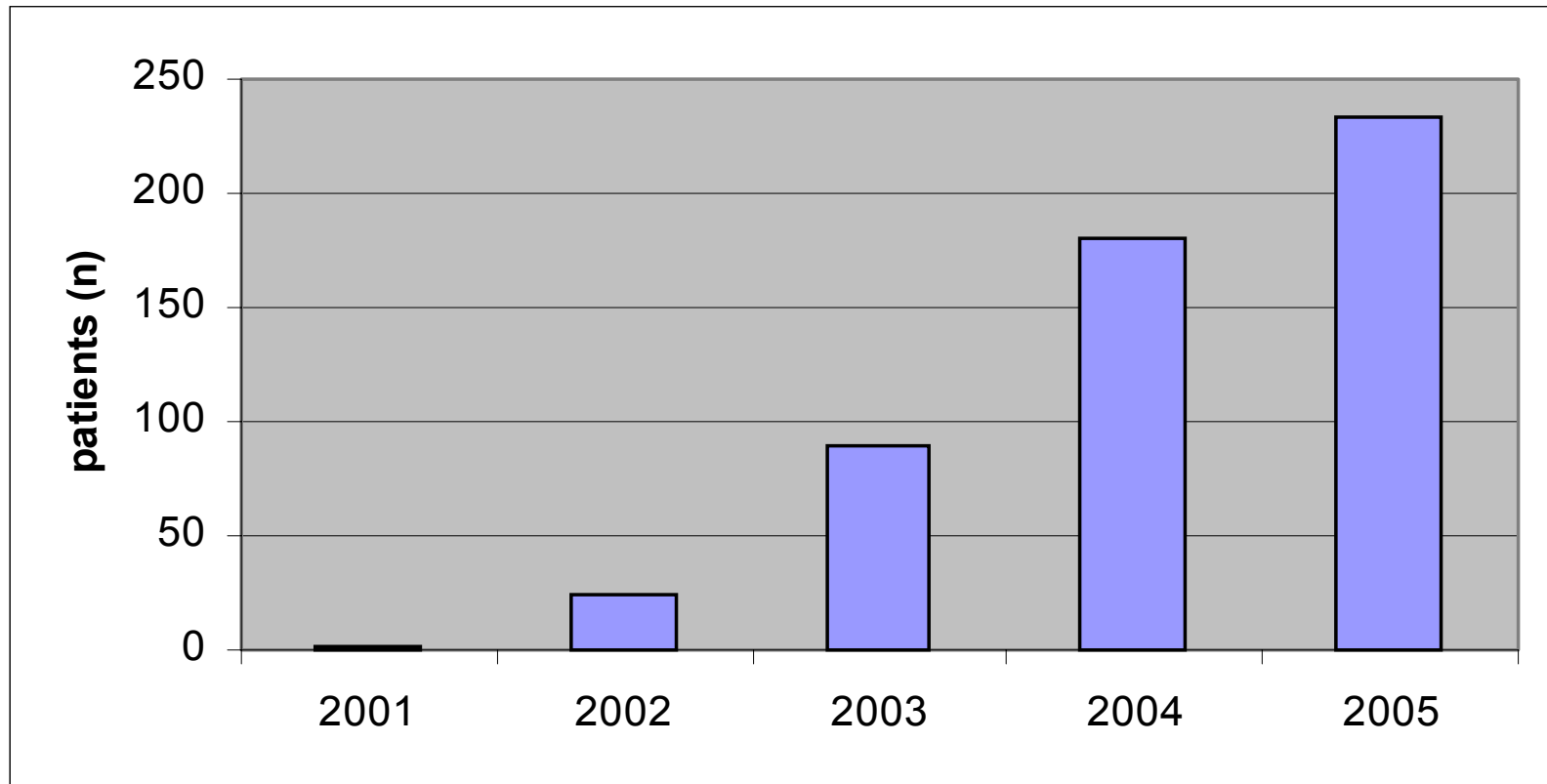


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# **E. coli ESBL urine isolates, number of patients**

**Helsinki Health Center, outpatient material**

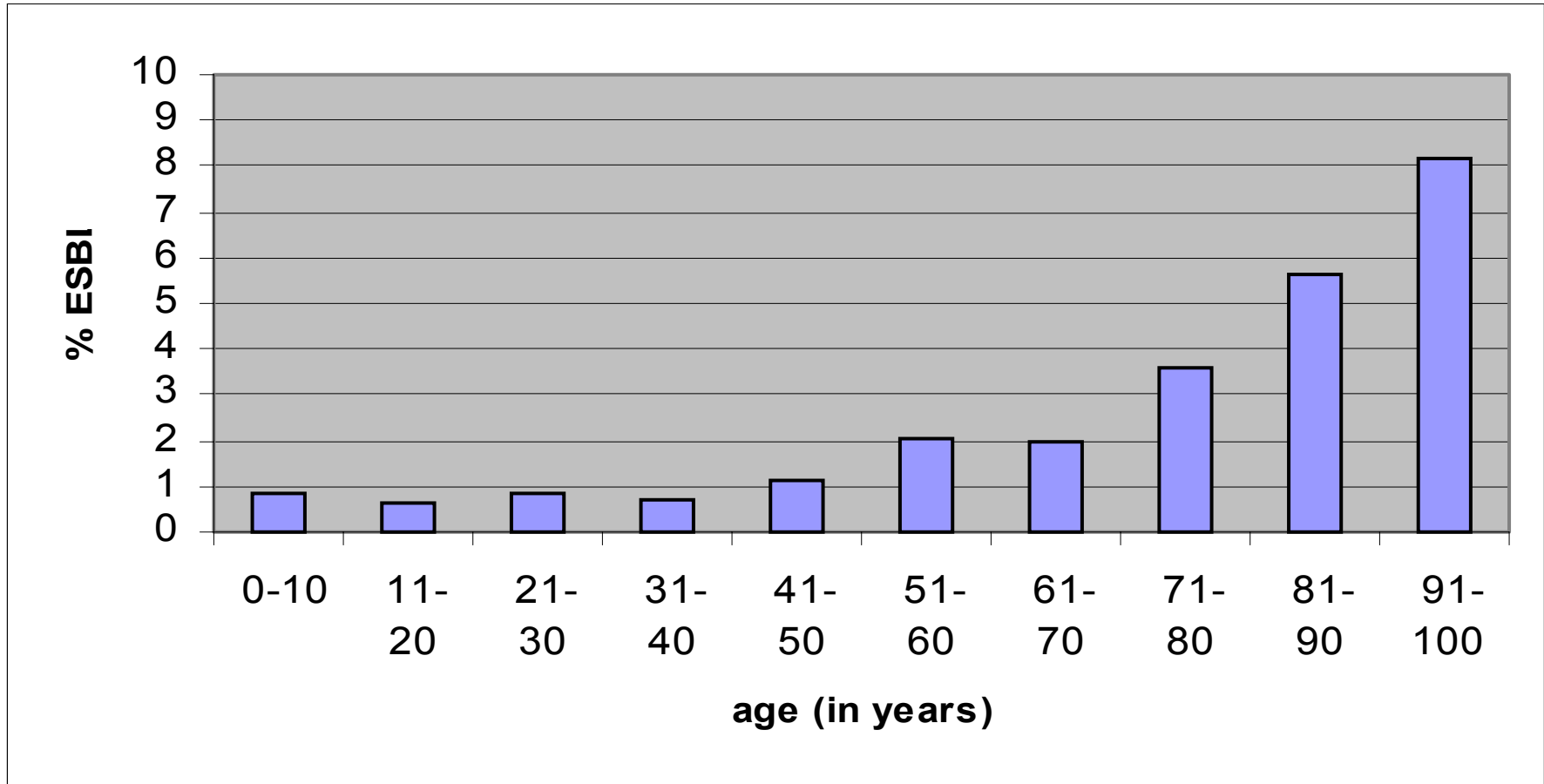
**2001 - 2005**



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# **E. coli ESBL urine isolates 2004 - 2005, frequency in patients by age categories**

**HUSLAB material from Helsinki and Uusimaa region**

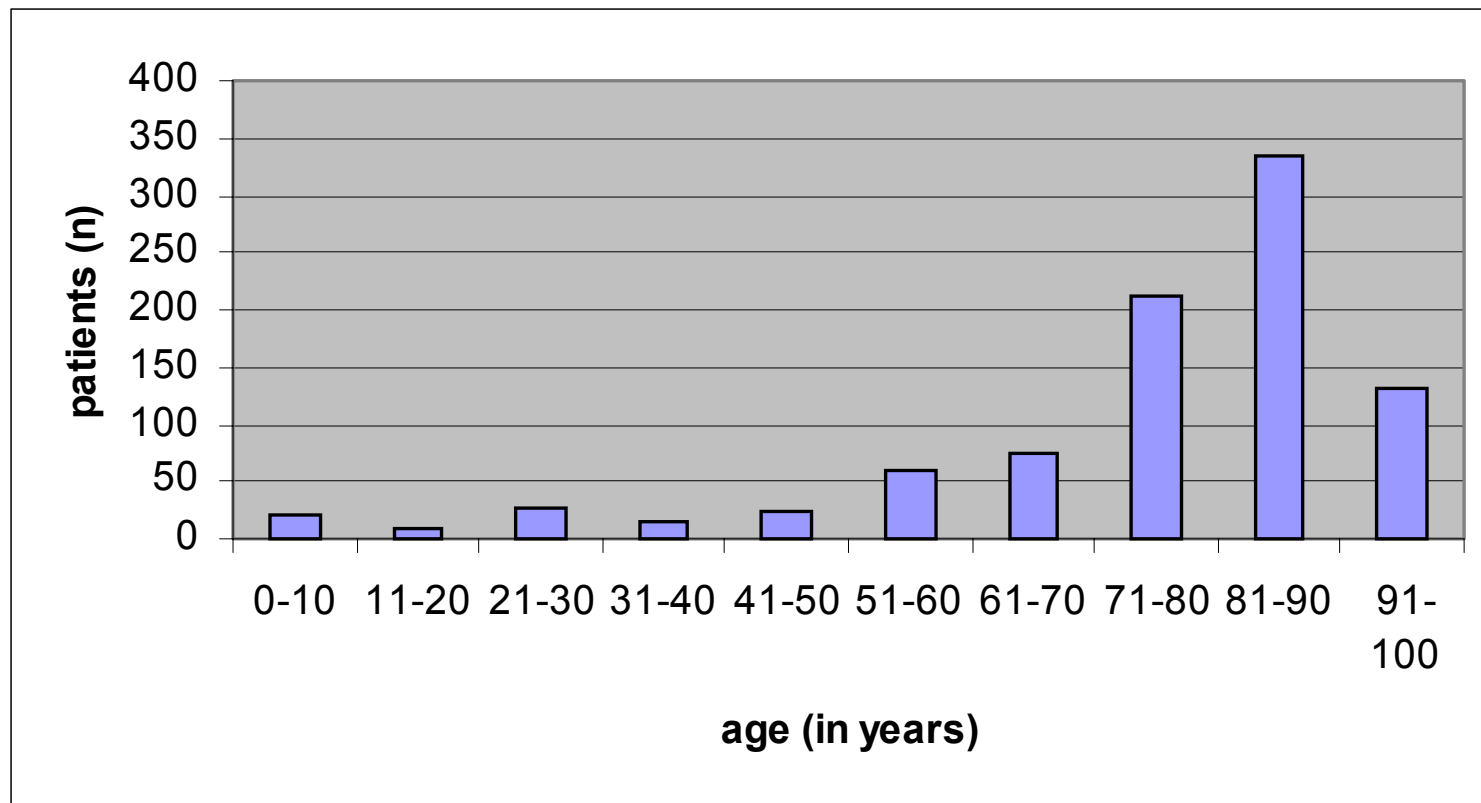


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# **E. coli ESBL urine isolates 2004 - 2005, number of patients by age categories**

**HUSLAB material from Helsinki and Uusimaa region**



## **E. coli ESBL strains, resistance to non-betalactams and meropenem 2004 - 2005**

% R+I in blood and pus isolates, % R in urine isolates. HUSLAB material from Helsinki and Uusimaa districts. One isolate per patient (the first isolate)

<b>Antibiotic</b>	<b>blood</b>	<b>pus</b>	<b>Urine</b>	<b>Urine pt age <math>\leq</math> 50 years</b>
<b>Ciprofloxacin</b>	<b>90</b>	<b>91</b>	<b>92</b>	<b>67</b>
<b>Levofloxacin</b>	<b>90</b>	<b>92</b>		
<b>Norfloxacin</b>			<b>92</b>	<b>69</b>
<b>Tobramycin</b>	<b>92</b>	<b>77</b>	<b>80</b>	<b>58</b>
<b>Sulphatrimetoprim</b>	<b>53</b>	<b>27</b>	<b>29</b>	<b>55</b>
<b>Trimetoprim</b>			<b>35</b>	<b>57</b>
<b>Nitrofurantoin</b>			<b>5</b>	<b>4</b>
<b>Meropenem</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b><i>n</i></b>	<b>40</b>	<b>143</b>	<b>897</b>	<b>99</b>

## **K. pneumoniae ESBL strains, resistance to non-betalactams and meropenem 2004 - 2005**

% R+I in blood and pus isolates, % R in urine isolates. HUSLAB material from Helsinki and Uusimaa districts. One isolate per patient (the first isolate)

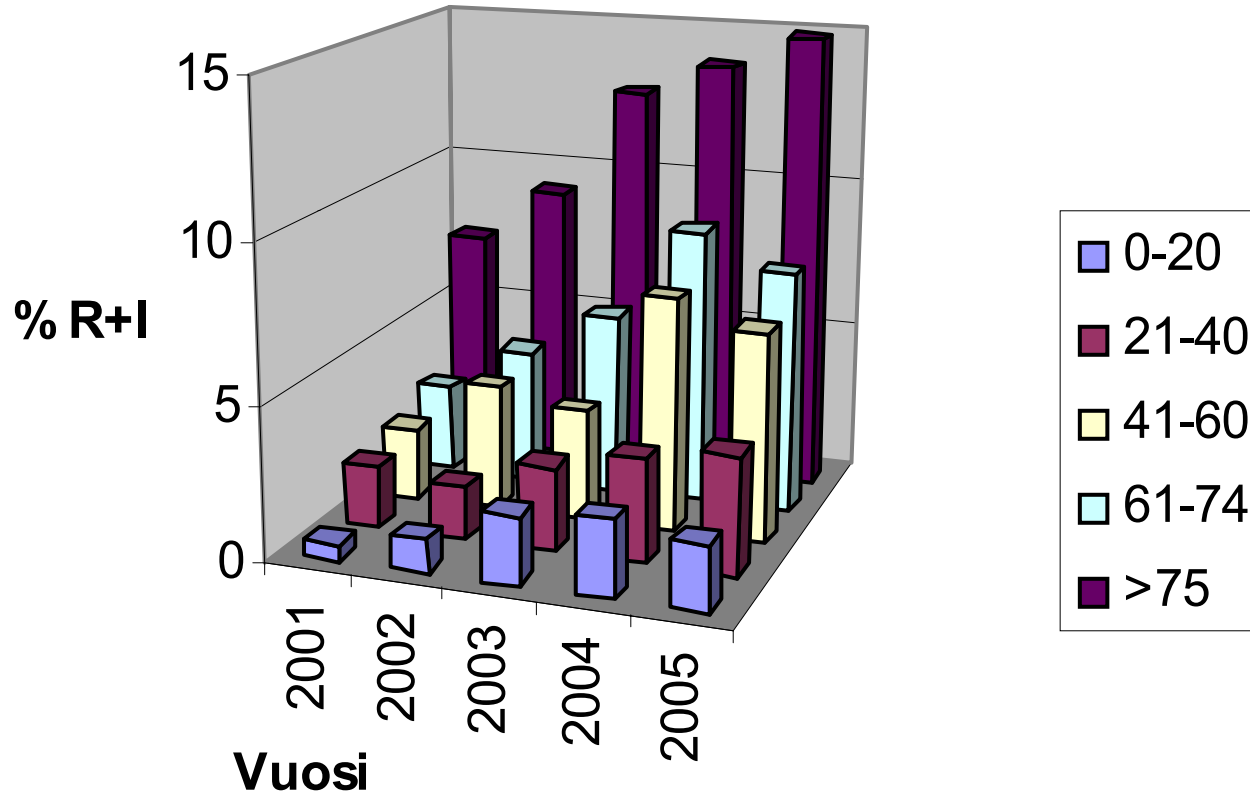
<b>Antibiotic</b>	<b>blood</b>	<b>pus</b>	<b>Urine</b>
<b>Ciprofloxacin</b>	<b>60</b>	<b>81</b>	<b>68</b>
<b>Levofloxacin</b>	<b>60</b>	<b>81</b>	
<b>Norfloxacin</b>			<b>73</b>
<b>Tobramycin</b>	<b>80</b>	<b>88</b>	<b>70</b>
<b>Sulphatrimetoprim</b>	<b>80</b>	<b>92</b>	<b>82</b>
<b>Trimetoprim</b>			<b>68</b>
<b>Nitrofurantoin</b>			<b>75</b>
<b>Meropenem</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>n</b>	<b>5</b>	<b>26</b>	<b>71</b>

# E. coli, urine isolates 2005 (%R)

HUSLAB material from Helsinki and Uusimaa districts. One isolate per patient (the most resistant)

	Outpatients, age (in years)				
	0-20	21-40	41-60	61-74	≥ 75
<b>Nitrofurantoin</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>3</b>
<b>Mecillinam</b>	<b>1</b>	<b>3</b>	<b>3</b>	<b>3</b>	<b>7</b>
<b>Cephalexin</b>	<b>4</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>11</b>
<b>Norfloxacin</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>4</b>	<b>11</b>
<b>Sulphameth-trimet.</b>	<b>17</b>	<b>16</b>	<b>16</b>	<b>15</b>	<b>21</b>
<b>Trimetoprim</b>	<b>18</b>	<b>17</b>	<b>17</b>	<b>17</b>	<b>24</b>
<b>n</b>	<b>1428</b>	<b>2529</b>	<b>1915</b>	<b>2341</b>	<b>4428</b>

# E. coli, urine isolates, resistance to norfloxacin 2001-2005 in consecutive age groups



HUSLAB, all isolates; n = 125.000

# Enterobacteriaceae, urine isolates 2005 (%R)

HUSLAB material from Helsinki and Uusimaa districts. One isolate per patient (the most resistant)

	<b>E. coli</b>	<b>Kl. pneum.</b>	<b>Kl. oxytoca</b>	<b>Enterobacter</b>	<b>Prot. mirab.</b>
<b>Nitrofurantoin</b>	<b>2</b>	<b>14</b>	<b>3</b>	<b>23</b>	<b>99</b>
<b>Mecillinam</b>	<b>5</b>	<b>7</b>	<b>10</b>	<b>10</b>	<b>10</b>
<b>Cephalexin</b>	<b>8</b>	<b>7</b>	<b>10</b>	<b>94</b>	<b>3</b>
<b>Norfloxacin</b>	<b>7</b>	<b>3</b>	<b>2</b>	<b>10</b>	<b>5</b>
<b>Sulphameth-trimet.</b>	<b>18</b>	<b>30</b>	<b>12</b>	<b>14</b>	<b>25</b>
<b>Trimetoprim</b>	<b>20</b>	<b>35</b>	<b>14</b>	<b>12</b>	<b>37</b>
<b>n</b>	<b>18653</b>	<b>2440</b>	<b>625</b>	<b>962</b>	<b>840</b>

# H. influenzae & M. catarrhalis 2005 (%R+I)

HUSLAB material from Helsinki and Uusimaa Districts.  
One isolate per patient (the first isolate).

	H. influenzae	M. catarrh.
<b>Ampicillin</b>	<b>13</b>	<b>98</b>
<b>Amoxycill-clavul.</b>	<b>0</b>	<b>0</b>
<b>Cefachlor</b>	<b>0</b>	<b>0</b>
<b>Cefuroxime</b>	<b>0</b>	<b>0</b>
<b>Doxicycline</b>	<b>3</b>	<b>0</b>
<b>Ciprofloxacin</b>	<b>0</b>	<b>0</b>
<b>Sulphameth-trim.</b>	<b>20</b>	<b>1</b>
<b>Azithromycin</b>	<b>0</b>	<b>0</b>
<b>n</b>	<b>618</b>	<b>289</b>

# Neisseria gonorrhoeae 2005 (%R+I)

HUSLAB material from Helsinki and Uusimaa Districts.  
One isolate per patient (the first isolate).

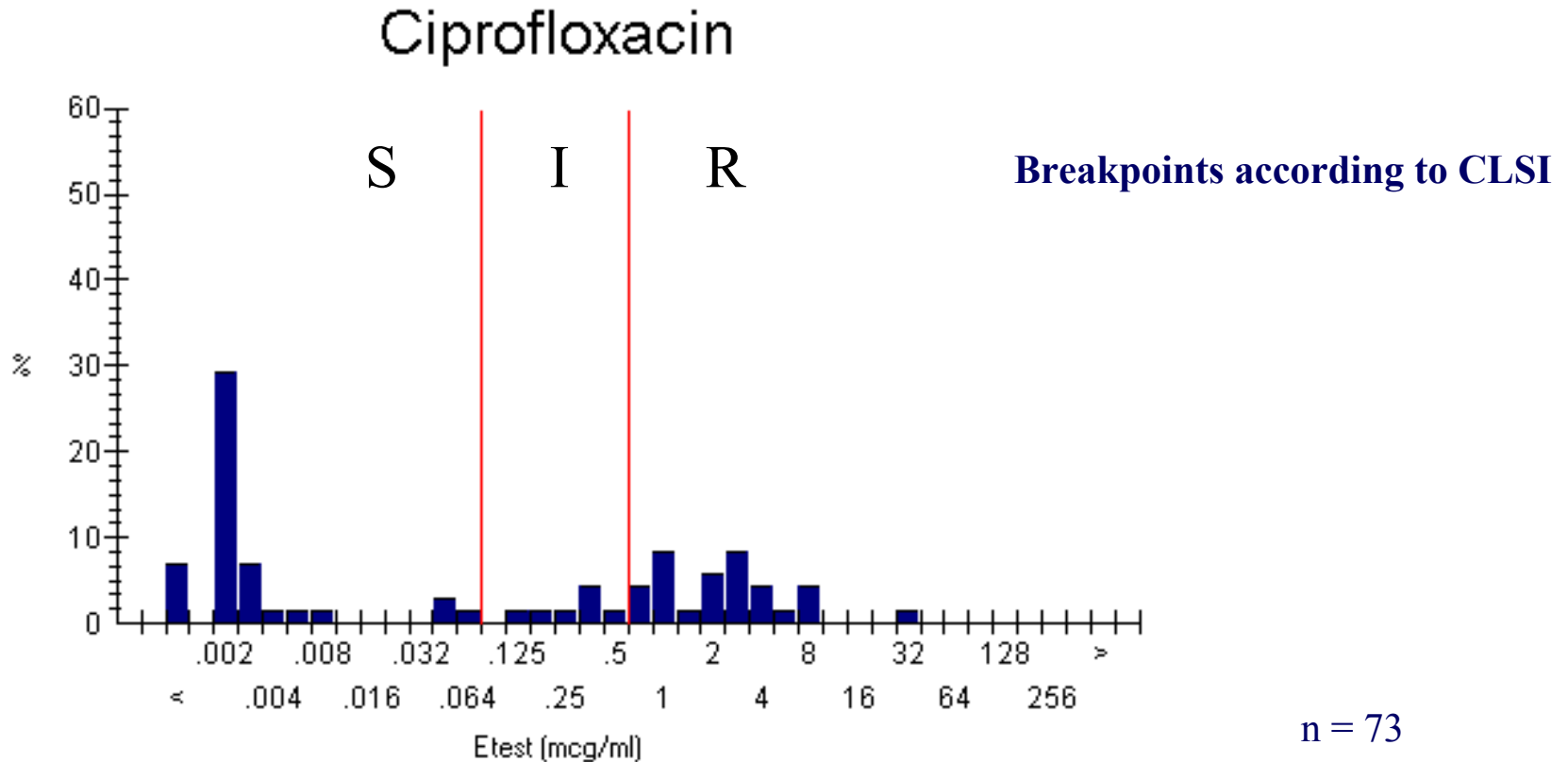
n = 73

<b>Ciprofloxacin - R</b>	<b>39</b>
<b>Ciprofloxacin - I</b>	<b>10</b>
<b>Ceftriaxone</b>	<b>0</b>
<b>Azithromycin</b>	<b>1</b>



# Neisseria gonorrhoeae 2005

HUSLAB material from Helsinki and Uusimaa Districts.  
One isolate per patient (the first isolate).



# Bacteroides fragilis group 2005 (%R+I)

HUSLAB material from Helsinki and Uusimaa Districts.  
One isolate per patient (the first isolate).

n = 1178

<b>Metronidazole</b>	<b>0</b>
<b>Piperacillin-tazobactam</b>	<b>0</b>
<b>Imipenem</b>	<b>0</b>
<b>Clindamycin</b>	<b>41</b>
<b>Doxicycline</b>	<b>6</b>
<b>Penicillin G</b>	<b>100</b>

# Prevotella spp. 2005 (% I+R)

Pus isolates, HUSLAB material from Helsinki and Uusimaa Districts.  
One isolate per patient (the first isolate).

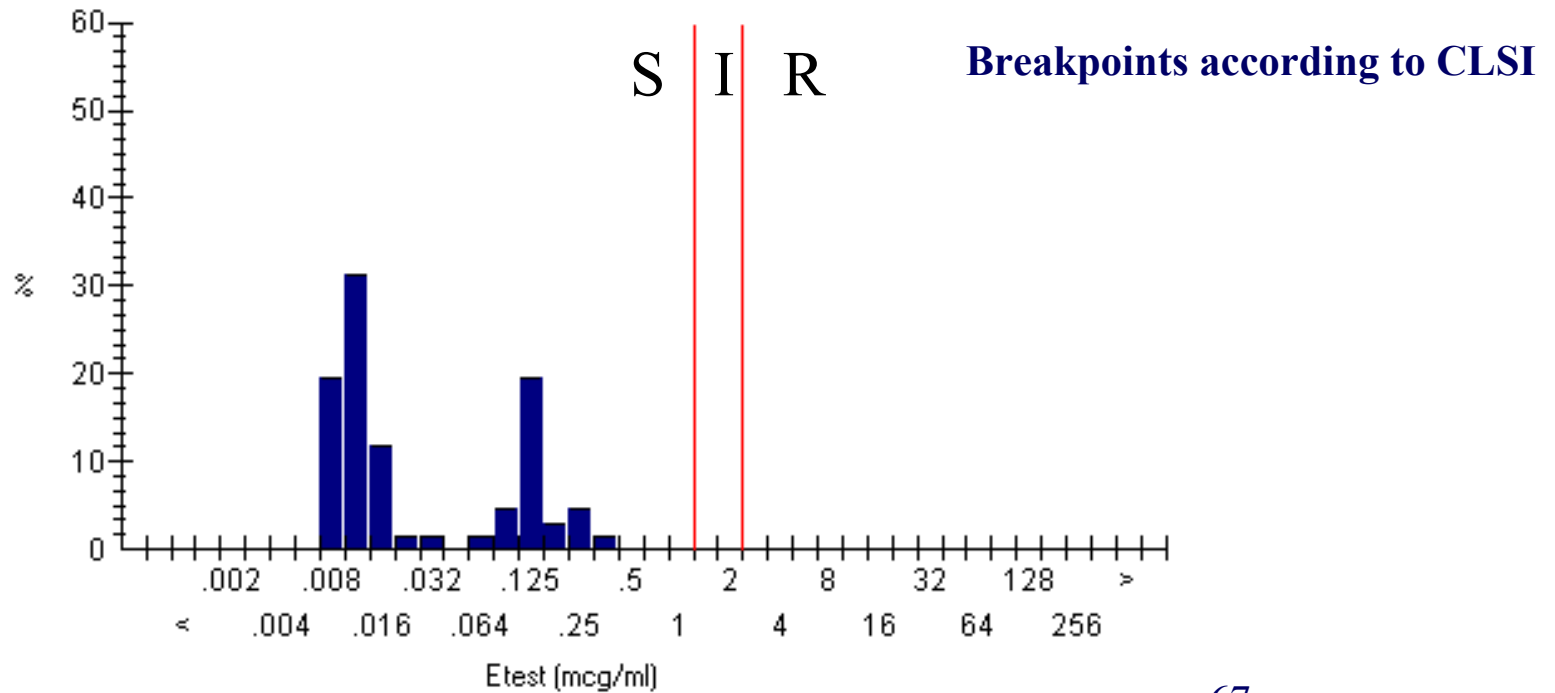
n = 360

<b>Penicillin</b>	<b>56</b>
<b>Piperacillin-Taz.</b>	<b>1</b>
<b>Doxicyclin</b>	<b>18</b>
<b>Metronidazole</b>	<b>0</b>
<b>Clindamycin</b>	<b>13</b>

# Salmonella 2005

HUSLAB material from Helsinki and Uusimaa Districts.  
One isolate per patient (the first isolate).

## Ciprofloxacin



n = 67

# Campylobacter 2004, resistance (%R+I) and multiresistance profiles

HUSLAB material from Helsinki and Uusimaa Districts.  
One isolate per patient (the first isolate).

	<b>C. jejuni</b>	<b>C. coli</b>
<b>Ciprofloxacin</b>	<b>39</b>	<b>65</b>
<b>Erythromycin</b>	<b>2</b>	<b>17</b>
<b>n</b>	<b>589</b>	<b>93</b>

				n of strains
				displaying the pattern
<b>Cip</b>	<b>Ery</b>	<b>Dox</b>	<b>-</b>	<b>5</b>
<b>Cip</b>	<b>Ery</b>	<b>-</b>	<b>Met</b>	<b>2</b>
<b>Cip</b>	<b>Ery</b>	<b>-</b>	<b>-</b>	<b>15</b>