

## Overzicht Aanlevering

|                                 |               |
|---------------------------------|---------------|
| Laboratorium code               | ISIS005       |
| Maand - Jaar                    | Februari-2014 |
| Aanlever ID                     | 6858          |
| Datum ingelezen                 | 11/07/2014    |
| Aantal patiënten                | 1202          |
| Aantal isolaten                 | 2194          |
| Aantal isolaten ISIS organismen | 2072          |

## Onbekende Codes

| gegeven   | Onbekende waarde | aantal | soort    |
|-----------|------------------|--------|----------|
| Afdeling  | E_EZQ1           | 22     | monsters |
| Afdeling  | T_CDCV           | 11     | monsters |
| Organisme | =Encspp?         | 1      | isolaten |
| Organisme | kockri           | 1      | isolaten |
| Organisme | strpga           | 1      | isolaten |

### Samenvatting bijzondere resistenties

| datum      | Antibiotica-pathoegen combinaties       | Patiënt            | Monster     | Iso | Status                     |
|------------|---|--------------------|-------------|-----|----------------------------|
| 21/02/2014 | Acinetobacter spp. colistine R          | 4181286164A1286164 | 14E022286-1 | 1   | Door MML te confirmeren    |
| 28/01/2014 | Acinetobacter spp. meropenem/imipenem R | 7685298106A5298106 | 14E011463-1 | 1   | MML: S bevestigd met Etest |
| 28/01/2014 | E. faecalis/E. faecium glycopeptiden R  | 9992766929A2766929 | 14E011297-1 | 4   | Met E-test bevestigd       |
| 29/01/2014 | E. faecalis/E. faecium glycopeptiden R  | 6682171466A2171466 | 14E011732-1 | 3   | Bekende Patient            |
| 12/02/2014 | E. faecalis/E. faecium glycopeptiden R  | 6682171466A2171466 | 14E017977-1 | 3   | MML: S bevestigd met Etest |
| 09/02/2014 | H. influenzae cefotaxime/ceftriaxon R   | 7746541150A6541150 | 14E016596-1 | 3   | Met disk bevestigd         |
| 11/02/2014 | H. influenzae cefotaxime/ceftriaxon R   | 2292126146A2126146 | 14E017417-1 | 1   | Met disk bevestigd         |
| 06/02/2014 | S. pneumoniae penicilline I/R           | 7051049216A1049216 | 14E015615-1 | 1   | Met E-test bevestigd       |

### Bijzonder resistente micro-organismen (BRMO) met indicatie tot ziekenhuishygiënische maatregelen

| Antibiotica-pathoegen combinaties  | #patienten | #isolaten |
|--|------------|-----------|
| E.coli ESBL positief   | 20         | 24        |
| Klebsiella spp. ESBL positief  | 7          | 23        |
| Overige Enterobacteriaceae ESBL positief   | 7          | 9         |
| E.coli quinolonen en aminoglycosiden resistent   | 28         | 33        |
| Klebsiella spp. quinolonen en aminoglycosiden resistent  | 8          | 21        |
| Enterobacteriaceae (excl. E. coli/Klebsiella) resistent t.o.v. quinolonen/aminoglycoside/cotrim: combinatie van resistentie uit 2 van de groepen | 20         | 35        |
| Acinetobacter spp. meropenem/imipenem R  | 1          | 1         |
| Acinetobacter spp. chinolonen R en aminoglycosiden R   | 2          | 2         |
| S. maltophilia trimethoprim/sulfamethoxazol resistent  | 2          | 6         |
| MRSA   | 14         | 30        |
| S. pneumoniae penicilline I/R  | 1          | 1         |

### EUCAST: Exceptional phenotypes of Gram-Negative Bacteria

| Antibiotica-pathoogeen combinaties                | #patienten | #Isolaten |
|---|------------|-----------|
| 5.2a Pseudomonas aeruginosa Resistant to colistin | 1          | 1         |
| Acinetobacter spp. colistine R                    | 1          | 1         |
| 5.2b Acinetobacter spp. Resistant to colistin     | 1          | 1         |
| H. influenzae cefotaxime/ceftriaxon R             | 2          | 2         |

### EUCAST: Exceptional phenotypes of Gram-Positive Bacteria

| Antibiotica-pathoogeen combinaties                                      | #patienten | #Isolaten |
|---|------------|-----------|
| 6.1b Staphylococcus aureus Resistant to linezolid                       | 2          | 2         |
| 6.2b Coagulase-negative staphylococci Resistant to linezolid            | 1          | 1         |
| 6.5b Group A en B B-haemolytic streptococci Resistant to cephalosporins | 2          | 2         |
| 6.6a Enterococcus spp. Resistant to linezolid                           | 2          | 2         |

### Bijzondere Resistentiepatronen

| Bijzondere resistenties                | #patienten | #Isolaten |
|--|------------|-----------|
| S. maltophilia carbapenem gevoelig     | 1          | 1         |
| K. pneumoniae amoxicilline gevoelig    | 10         | 10        |
| C. albicans fluconazol intermediair    | 2          | 2         |
| C. albicans fluconazol resistent       | 1          | 1         |
| E. faecalis/E. faecium glycopeptiden R | 3          | 3         |

### Totaal aantal patiënten en isolaten per pathogeen, isolaten onderverdeeld naar materiaal

| Organisme   | #pat | #iso | Bloed | Urine | Respiratoir | Overige |
|---|------|------|-------|-------|-------------|---------|
| Escherichia coli                                  | 448  | 512  | 27    | 414   | 29          | 42      |
| Klebsiella pneumoniae                             | 60   | 84   | 6     | 52    | 19          | 7       |
| Klebsiella oxytoca                                | 33   | 57   | 0     | 30    | 21          | 6       |
| Enterobacter cloacae groep                        | 27   | 48   | 2     | 12    | 20          | 14      |
| Enterobacter aerogenes                            | 7    | 20   | 4     | 4     | 12          | 0       |
| Citrobacter freundii groep                        | 9    | 15   | 0     | 5     | 8           | 2       |
| Serratia marcescens                               | 14   | 23   | 0     | 2     | 15          | 6       |
| Morganella morganii                               | 12   | 12   | 0     | 5     | 0           | 7       |
| Proteus mirabilis                                 | 74   | 90   | 4     | 54    | 9           | 23      |
| Proteus vulgaris groep                            | 5    | 7    | 1     | 2     | 1           | 3       |
| Salmonella groep B                                | 1    | 1    | 0     | 0     | 0           | 1       |
| Acinetobacter calcoaceticus/baumannii             | 9    | 16   | 0     | 4     | 7           | 5       |
| Acinetobacter spp                                 | 3    | 3    | 0     | 1     | 0           | 2       |
| Pseudomonas aeruginosa                            | 43   | 80   | 2     | 25    | 27          | 26      |
| Stenotrophomonas maltophilia                      | 7    | 24   | 0     | 0     | 23          | 1       |
| Staphylococcus aureus                             | 182  | 264  | 25    | 12    | 88          | 139     |
| Coagulase positieve staphylococcen, ex. S. aureus | 1    | 1    | 0     | 0     | 0           | 1       |
| Staphylococcus epidermidis                        | 23   | 29   | 9     | 0     | 0           | 20      |
| Staphylococcus lugdunensis                        | 1    | 1    | 0     | 0     | 0           | 1       |
| Staphylococcus saprophyticus                      | 1    | 1    | 1     | 0     | 0           | 0       |
| Coagulase negatieve staphylococcen                | 47   | 48   | 1     | 32    | 1           | 14      |
| CNS nader geïdentificeerd                         | 20   | 32   | 14    | 0     | 0           | 18      |
| Enterococcus faecalis                             | 44   | 47   | 1     | 13    | 3           | 30      |
| Enterococcus faecium                              | 13   | 15   | 2     | 7     | 1           | 5       |
| Enterococcus spp                                  | 136  | 138  | 1     | 135   | 0           | 2       |
| Streptococcus pneumoniae                          | 24   | 30   | 16    | 0     | 13          | 1       |
| Groep A $\beta$ -haemolytic streptococci          | 16   | 25   | 0     | 2     | 1           | 22      |
| Groep B $\beta$ -haemolytic streptococci          | 73   | 78   | 0     | 39    | 2           | 37      |
| Groep G $\beta$ -haemolytic streptococci          | 13   | 15   | 0     | 2     | 0           | 13      |
| Campylobacter jejuni                              | 2    | 2    | 0     | 0     | 0           | 2       |
| Haemophilus influenzae                            | 52   | 63   | 0     | 0     | 63          | 0       |
| Moraxella catarrhalis                             | 16   | 16   | 0     | 0     | 15          | 1       |
| Candida albicans                                  | 134  | 190  | 0     | 16    | 130         | 44      |
| Candida glabrata                                  | 43   | 54   | 0     | 10    | 37          | 7       |
| Candida krusei                                    | 6    | 9    | 0     | 2     | 5           | 2       |
| Candida parapsilosis                              | 4    | 5    | 0     | 0     | 2           | 3       |
| Candida tropicalis                                | 9    | 17   | 1     | 3     | 11          | 2       |

### Totaal aantal patiënten en isolaten per materiaal

| Materiaal                                | RIVM Code | #Patiënten | #Isolaten |
|--|-----------|------------|-----------|
| Bloed                                    | 1         | 72         | 117       |
| Liquor                                   | 2         | 5          | 5         |
| Urine (niet gespecificeerd)              | 3         | 675        | 883       |
| Urine                                    | 3a        | 0          | 0         |
| Catheter urine                           | 3b        | 0          | 0         |
| Genitaal                                 | 4         | 75         | 85        |
| Respiratoir (niet gespecificeerd)        | 5         | 0          | 0         |
| Respiratoir (Lage Luchtwegen)            | 5a        | 164        | 510       |
| Respiratoir (Hoge Luchtwegen)            | 5b        | 44         | 53        |
| Faeces                                   | 6         | 9          | 12        |
| Wond/huid (niet gespecificeerd)          | 7         | 6          | 11        |
| Wond/ulcus                               | 7a        | 124        | 226       |
| Huid                                     | 7b        | 26         | 31        |
| Haar/nagel/huidschilfer                  | 7c        | 0          | 0         |
| Pus (niet gespecificeerd)                | 8         | 0          | 0         |
| Pus                                      | 8a        | 0          | 0         |
| Ascites                                  | 8b        | 0          | 0         |
| Steriel weefsel of vocht                 | 8c        | 53         | 115       |
| C.A.P.D.-vloeistof                       | 8d        | 0          | 0         |
| Oog (niet gespecificeerd)                | 8e        | 3          | 3         |
| Oog steriel                              | 8f        | 0          | 0         |
| Oog niet steriel                         | 8g        | 0          | 0         |
| Vruchtwater                              | 8h        | 0          | 0         |
| Onbekende origine/overig                 | 9a        | 0          | 0         |
| Bloedprodukt/plasma/serum                | 9b        | 0          | 0         |
| Catheter punt (vasc)                     | 9c        | 16         | 20        |
| Drain punt (chir)                        | 9d        | 0          | 0         |
| Drain punt (neurochir)                   | 9e        | 0          | 0         |
| Maaginhoud                               | 9f        | 0          | 0         |
| Urinewegcatheter                         | 9g        | 0          | 0         |
| Niet humaan implantatie-materiaal n.n.o. | 9h        | 0          | 0         |
| C.A.P.D.-catheter                        | 9i        | 0          | 0         |
| Niet klinisch                            | 9x        | 1          | 1         |
| Slijmvlies Maag / Darm                   | 10        | 0          | 0         |

### Totaal aantal patiënten en isolaten per type instelling

| Type Instelling          | #patiënten | #Isolaten |
|--------------------------|------------|-----------|
| Huisarts                 | 370        | 449       |
| Dagbehandeling           | 20         | 29        |
| Kliniek                  | 338        | 941       |
| Openbare Gezondheidszorg | 1          | 1         |
| Overige                  | 22         | 40        |
| Polikliniek              | 401        | 538       |
| Revalidatiecentrum       | 7          | 13        |
| Verpleeg/verzorgingshuis | 11         | 16        |
| Verpleeghuis             | 33         | 45        |

### Aantal patiënten en isolaten per afdeling in kliniek of dagbehandeling

| Afdeling                                | #Patiënten | #Isolaten |
|---|------------|-----------|
| Algemene Afdeling                       | 149        | 278       |
| Chirurgie                               | 20         | 29        |
| ICU niet gespecificeerd                 | 57         | 432       |
| Interne Geneeskunde niet gespecificeerd | 6          | 8         |
| Kindergeneeskunde                       | 2          | 2         |
| Niet aangeleverd                        | 12         | 19        |
| Onbekend                                | 9          | 12        |
| Oncologie                               | 11         | 20        |
| Verloskunde/Obstetrie                   | 11         | 11        |
| Verpleegafdeling                        | 97         | 159       |

### Overzicht van het aantal screenings-, inventarisatie- en klinische isolaten

|  | #pat | #Iso | Klinisch | Invent. klinisch | Inventarisatie | Screening | Onbekend |
|--|------|------|----------|------------------|----------------|-----------|----------|
| MRSA   | 14   | 30   | 18       | 0                | 0              | 12        | 0        |
| Enterobacteriaceae met ESBL                  | 32   | 56   | 56       | 0                | 0              | 0         | 0        |
| Aminoglycoside resistente enterobacteriaceae | 50   | 84   | 84       | 0                | 0              | 0         | 0        |
| Penicilline resistente pneumokokken          | 1    | 1    | 1        | 0                | 0              | 0         | 0        |
| Groep a $\beta$ -haemolytische streptokokken | 16   | 25   | 25       | 0                | 0              | 0         | 0        |

**E. coli gevoeliheidsbepalingen**

| <b>Antibioticum</b>        | <b>#patienten</b> | <b>#isolaten</b> | <b>% S</b> | <b>% I</b> | <b>% R</b> |
|----------------------------|-------------------|------------------|------------|------------|------------|
| amoxicilline / ampicilline | 448               | 512              | 53%        | 0%         | 47%        |
| amoxicilline/clavulaanzuur | 448               | 512              | 80%        | 0%         | 20%        |
| piperacilline/tazobactam   | 446               | 509              | 91%        | 2%         | 8%         |
| cefazoline                 | 176               | 178              | 0%         | 0%         | 100%       |
| cefoxitine                 | 448               | 512              | 92%        | 0%         | 8%         |
| cefuroxim                  | 448               | 512              | 89%        | 0%         | 11%        |
| cefotaxim                  | 448               | 512              | 94%        | 1%         | 5%         |
| cefotaxim/clavulaanzuur    | 1                 | 1                | 100%       | 0%         | 0%         |
| ceftazidim                 | 448               | 512              | 94%        | 3%         | 4%         |
| ceftazidim/clavulaanzuur   | 1                 | 1                | 100%       | 0%         | 0%         |
| ceftriaxon                 | 448               | 512              | 94%        | 1%         | 5%         |
| cefepime                   | 448               | 512              | 96%        | 2%         | 2%         |
| imipenem                   | 277               | 335              | 100%       | 0%         | 0%         |
| meropenem                  | 448               | 512              | 100%       | 0%         | 0%         |
| ciprofloxacin              | 448               | 512              | 82%        | 3%         | 15%        |
| levofloxacin               | 61                | 77               | 0%         | 0%         | 100%       |
| moxifloxacin               | 61                | 77               | 0%         | 0%         | 100%       |
| norfloxacin                | 448               | 512              | 74%        | 1%         | 25%        |
| teicoplanine               | 1                 | 1                | 0%         | 0%         | 100%       |
| vancomycine                | 1                 | 1                | 0%         | 0%         | 100%       |
| azitromycine               | 1                 | 1                | 0%         | 0%         | 100%       |
| claritromycine             | 1                 | 1                | 0%         | 0%         | 100%       |
| erytromycine               | 1                 | 1                | 0%         | 0%         | 100%       |
| clindamycine               | 1                 | 1                | 0%         | 0%         | 100%       |
| amikacine                  | 1                 | 1                | 100%       | 0%         | 0%         |
| gentamicine                | 448               | 512              | 93%        | 0%         | 7%         |
| tobramycine                | 448               | 512              | 93%        | 1%         | 6%         |
| colistine / polymyxine B   | 277               | 335              | 99%        | 0%         | 1%         |
| cotrimoxazole              | 448               | 512              | 75%        | 0%         | 25%        |
| trimethoprim               | 393               | 414              | 75%        | 0%         | 25%        |
| doxycycline                | 1                 | 1                | 0%         | 0%         | 100%       |
| tetracycline               | 1                 | 1                | 0%         | 0%         | 100%       |
| fosfomycine                | 184               | 187              | 99%        | 0%         | 1%         |
| linezolid                  | 1                 | 1                | 0%         | 0%         | 100%       |
| nitrofurantoïne            | 393               | 414              | 97%        | 0%         | 3%         |

*De berekening berust op alle isolaten van een patiënt en is gebaseerd op deze maandaanlevering, daarom alleen bedoeld als terugkoppeling*

### Relatie tussen gevoeligheid ceftazidim/cefotaxim en ESBL confirmatie

| Organisme             | ceftazidim cefotaxim | #pat | #Iso | ESBL + | ESBL - |
|-----------------------|----------------------|------|------|--------|--------|
| Escherichia coli      | S                    | 424  | 474  | 0      | 2      |
|                       | I                    | 6    | 9    | 1      | 8      |
|                       | R                    | 23   | 29   | 23     | 5      |
| Klebsiella pneumoniae | S                    | 56   | 76   | 0      | 0      |
|                       | I                    | 0    | 0    | 0      | 0      |
|                       | R                    | 4    | 8    | 8      | 0      |
| Klebsiella oxytosa    | S                    | 31   | 42   | 0      | 1      |
|                       | I                    | 0    | 0    | 0      | 0      |
|                       | R                    | 3    | 15   | 15     | 0      |

### Relatie tussen gevoeligheid ceftriaxon en ESBL confirmatie

| Organisme             | ceftriaxon | #pat | #Iso | ESBL + | ESBL - |
|-----------------------|------------|------|------|--------|--------|
| Escherichia coli      | S          | 426  | 482  | 2      | 8      |
|                       | I          | 3    | 4    | 0      | 4      |
|                       | R          | 20   | 26   | 22     | 3      |
| Klebsiella pneumoniae | S          | 56   | 76   | 0      | 0      |
|                       | I          | 0    | 0    | 0      | 0      |
|                       | R          | 4    | 8    | 8      | 0      |
| Klebsiella oxytosa    | S          | 31   | 42   | 0      | 1      |
|                       | I          | 0    | 0    | 0      | 0      |
|                       | R          | 3    | 15   | 15     | 0      |



**S. aureus gevoeligheidsbepalingen**

| Antibioticum                 | #patienten | #isolaten | % S  | % I | % R  |
|------------------------------|------------|-----------|------|-----|------|
| ceftaroline                  | 169        | 235       | 100% | 0%  | 0%   |
| doripenem                    | 182        | 264       | 89%  | 0%  | 11%  |
| penicilline                  | 182        | 264       | 22%  | 0%  | 78%  |
| cloxacilline                 | 14         | 30        | 0%   | 0%  | 100% |
| dicloxacilline               | 14         | 30        | 0%   | 0%  | 100% |
| oxacilline / flucloxacilline | 182        | 264       | 89%  | 0%  | 11%  |
| amoxicilline / ampicilline   | 182        | 264       | 0%   | 0%  | 100% |
| ticarcilline                 | 182        | 264       | 0%   | 0%  | 100% |
| piperacilline                | 182        | 264       | 0%   | 0%  | 100% |
| amoxicilline/clavulaanzuur   | 182        | 264       | 89%  | 0%  | 11%  |
| piperacilline/tazobactam     | 182        | 264       | 89%  | 0%  | 11%  |
| cefalexine                   | 182        | 264       | 89%  | 0%  | 11%  |
| cefadroxil                   | 182        | 264       | 89%  | 0%  | 11%  |
| cefazoline                   | 182        | 264       | 89%  | 0%  | 11%  |
| cefaclor                     | 182        | 264       | 89%  | 0%  | 11%  |
| cefoxitine                   | 182        | 264       | 89%  | 0%  | 11%  |
| cefuroxim                    | 182        | 264       | 89%  | 0%  | 11%  |
| cefotaxim                    | 182        | 264       | 89%  | 0%  | 11%  |
| cefepodoxim                  | 182        | 264       | 89%  | 0%  | 11%  |
| ceftriaxon                   | 182        | 264       | 89%  | 0%  | 11%  |
| cefepime                     | 182        | 264       | 89%  | 0%  | 11%  |
| ertapenem                    | 182        | 264       | 89%  | 0%  | 11%  |
| imipenem                     | 182        | 264       | 89%  | 0%  | 11%  |
| ciprofloxacine               | 182        | 264       | 89%  | 0%  | 11%  |
| teicoplanine                 | 182        | 264       | 100% | 0%  | 0%   |
| vancomycine                  | 182        | 264       | 100% | 0%  | 0%   |
| azitromycine                 | 182        | 264       | 86%  | 2%  | 13%  |
| claritromycine               | 182        | 264       | 86%  | 2%  | 13%  |
| erytromycine                 | 182        | 264       | 86%  | 2%  | 13%  |
| roxitromycine                | 182        | 264       | 86%  | 2%  | 13%  |
| clindamycine                 | 182        | 264       | 93%  | 1%  | 6%   |
| amikacine                    | 182        | 264       | 94%  | 0%  | 6%   |
| gentamicine                  | 182        | 264       | 95%  | 0%  | 5%   |
| kanamycine                   | 182        | 264       | 94%  | 0%  | 6%   |
| tobramycine                  | 182        | 264       | 94%  | 0%  | 6%   |
| cotrimoxazole                | 182        | 264       | 91%  | 3%  | 6%   |
| doxycycline                  | 182        | 264       | 84%  | 1%  | 15%  |
| tetracycline                 | 182        | 264       | 85%  | 1%  | 14%  |
| rifampicine                  | 182        | 264       | 100% | 0%  | 0%   |
| fosfomycine                  | 182        | 264       | 0%   | 0%  | 100% |
| linezolid                    | 182        | 264       | 99%  | 0%  | 1%   |
| mupirocine                   | 182        | 264       | 100% | 0%  | 0%   |
| fusidinezuur                 | 182        | 264       | 90%  | 0%  | 10%  |
| chlooramfenicol              | 182        | 264       | 97%  | 0%  | 3%   |

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### Confrmatie MRSA screen positief (PCR mecA of PBP2a aggluttinatie)

| S. aureus patiënten | S. aureus isolaten | MRSA SP patienten | MRSA SP isolaten | Pos geconfirmeerd | Neg geconfirmeerd |
|---------------------|--------------------|-------------------|------------------|-------------------|-------------------|
| 182                 | 264                | 14                | 30               | 9                 | 1                 |

*MRSA SP = R voor Cefoxitin of Methiciline (equivalent)*

**Gevoeligheid van Candida albicans**

| <b>Antibioticum</b> | <b>#patienten</b> | <b>#Isolaten</b> | <b>% S</b> | <b>% I</b> | <b>% R</b> |
|---------------------|-------------------|------------------|------------|------------|------------|
| 5-fluorocytosine    | 134               | 190              | 99%        | 0%         | 1%         |
| amfotericine B      | 134               | 190              | 100%       | 0%         | 0%         |
| caspofungin         | 134               | 190              | 100%       | 0%         | 0%         |
| fluconazol          | 134               | 190              | 98%        | 1%         | 1%         |
| voriconazol         | 134               | 190              | 99%        | 0%         | 1%         |

**Gevoeligheid van Candida glabrata**

| <b>Antibioticum</b> | <b>#patienten</b> | <b>#Isolaten</b> | <b>% S</b> | <b>% I</b> | <b>% R</b> |
|---------------------|-------------------|------------------|------------|------------|------------|
| 5-fluorocytosine    | 42                | 53               | 100%       | 0%         | 0%         |
| amfotericine B      | 42                | 53               | 100%       | 0%         | 0%         |
| caspofungin         | 43                | 54               | 100%       | 0%         | 0%         |
| fluconazol          | 42                | 53               | 0%         | 0%         | 100%       |
| posaconazol         | 36                | 47               | 98%        | 0%         | 2%         |
| voriconazol         | 42                | 53               | 100%       | 0%         | 0%         |