

**Table *Acinetobacter* spp. Total number of invasive isolates tested (N) and percentage with resistance to fluoroquinolones (%R), EU/EEA countries, 2016-2020**

| Country                           | 2016  |              | 2017  |              | 2018  |              | 2019  |              | 2020  |              |
|-----------------------------------|-------|--------------|-------|--------------|-------|--------------|-------|--------------|-------|--------------|
|                                   | N     | %R           | N     | %R           | N     | %R           | N     | %R           | N     | %R           |
| Norway                            | 33    | 3.0          | 31    | 0.0          | 32    | 0.0          | 23    | 0.0          | 31    | 0.0          |
| Netherlands                       | 134   | 2.2          | 132   | 3.0          | 149   | 7.4          | 127   | 7.9          | 147   | 4.1          |
| Germany                           | 460   | 5.7          | 536   | 6.5          | 520   | 6.7          | 443   | 5.0          | 568   | 5.1          |
| Ireland                           | 68    | 1.5          | 66    | 7.6          | 61    | 0.0          | 64    | 7.8          | 37    | 5.4          |
| Sweden                            | 86    | 4.7          | 54    | 0.0          | 55    | 7.3          | 113   | 8.0          | 126   | 7.1          |
| Finland                           | 28    | 0.0          | 37    | 2.7          | 28    | 0.0          | 43    | 0.0          | 36    | 8.3          |
| France                            | 452   | 15.0         | 473   | 12.3         | 491   | 12.0         | 481   | 13.3         | 653   | 9.0          |
| Austria                           | 81    | 16.0         | 74    | 9.5          | 91    | 7.7          | 82    | 9.8          | 69    | 10.1         |
| Denmark                           | 72    | 2.8          | 68    | 1.5          | 55    | 9.1          | 72    | 6.9          | 65    | 13.8         |
| Belgium                           | 78    | 7.7          | 130   | 10.8         | 134   | 12.7         | 93    | 8.6          | 141   | 15.6         |
| Portugal                          | 206   | 50.5         | 172   | 38.4         | 123   | 34.1         | 88    | 26.1         | 101   | 17.8         |
| Slovenia                          | 60    | 55.0         | 36    | 47.2         | 39    | 28.2         | 40    | 27.5         | 36    | 27.8         |
| Czechia                           | 57    | 17.5         | 55    | 20.0         | 91    | 24.2         | 95    | 32.6         | 82    | 35.4         |
| Slovakia                          | 115   | 46.1         | 126   | 52.4         | 141   | 56.0         | 94    | 61.7         | 95    | 38.9         |
| EU/EEA (population-weighted mean) | 5 596 | 37.5         | 6 098 | 37.4         | 6 496 | 36.2         | 5 923 | 36.6         | 7 392 | 41.8         |
| Spain                             | 106   | 68.9         | 92    | 68.5         | 81    | 56.8         | 82    | 54.9         | 91    | 62.6         |
| Hungary                           | 397   | 68.0         | 352   | 67.0         | 356   | 66.0         | 412   | 63.3         | 530   | 77.0         |
| Bulgaria                          | 106   | 67.9         | 92    | 95.7         | 110   | 78.2         | 132   | 74.2         | 129   | 82.9         |
| Italy                             | 697   | 79.9         | 804   | 79.2         | 1 368 | 81.1         | 1 636 | 82.5         | 2 522 | 83.4         |
| Cyprus                            | 28    | 71.4         | 50    | 76.0         | 55    | 89.1         | 32    | 90.6         | 113   | 85.0         |
| Latvia                            | 68    | 85.3         | 33    | 81.8         | 47    | 80.9         | 24    | 83.3         | 50    | 86.0         |
| Poland                            | 393   | 83.0         | 348   | 83.0         | 268   | 86.9         | 304   | 85.5         | 366   | 88.3         |
| Lithuania                         | 87    | 87.4         | 86    | 91.9         | 88    | 90.9         | 108   | 91.7         | 154   | 92.9         |
| Romania                           | 157   | 91.1         | 183   | 89.1         | 218   | 88.1         | 262   | 91.2         | 297   | 95.3         |
| Greece                            | 862   | 94.9         | 1 060 | 96.0         | 998   | 93.5         | 189   | 95.8         | 729   | 95.7         |
| Croatia                           | 176   | 94.9         | 204   | 98.0         | 155   | 96.1         | 142   | 93.7         | 224   | 98.2         |
| Estonia                           | 5     | <10 isolates | 11    | 36.4         | 11    | 45.5         | 10    | 80.0         | 7     | <10 isolates |
| Luxembourg                        | 8     | <10 isolates | 8     | <10 isolates | 11    | 0.0          | 10    | 10.0         | 7     | <10 isolates |
| Malta                             | 7     | <10 isolates | 9     | <10 isolates | 9     | <10 isolates | 15    | 6.7          | 7     | <10 isolates |
| Iceland                           | 3     | <10 isolates | 6     | <10 isolates | 2     | <10 isolates | 3     | <10 isolates | 3     | <10 isolates |
| United Kingdom                    | 589   | 4.4          | 793   | 6.3          | 720   | 2.9          | 707   | 7.1          | ND    | ND           |

ND = no data

<10 isolates = no proportion is displayed if <10 isolates were available for analysis

**Table *Acinetobacter* spp. Total number of invasive isolates tested (N) and percentage with resistance to aminoglycosides<sup>a</sup> (%R), EU/EEA countries, 2016-2020**

| Country                           | 2016  |              | 2017  |              | 2018  |              | 2019  |              | 2020  |              |
|-----------------------------------|-------|--------------|-------|--------------|-------|--------------|-------|--------------|-------|--------------|
|                                   | N     | %R           | N     | %R           | N     | %R           | N     | %R           | N     | %R           |
| Ireland                           | 63    | 1.6          | 62    | 3.2          | 56    | 3.6          | 57    | 1.8          | 44    | 0.0          |
| Norway                            | 32    | 3.1          | 31    | 0.0          | 32    | 0.0          | 23    | 4.3          | 30    | 0.0          |
| Netherlands                       | 131   | 3.1          | 130   | 3.1          | 148   | 4.7          | 124   | 3.2          | 149   | 1.3          |
| Belgium                           | 66    | 1.5          | 99    | 13.1         | 122   | 7.4          | 85    | 3.5          | 148   | 2.7          |
| Finland                           | 28    | 3.6          | 36    | 0.0          | 27    | 7.4          | 42    | 0.0          | 37    | 2.7          |
| Denmark                           | 70    | 0.0          | 68    | 0.0          | 53    | 7.5          | 72    | 2.8          | 65    | 4.6          |
| Germany                           | 436   | 3.0          | 498   | 3.4          | 498   | 3.4          | 430   | 4.2          | 527   | 4.9          |
| Austria                           | 81    | 16.0         | 75    | 9.3          | 92    | 8.7          | 82    | 7.3          | 66    | 7.6          |
| Sweden                            | 85    | 5.9          | 51    | 0.0          | 55    | 5.5          | 113   | 5.3          | 125   | 8.0          |
| France                            | 449   | 12.2         | 474   | 9.1          | 482   | 8.9          | 473   | 14.6         | 661   | 8.3          |
| Portugal                          | 206   | 39.3         | 168   | 28.6         | 126   | 25.4         | 93    | 24.7         | 104   | 12.5         |
| Slovenia                          | 60    | 43.3         | 36    | 41.7         | 39    | 20.5         | 40    | 25.0         | 36    | 25.0         |
| Slovakia                          | 115   | 40.9         | 125   | 40.0         | 144   | 44.4         | 97    | 46.4         | 95    | 28.4         |
| Czechia                           | 57    | 8.8          | 55    | 12.7         | 91    | 22.0         | 95    | 33.7         | 82    | 34.1         |
| EU/EEA (population-weighted mean) | 5 562 | 32.7         | 6 042 | 32.2         | 6 459 | 31.3         | 5 915 | 32.7         | 7 306 | 37.1         |
| Spain                             | 106   | 50.9         | 92    | 52.2         | 81    | 49.4         | 83    | 47.0         | 91    | 53.8         |
| Latvia                            | 81    | 77.8         | 33    | 78.8         | 48    | 60.4         | 44    | 68.2         | 52    | 63.5         |
| Poland                            | 387   | 72.6         | 344   | 72.7         | 285   | 67.4         | 315   | 70.8         | 363   | 70.8         |
| Hungary                           | 401   | 59.1         | 358   | 56.1         | 343   | 48.7         | 419   | 50.6         | 532   | 72.4         |
| Bulgaria                          | 79    | 81.0         | 92    | 89.1         | 110   | 73.6         | 132   | 78.0         | 129   | 76.0         |
| Cyprus                            | 28    | 57.1         | 50    | 76.0         | 57    | 75.4         | 32    | 84.4         | 116   | 77.6         |
| Italy                             | 704   | 76.4         | 836   | 76.1         | 1 369 | 77.0         | 1 637 | 78.8         | 2 496 | 80.2         |
| Lithuania                         | 87    | 82.8         | 86    | 81.4         | 87    | 85.1         | 107   | 83.2         | 153   | 86.3         |
| Romania                           | 152   | 89.5         | 183   | 83.6         | 210   | 80.0         | 241   | 83.8         | 253   | 90.1         |
| Greece                            | 878   | 85.0         | 1 064 | 85.6         | 1 003 | 81.6         | 194   | 88.7         | 727   | 90.4         |
| Croatia                           | 182   | 83.0         | 206   | 84.0         | 153   | 91.5         | 140   | 92.1         | 225   | 96.4         |
| Luxembourg                        | 8     | <10 isolates | 8     | <10 isolates | 11    | 0.0          | 10    | 0.0          | 7     | <10 isolates |
| Malta                             | 7     | <10 isolates | 9     | <10 isolates | 8     | <10 isolates | 14    | 0.0          | 7     | <10 isolates |
| Estonia                           | 5     | <10 isolates | 9     | <10 isolates | 11    | 45.5         | 8     | <10 isolates | 5     | <10 isolates |
| Iceland                           | 3     | <10 isolates | 6     | <10 isolates | 2     | <10 isolates | 3     | <10 isolates | 3     | <10 isolates |
| United Kingdom                    | 598   | 3.3          | 790   | 4.6          | 726   | 5.1          | 721   | 5.1          | ND    | ND           |

<sup>a</sup> The aminoglycoside group includes only gentamicin and tobramycin from 2020 onwards.

ND = no data

<10 isolates = no proportion is displayed if <10 isolates were available for analysis

**Table *Acinetobacter* spp. Total number of invasive isolates tested (N) and percentage with resistance to carbapenems (%R), EU/EEA countries, 2016-2020**

| Country                           | 2016  |              | 2017  |              | 2018  |              | 2019  |              | 2020  |              |
|-----------------------------------|-------|--------------|-------|--------------|-------|--------------|-------|--------------|-------|--------------|
|                                   | N     | %R           | N     | %R           | N     | %R           | N     | %R           | N     | %R           |
| Ireland                           | 65    | 0.0          | 63    | 6.3          | 60    | 1.7          | 63    | 1.6          | 48    | 0.0          |
| Norway                            | 33    | 0.0          | 31    | 0.0          | 32    | 0.0          | 23    | 0.0          | 31    | 0.0          |
| Netherlands                       | 132   | 0.0          | 130   | 0.8          | 148   | 4.7          | 124   | 0.8          | 148   | 0.7          |
| Belgium                           | 78    | 2.6          | 131   | 6.9          | 132   | 3.8          | 94    | 0.0          | 160   | 1.3          |
| France                            | 450   | 7.1          | 469   | 6.2          | 490   | 6.5          | 487   | 9.0          | 692   | 3.3          |
| Germany                           | 452   | 4.9          | 540   | 4.1          | 527   | 4.4          | 462   | 2.2          | 578   | 3.5          |
| Denmark                           | 69    | 0.0          | 66    | 0.0          | 47    | 6.4          | 72    | 0.0          | 64    | 4.7          |
| Finland                           | 28    | 0.0          | 37    | 2.7          | 28    | 0.0          | 43    | 0.0          | 37    | 5.4          |
| Sweden                            | 84    | 1.2          | 54    | 0.0          | 54    | 3.7          | 112   | 3.6          | 126   | 7.1          |
| Austria                           | 81    | 12.3         | 75    | 6.7          | 91    | 4.4          | 81    | 7.4          | 69    | 7.2          |
| Portugal                          | 206   | 51.9         | 172   | 40.7         | 127   | 30.7         | 90    | 31.1         | 104   | 15.4         |
| Estonia                           | 8     | <10 isolates | 15    | 33.3         | 14    | 28.6         | 16    | 50.0         | 11    | 18.2         |
| Slovenia                          | 60    | 43.3         | 36    | 41.7         | 39    | 17.9         | 40    | 22.5         | 36    | 19.4         |
| Slovakia                          | 109   | 28.4         | 120   | 31.7         | 141   | 44.0         | 96    | 55.2         | 91    | 30.8         |
| Czechia                           | 57    | 1.8          | 55    | 12.7         | 91    | 19.8         | 95    | 30.5         | 82    | 32.9         |
| EU/EEA (population-weighted mean) | 5 590 | 32.6         | 6 186 | 33.1         | 6 526 | 31.9         | 5 958 | 32.4         | 7 542 | 38.0         |
| Spain                             | 106   | 62.3         | 92    | 66.3         | 81    | 54.3         | 83    | 56.6         | 91    | 61.5         |
| Hungary                           | 401   | 57.1         | 358   | 52.0         | 357   | 55.2         | 418   | 51.0         | 534   | 73.0         |
| Poland                            | 391   | 66.0         | 344   | 67.4         | 278   | 67.3         | 317   | 71.0         | 372   | 78.2         |
| Italy                             | 702   | 78.5         | 868   | 78.7         | 1 383 | 79.2         | 1 588 | 79.3         | 2 552 | 80.8         |
| Cyprus                            | 28    | 71.4         | 50    | 76.0         | 57    | 84.2         | 32    | 87.5         | 116   | 81.0         |
| Latvia                            | 82    | 73.2         | 34    | 79.4         | 51    | 78.4         | 46    | 84.8         | 52    | 82.7         |
| Bulgaria                          | 103   | 74.8         | 92    | 80.4         | 110   | 74.5         | 132   | 72.0         | 129   | 82.9         |
| Lithuania                         | 87    | 81.6         | 87    | 88.5         | 88    | 89.8         | 108   | 85.2         | 157   | 91.1         |
| Romania                           | 160   | 85.0         | 182   | 87.4         | 218   | 85.3         | 264   | 88.3         | 297   | 93.3         |
| Greece                            | 861   | 95.4         | 1 095 | 94.8         | 1 013 | 92.4         | 196   | 92.3         | 740   | 94.6         |
| Croatia                           | 181   | 94.5         | 208   | 96.2         | 155   | 95.5         | 143   | 92.3         | 225   | 96.4         |
| Luxembourg                        | 8     | <10 isolates | 8     | <10 isolates | 6     | <10 isolates | 8     | <10 isolates | 7     | <10 isolates |
| Malta                             | 7     | <10 isolates | 9     | <10 isolates | 9     | <10 isolates | 15    | 0.0          | 7     | <10 isolates |
| Iceland                           | 3     | <10 isolates | 6     | <10 isolates | 2     | <10 isolates | 3     | <10 isolates | 3     | <10 isolates |
| United Kingdom                    | 584   | 1.5          | 782   | 2.8          | 714   | 1.8          | 718   | 2.1          | ND    | ND           |

ND = no data

<10 isolates = no proportion is displayed if <10 isolates were available for analysis

**Table *Acinetobacter* spp. Total number of isolates tested (N) and percentage with combined resistance to fluoroquinolones, aminoglycosides<sup>a</sup> and carbapenems (%R), EU/EEA countries, 2016-2020**

| Country                           | 2016  |              | 2017  |              | 2018  |              | 2019  |              | 2020  |              |
|-----------------------------------|-------|--------------|-------|--------------|-------|--------------|-------|--------------|-------|--------------|
|                                   | N     | %R           | N     | %R           | N     | %R           | N     | %R           | N     | %R           |
| Netherlands                       | 128   | 0.0          | 129   | 0.8          | 147   | 4.8          | 122   | 0.8          | 139   | 0.0          |
| Ireland                           | 61    | 0.0          | 59    | 1.7          | 55    | 0.0          | 53    | 0.0          | 31    | 0.0          |
| Norway                            | 32    | 0.0          | 31    | 0.0          | 32    | 0.0          | 23    | 0.0          | 30    | 0.0          |
| Belgium                           | 64    | 0.0          | 98    | 7.1          | 120   | 3.3          | 84    | 0.0          | 127   | 0.8          |
| France                            | 447   | 6.7          | 468   | 5.3          | 470   | 5.5          | 458   | 8.5          | 628   | 1.9          |
| Germany                           | 435   | 2.3          | 495   | 1.2          | 498   | 2.2          | 425   | 1.4          | 527   | 2.5          |
| Finland                           | 28    | 0.0          | 36    | 0.0          | 27    | 0.0          | 42    | 0.0          | 36    | 2.8          |
| Denmark                           | 67    | 0.0          | 66    | 0.0          | 46    | 4.3          | 72    | 0.0          | 63    | 4.8          |
| Austria                           | 81    | 8.6          | 74    | 6.8          | 88    | 4.5          | 81    | 6.2          | 66    | 6.1          |
| Sweden                            | 84    | 1.2          | 51    | 0.0          | 54    | 3.7          | 112   | 2.7          | 125   | 7.2          |
| Portugal                          | 206   | 37.9         | 166   | 24.1         | 123   | 22.0         | 83    | 20.5         | 101   | 8.9          |
| Slovenia                          | 60    | 38.3         | 36    | 41.7         | 39    | 17.9         | 40    | 20.0         | 36    | 16.7         |
| Slovakia                          | 109   | 24.8         | 119   | 25.2         | 139   | 36.0         | 93    | 41.9         | 91    | 24.2         |
| Czechia                           | 57    | 0.0          | 55    | 5.5          | 91    | 18.7         | 95    | 29.5         | 82    | 30.5         |
| EU/EEA (population-weighted mean) | 5 418 | 28.3         | 5 872 | 28.2         | 6 294 | 28.3         | 5 682 | 29.4         | 7 140 | 34.1         |
| Spain                             | 106   | 44.3         | 92    | 48.9         | 81    | 44.4         | 82    | 47.6         | 91    | 51.6         |
| Latvia                            | 67    | 67.2         | 32    | 75.0         | 44    | 56.8         | 22    | 50.0         | 50    | 64.0         |
| Poland                            | 383   | 59.3         | 333   | 59.5         | 251   | 62.9         | 299   | 63.2         | 355   | 64.2         |
| Hungary                           | 397   | 51.4         | 352   | 48.6         | 341   | 41.3         | 410   | 45.6         | 529   | 69.4         |
| Bulgaria                          | 76    | 72.4         | 92    | 78.3         | 110   | 66.4         | 132   | 69.7         | 129   | 72.9         |
| Cyprus                            | 28    | 57.1         | 50    | 76.0         | 55    | 78.2         | 32    | 81.3         | 113   | 77.9         |
| Italy                             | 692   | 74.7         | 763   | 72.6         | 1 351 | 75.7         | 1 569 | 76.6         | 2 451 | 78.7         |
| Lithuania                         | 87    | 75.9         | 85    | 77.6         | 87    | 85.1         | 107   | 78.5         | 150   | 86.7         |
| Romania                           | 152   | 82.9         | 182   | 81.3         | 210   | 77.6         | 236   | 83.5         | 251   | 88.8         |
| Greece                            | 838   | 84.0         | 1 059 | 84.3         | 995   | 81.3         | 187   | 91.4         | 715   | 90.8         |
| Croatia                           | 175   | 81.1         | 203   | 83.7         | 153   | 90.8         | 139   | 91.4         | 224   | 95.1         |
| Luxembourg                        | 8     | <10 isolates | 8     | <10 isolates | 6     | <10 isolates | 8     | <10 isolates | 7     | <10 isolates |
| Malta                             | 7     | <10 isolates | 9     | <10 isolates | 8     | <10 isolates | 14    | 0.0          | 7     | <10 isolates |
| Estonia                           | 5     | <10 isolates | 9     | <10 isolates | 11    | 36.4         | 8     | <10 isolates | 5     | <10 isolates |
| Iceland                           | 3     | <10 isolates | 6     | <10 isolates | 2     | <10 isolates | 3     | <10 isolates | 3     | <10 isolates |
| United Kingdom                    | 558   | 0.9          | 746   | 1.7          | 676   | 0.9          | 670   | 1.2          | ND    | ND           |

<sup>a</sup> The aminoglycoside group includes only gentamicin and tobramycin from 2020 onwards.

ND = no data

<10 isolates = no proportion is displayed if <10 isolates were available for analysis



**Table *Enterococcus faecalis*. Total number of invasive isolates tested (N) and percentage with high-level resistance to gentamicin, EU/EEA countries, 2016-2020**

| Country                           | 2016   |      | 2017   |      | 2018   |      | 2019   |      | 2020   |      |
|-----------------------------------|--------|------|--------|------|--------|------|--------|------|--------|------|
|                                   | N      | %R   | N      | %R   | N      | %R   | N      | %R   | N      | %R   |
| Cyprus                            | 39     | 20.5 | 70     | 8.6  | 87     | 12.6 | 37     | 0.0  | 146    | 4.1  |
| Iceland                           | 24     | 16.7 | 33     | 18.2 | 30     | 16.7 | 35     | 11.4 | 30     | 6.7  |
| Greece                            | 540    | 15.9 | 621    | 12.2 | 668    | 12.0 | 128    | 7.8  | 298    | 9.7  |
| Sweden                            | 722    | 13.4 | 945    | 13.3 | 627    | 12.8 | 1 225  | 10.0 | 1 238  | 10.1 |
| Luxembourg                        | 48     | 12.5 | 82     | 22.0 | 45     | 6.7  | 82     | 4.9  | 95     | 10.5 |
| Denmark                           | 56     | 19.6 | 56     | 7.1  | 171    | 12.3 | 47     | 8.5  | 187    | 11.8 |
| Norway                            | 221    | 15.8 | 216    | 14.4 | 216    | 13.4 | 182    | 12.1 | 161    | 12.4 |
| Belgium                           | 328    | 19.8 | 304    | 16.4 | 390    | 12.3 | 363    | 16.8 | 296    | 13.2 |
| Lithuania                         | 45     | 35.6 | 60     | 36.7 | 65     | 27.7 | 78     | 41.0 | 68     | 13.2 |
| Austria                           | 447    | 33.3 | 474    | 33.1 | 417    | 28.3 | 285    | 22.8 | 258    | 14.3 |
| Estonia                           | 56     | 32.1 | 71     | 19.7 | 87     | 25.3 | 93     | 12.9 | 107    | 15.0 |
| Germany                           | 2 341  | 25.2 | 2 930  | 25.3 | 2 273  | 22.9 | 1 561  | 18.0 | 2 288  | 16.3 |
| Ireland                           | 265    | 29.4 | 302    | 30.8 | 292    | 23.6 | 243    | 23.0 | 134    | 17.2 |
| Slovenia                          | 152    | 43.4 | 167    | 33.5 | 161    | 20.5 | 138    | 22.5 | 179    | 18.4 |
| Portugal                          | 851    | 33.8 | 931    | 25.8 | 778    | 26.6 | 881    | 22.2 | 862    | 19.8 |
| Malta                             | 33     | 39.4 | 29     | 34.5 | 31     | 22.6 | 30     | 26.7 | 28     | 25.0 |
| EU/EEA (population-weighted mean) | 12 910 | 31.8 | 13 930 | 29.7 | 15 343 | 27.1 | 13 596 | 26.8 | 14 279 | 29.0 |
| Netherlands                       | 661    | 25.3 | 708    | 23.6 | 757    | 22.5 | 604    | 20.0 | 544    | 29.6 |
| Czechia                           | 515    | 37.1 | 526    | 34.0 | 594    | 33.7 | 527    | 31.5 | 583    | 30.2 |
| Spain                             | 952    | 37.5 | 873    | 36.9 | 1 002  | 34.8 | 1 051  | 36.7 | 1 326  | 33.9 |
| Slovakia                          | 213    | 45.1 | 213    | 25.8 | 215    | 40.0 | 201    | 32.8 | 195    | 35.9 |
| Italy                             | 1 441  | 45.3 | 1 630  | 45.9 | 2 927  | 39.9 | 2 395  | 34.9 | 3 028  | 37.4 |
| Croatia                           | 179    | 33.0 | 171    | 33.3 | 143    | 33.6 | 125    | 24.0 | 161    | 37.9 |
| Latvia                            | 87     | 46.0 | 72     | 45.8 | 86     | 32.6 | 93     | 44.1 | 89     | 38.2 |
| Hungary                           | 786    | 42.2 | 769    | 41.5 | 750    | 38.0 | 816    | 33.7 | 962    | 42.6 |
| Romania                           | 87     | 56.3 | 89     | 44.9 | 168    | 37.5 | 155    | 40.6 | 148    | 43.2 |
| Bulgaria                          | 98     | 46.9 | 133    | 43.6 | 150    | 39.3 | 150    | 37.3 | 165    | 47.9 |
| Poland                            | 666    | 43.1 | 660    | 41.2 | 645    | 41.6 | 706    | 40.2 | 703    | 51.6 |
| France                            | 1 057  | 15.0 | 795    | 12.7 | 1 568  | 9.8  | 1 346  | 12.0 | ND     |      |
| Finland                           | ND     | ND   | ND     | ND   | ND     | ND   | ND     | ND   | ND     | ND   |
| United Kingdom                    | ND     | ND   | ND     | ND   | ND     | ND   | 19     | 36.8 | ND     | ND   |

ND = no data

**Table *Enterococcus faecium*. Total number of invasive isolates tested (N) and percentage with resistance to vancomycin, EU/EEA countries, 2016-2020**

| Country                           | 2016   |      | 2017   |      | 2018   |      | 2019   |      | 2020   |      |
|-----------------------------------|--------|------|--------|------|--------|------|--------|------|--------|------|
|                                   | N      | %R   | N      | %R   | N      | %R   | N      | %R   | N      | %R   |
| Iceland                           | 16     | 0.0  | 17     | 0.0  | 16     | 0.0  | 13     | 0.0  | 19     | 0.0  |
| Sweden                            | 546    | 0.4  | 530    | 0.0  | 428    | 1.4  | 693    | 1.0  | 600    | 0.2  |
| Finland                           | 294    | 0.0  | 301    | 0.7  | 289    | 1.7  | 291    | 0.0  | 259    | 0.4  |
| Netherlands                       | 866    | 1.0  | 881    | 1.4  | 1 006  | 1.3  | 786    | 0.9  | 1 310  | 0.5  |
| France                            | 808    | 0.6  | 986    | 0.8  | 987    | 0.6  | 1 062  | 0.7  | 1 385  | 0.6  |
| Norway                            | 213    | 1.9  | 202    | 4.5  | 171    | 2.3  | 196    | 1.0  | 180    | 0.6  |
| Slovenia                          | 111    | 0.0  | 149    | 0.7  | 134    | 0.0  | 137    | 2.9  | 177    | 1.1  |
| Spain                             | 628    | 2.1  | 570    | 1.8  | 764    | 2.5  | 846    | 1.2  | 1 075  | 1.2  |
| Belgium                           | 289    | 1.7  | 417    | 5.5  | 436    | 1.8  | 343    | 0.6  | 491    | 2.9  |
| Estonia                           | 64     | 0.0  | 52     | 5.8  | 64     | 6.3  | 74     | 4.1  | 61     | 3.3  |
| Austria                           | 533    | 4.3  | 570    | 3.2  | 524    | 2.1  | 537    | 3.2  | 507    | 3.6  |
| Portugal                          | 411    | 7.5  | 461    | 7.2  | 436    | 4.4  | 410    | 9.0  | 399    | 7.8  |
| Bulgaria                          | 44     | 18.2 | 84     | 19.0 | 91     | 9.9  | 99     | 12.1 | 77     | 7.8  |
| Denmark                           | 679    | 7.5  | 785    | 7.0  | 779    | 12.5 | 734    | 9.8  | 793    | 9.6  |
| Luxembourg                        | 31     | 0.0  | 34     | 0.0  | 28     | 0.0  | 37     | 2.7  | 42     | 11.9 |
| Czechia                           | 258    | 7.8  | 264    | 13.3 | 358    | 20.7 | 349    | 19.8 | 410    | 16.6 |
| EU/EEA (population-weighted mean) | 12 511 | 12.3 | 14 213 | 14.9 | 15 992 | 17.3 | 16 549 | 18.2 | 18 151 | 16.8 |
| Malta                             | 12     | 8.3  | 13     | 0.0  | 15     | 26.7 | 13     | 0.0  | 23     | 21.7 |
| Germany                           | 2 043  | 11.9 | 2 642  | 16.5 | 2 458  | 23.7 | 2 797  | 26.3 | 3 770  | 22.3 |
| Italy                             | 941    | 13.4 | 1 049  | 14.6 | 2 273  | 18.9 | 2 839  | 21.3 | 4 166  | 23.6 |
| Latvia                            | 56     | 28.6 | 39     | 25.6 | 48     | 35.4 | 58     | 39.7 | 62     | 29.0 |
| Croatia                           | 104    | 22.1 | 89     | 19.1 | 71     | 25.4 | 74     | 25.7 | 88     | 33.0 |
| Hungary                           | 272    | 22.4 | 315    | 28.3 | 301    | 39.5 | 304    | 35.9 | 471    | 34.8 |
| Ireland                           | 422    | 44.1 | 442    | 38.2 | 418    | 40.2 | 443    | 38.4 | 351    | 35.9 |
| Poland                            | 405    | 26.2 | 400    | 31.5 | 374    | 35.8 | 432    | 44.0 | 527    | 38.5 |
| Romania                           | 77     | 39.0 | 64     | 34.4 | 77     | 40.3 | 140    | 35.7 | 112    | 39.3 |
| Slovakia                          | 125    | 26.4 | 122    | 32.0 | 161    | 32.3 | 137    | 29.2 | 120    | 40.0 |
| Greece                            | 358    | 27.9 | 412    | 30.8 | 527    | 28.1 | 117    | 47.0 | 445    | 41.8 |
| Cyprus                            | 41     | 46.3 | 41     | 43.9 | 44     | 59.1 | 32     | 50.0 | 86     | 44.2 |
| Lithuania                         | 61     | 21.3 | 80     | 36.3 | 99     | 31.3 | 128    | 39.8 | 145    | 56.6 |
| United Kingdom                    | 1 803  | 17.0 | 2 202  | 25.8 | 2 615  | 24.7 | 2 428  | 22.2 | ND     | ND   |

ND = no data

**Table *Escherichia coli*. Total number of invasive isolates tested (N) and percentage with resistance to aminopenicillins (%R), EU/EEA countries, 2016-2020**

| Country                           | 2016    |      | 2017    |      | 2018    |      | 2019    |      | 2020    |      |
|-----------------------------------|---------|------|---------|------|---------|------|---------|------|---------|------|
|                                   | N       | %R   | N       | %R   | N       | %R   | N       | %R   | N       | %R   |
| Finland                           | 2 690   | 35.8 | 2 874   | 35.2 | 3 129   | 35.3 | 3 000   | 35.5 | 2 928   | 34.1 |
| Norway                            | 3 615   | 42.9 | 3 731   | 42.2 | 3 880   | 42.3 | 4 072   | 41.0 | 3 758   | 39.8 |
| Netherlands                       | 7 246   | 46.1 | 7 512   | 46.0 | 8 272   | 46.0 | 7 301   | 45.4 | 7 494   | 42.7 |
| Denmark                           | 4 698   | 45.0 | 4 885   | 45.6 | 5 383   | 46.0 | 5 593   | 46.3 | 5 864   | 44.1 |
| Estonia                           | 471     | 46.7 | 439     | 47.8 | 457     | 43.5 | 499     | 42.1 | 422     | 45.7 |
| Austria                           | 5 094   | 50.5 | 5 188   | 49.5 | 5 456   | 50.7 | 6 042   | 46.3 | 4 798   | 46.0 |
| Germany                           | 15 957  | 49.0 | 21 646  | 48.9 | 20 841  | 49.2 | 23 324  | 48.7 | 27 284  | 47.5 |
| Slovenia                          | 1 420   | 57.1 | 1 435   | 51.6 | 1 668   | 53.5 | 1 610   | 51.7 | 1 617   | 51.3 |
| Luxembourg                        | 419     | 53.2 | 433     | 55.9 | 420     | 55.2 | 492     | 57.5 | 427     | 52.5 |
| Czechia                           | 3 055   | 55.1 | 3 198   | 53.0 | 3 640   | 54.2 | 3 556   | 54.6 | 2 997   | 52.7 |
| France                            | 11 248  | 57.2 | 13 293  | 55.6 | 12 553  | 55.6 | 13 415  | 54.5 | 17 674  | 53.9 |
| Latvia                            | 247     | 55.1 | 202     | 60.4 | 347     | 56.2 | 438     | 57.8 | 374     | 54.3 |
| Portugal                          | 5 772   | 59.2 | 6 245   | 56.2 | 5 895   | 55.1 | 5 933   | 58.5 | 5 849   | 54.4 |
| EU/EEA (population-weighted mean) | 108 239 | 59.0 | 125 866 | 58.7 | 133 700 | 57.5 | 130 603 | 57.1 | 105 827 | 54.6 |
| Iceland                           | 192     | 43.8 | 213     | 41.3 | 198     | 49.0 | 257     | 52.5 | 245     | 55.1 |
| Greece                            | 1 170   | 56.9 | 1 306   | 57.5 | 1 444   | 57.5 | 154     | 57.1 | 452     | 55.5 |
| Poland                            | 1 034   | 64.5 | 913     | 69.4 | 890     | 64.3 | 836     | 61.6 | 502     | 56.2 |
| Belgium                           | 3 736   | 58.0 | 4 669   | 57.5 | 4 445   | 55.8 | 3 601   | 56.5 | 4 009   | 56.5 |
| Lithuania                         | 794     | 59.2 | 845     | 57.8 | 1 106   | 59.0 | 1 129   | 59.1 | 1 138   | 56.9 |
| Slovakia                          | 817     | 62.3 | 853     | 64.9 | 967     | 61.7 | 849     | 57.8 | 728     | 57.1 |
| Spain                             | 6 795   | 64.1 | 5 947   | 62.4 | 7 599   | 62.9 | 7 831   | 61.2 | 7 214   | 57.6 |
| Croatia                           | 1 043   | 57.3 | 1 135   | 58.8 | 1 214   | 57.7 | 1 108   | 57.1 | 827     | 57.7 |
| Malta                             | 328     | 60.1 | 314     | 59.6 | 332     | 59.6 | 332     | 64.8 | 277     | 58.5 |
| Hungary                           | 1 969   | 57.4 | 2 021   | 60.3 | 2 312   | 62.7 | 2 363   | 59.3 | 1 804   | 58.6 |
| Romania                           | 376     | 72.3 | 494     | 68.2 | 542     | 62.2 | 538     | 63.0 | 316     | 62.7 |
| Italy                             | 3 114   | 66.9 | 4 078   | 67.1 | 7 533   | 64.5 | 4 457   | 68.1 | 4 214   | 64.5 |
| Ireland                           | 2 990   | 68.1 | 2 991   | 69.8 | 3 237   | 67.6 | 3 201   | 67.5 | 2 126   | 64.8 |
| Bulgaria                          | 186     | 78.0 | 203     | 73.9 | 287     | 66.6 | 352     | 63.4 | 261     | 66.7 |
| Cyprus                            | 149     | 69.1 | 156     | 65.4 | 151     | 64.9 | 92      | 71.7 | 228     | 67.5 |
| Sweden                            | ND      | ND   | ND      | ND   | ND      | ND   | ND      | ND   | ND      | ND   |
| United Kingdom                    | 21 614  | 62.7 | 28 647  | 62.5 | 29 502  | 60.8 | 28 228  | 60.3 | ND      | ND   |

ND = no data

**Table *Escherichia coli*. Total number of invasive isolates tested (N) and percentage with resistance to fluoroquinolones (%R), EU/EEA countries, 2016-2020**

| Country                           | 2016    |      | 2017    |      | 2018    |      | 2019    |      | 2020    |      |
|-----------------------------------|---------|------|---------|------|---------|------|---------|------|---------|------|
|                                   | N       | %R   | N       | %R   | N       | %R   | N       | %R   | N       | %R   |
| Norway                            | 3 611   | 10.9 | 3 731   | 13.6 | 3 877   | 12.9 | 4 068   | 11.3 | 3 735   | 10.0 |
| Finland                           | 4 808   | 11.5 | 5 305   | 12.0 | 5 043   | 11.4 | 5 410   | 11.4 | 5 354   | 10.5 |
| Denmark                           | 4 827   | 11.0 | 5 123   | 12.8 | 5 386   | 13.3 | 5 605   | 11.5 | 5 870   | 11.2 |
| Iceland                           | 178     | 9.6  | 199     | 11.6 | 192     | 17.2 | 252     | 13.1 | 245     | 11.8 |
| Netherlands                       | 7 249   | 12.9 | 7 511   | 14.4 | 8 274   | 14.7 | 7 298   | 14.6 | 7 490   | 13.3 |
| Sweden                            | 6 947   | 13.7 | 5 762   | 15.8 | 5 378   | 18.1 | 9 412   | 15.9 | 9 798   | 14.1 |
| Estonia                           | 699     | 13.9 | 781     | 17.4 | 829     | 17.6 | 897     | 17.1 | 959     | 14.1 |
| France                            | 11 251  | 16.7 | 13 328  | 15.0 | 12 443  | 16.3 | 13 431  | 16.0 | 18 569  | 15.9 |
| Germany                           | 17 196  | 19.4 | 22 940  | 20.7 | 21 958  | 19.8 | 23 374  | 17.5 | 27 505  | 16.5 |
| Austria                           | 5 278   | 19.8 | 5 367   | 20.5 | 5 679   | 21.9 | 6 111   | 18.2 | 5 373   | 17.3 |
| Belgium                           | 3 854   | 24.5 | 4 382   | 23.8 | 4 211   | 21.8 | 3 925   | 19.1 | 4 320   | 18.1 |
| Slovenia                          | 1 420   | 25.6 | 1 383   | 24.9 | 1 668   | 22.8 | 1 610   | 19.0 | 1 617   | 18.1 |
| Lithuania                         | 790     | 19.7 | 849     | 25.2 | 1 104   | 19.7 | 1 129   | 18.0 | 1 136   | 18.8 |
| Ireland                           | 2 990   | 22.9 | 3 119   | 23.6 | 3 238   | 23.9 | 3 223   | 20.4 | 2 133   | 18.9 |
| Czechia                           | 3 061   | 27.6 | 3 199   | 24.5 | 3 638   | 24.3 | 3 554   | 23.0 | 2 997   | 20.2 |
| Luxembourg                        | 418     | 28.9 | 433     | 22.9 | 418     | 21.8 | 492     | 20.5 | 428     | 21.7 |
| EU/EEA (population-weighted mean) | 125 161 | 25.2 | 141 562 | 25.7 | 154 698 | 25.3 | 161 718 | 23.8 | 137 785 | 23.8 |
| Portugal                          | 5 783   | 28.9 | 6 424   | 27.3 | 5 868   | 25.5 | 6 431   | 26.5 | 5 845   | 23.9 |
| Romania                           | 418     | 30.6 | 518     | 26.4 | 646     | 29.1 | 654     | 28.3 | 450     | 26.0 |
| Latvia                            | 245     | 27.8 | 201     | 30.3 | 344     | 24.1 | 442     | 24.9 | 378     | 27.5 |
| Spain                             | 6 797   | 32.8 | 5 781   | 32.5 | 7 616   | 32.1 | 8 192   | 29.5 | 7 750   | 28.6 |
| Croatia                           | 1 041   | 27.9 | 1 150   | 28.2 | 1 199   | 30.0 | 1 108   | 27.3 | 826     | 29.7 |
| Hungary                           | 1 986   | 26.8 | 2 051   | 30.6 | 2 364   | 33.2 | 2 398   | 30.3 | 1 958   | 30.3 |
| Greece                            | 1 304   | 32.1 | 1 464   | 32.9 | 1 631   | 30.8 | 203     | 29.6 | 565     | 32.7 |
| Poland                            | 2 637   | 33.1 | 1 832   | 35.9 | 2 567   | 34.7 | 2 753   | 33.0 | 2 149   | 33.0 |
| Slovakia                          | 826     | 40.4 | 882     | 43.2 | 969     | 42.1 | 850     | 34.0 | 729     | 34.2 |
| Malta                             | 328     | 41.5 | 314     | 43.3 | 332     | 41.9 | 332     | 40.1 | 277     | 35.4 |
| Italy                             | 5 950   | 43.3 | 6 945   | 44.9 | 16 043  | 41.7 | 18 417  | 40.6 | 18 840  | 37.6 |
| Bulgaria                          | 237     | 42.2 | 247     | 42.1 | 292     | 41.8 | 352     | 38.6 | 261     | 42.9 |
| Cyprus                            | 149     | 47.0 | 156     | 42.9 | 151     | 42.4 | 92      | 43.5 | 228     | 48.2 |
| United Kingdom                    | 22 883  | 16.3 | 30 185  | 17.5 | 31 340  | 17.7 | 29 703  | 17.8 | ND      | ND   |

ND = no data

**Table *Escherichia coli*. Total number of invasive isolates tested (N) and percentage with resistance to third-generation cephalosporins (%R), EU/EEA countries, 2016-2020**

| Country                           | 2016    |      | 2017    |      | 2018    |      | 2019    |      | 2020    |      |
|-----------------------------------|---------|------|---------|------|---------|------|---------|------|---------|------|
|                                   | N       | %R   | N       | %R   | N       | %R   | N       | %R   | N       | %R   |
| Norway                            | 3 617   | 5.6  | 3 734   | 5.9  | 3 879   | 6.8  | 4 075   | 6.2  | 3 762   | 5.8  |
| Netherlands                       | 7 250   | 6.6  | 7 509   | 6.4  | 8 270   | 7.3  | 7 300   | 7.5  | 7 494   | 6.6  |
| Denmark                           | 4 659   | 6.6  | 4 883   | 6.9  | 4 833   | 7.7  | 5 091   | 7.5  | 5 286   | 6.7  |
| Finland                           | 4 742   | 6.9  | 5 223   | 6.9  | 5 020   | 7.6  | 5 413   | 7.8  | 5 367   | 7.2  |
| Sweden                            | 6 958   | 8.3  | 5 790   | 7.4  | 5 390   | 8.3  | 9 419   | 7.8  | 9 852   | 7.9  |
| Estonia                           | 701     | 9.0  | 788     | 8.8  | 850     | 9.8  | 910     | 11.5 | 979     | 8.3  |
| France                            | 11 313  | 11.2 | 13 352  | 10.2 | 12 614  | 9.6  | 13 019  | 8.8  | 18 857  | 9.5  |
| Austria                           | 5 267   | 10.0 | 5 129   | 9.6  | 5 672   | 10.2 | 6 106   | 9.3  | 5 376   | 9.5  |
| Belgium                           | 3 737   | 10.5 | 4 672   | 9.7  | 4 644   | 9.0  | 3 937   | 10.0 | 4 320   | 9.9  |
| Germany                           | 17 190  | 11.1 | 22 929  | 12.3 | 21 989  | 12.2 | 23 413  | 11.5 | 27 520  | 10.3 |
| Slovenia                          | 1 420   | 12.5 | 1 435   | 12.5 | 1 668   | 11.3 | 1 610   | 9.8  | 1 617   | 10.6 |
| Iceland                           | 192     | 4.2  | 213     | 6.1  | 198     | 8.1  | 257     | 7.0  | 245     | 11.0 |
| Ireland                           | 2 985   | 11.4 | 3 121   | 12.0 | 3 237   | 12.9 | 3 231   | 12.1 | 2 134   | 11.3 |
| Luxembourg                        | 418     | 13.6 | 433     | 9.7  | 424     | 12.5 | 492     | 12.6 | 428     | 11.4 |
| Malta                             | 328     | 14.6 | 314     | 15.6 | 332     | 15.4 | 332     | 17.5 | 277     | 12.3 |
| Czechia                           | 3 061   | 15.1 | 3 199   | 14.2 | 3 641   | 15.2 | 3 557   | 15.9 | 2 997   | 13.3 |
| Spain                             | 6 800   | 15.0 | 6 027   | 12.8 | 7 923   | 13.8 | 8 345   | 14.1 | 7 695   | 14.1 |
| Portugal                          | 5 784   | 16.1 | 6 441   | 15.6 | 5881    | 14.7 | 6 390   | 16.1 | 5 793   | 14.4 |
| EU/EEA (population-weighted mean) | 123 944 | 14.9 | 140 584 | 14.9 | 152 720 | 15.1 | 157 918 | 15.1 | 137 465 | 14.9 |
| Lithuania                         | 795     | 14.7 | 852     | 16.8 | 1 109   | 15.3 | 1 132   | 13.9 | 1 142   | 15.9 |
| Croatia                           | 1 045   | 14.7 | 1 148   | 16.5 | 1 168   | 14.8 | 1 085   | 15.9 | 827     | 16.6 |
| Poland                            | 2 719   | 13.7 | 2 866   | 16.7 | 2 620   | 17.6 | 2 803   | 17.1 | 2 172   | 17.4 |
| Romania                           | 418     | 23.4 | 518     | 18.7 | 654     | 20.2 | 664     | 20.3 | 452     | 19.7 |
| Hungary                           | 1 993   | 16.7 | 2 058   | 20.1 | 2 370   | 22.6 | 2 413   | 20.6 | 1 962   | 20.1 |
| Greece                            | 1 304   | 17.6 | 1 470   | 18.3 | 1 640   | 19.3 | 190     | 18.9 | 567     | 21.9 |
| Latvia                            | 253     | 24.1 | 205     | 22.0 | 348     | 20.4 | 442     | 19.7 | 378     | 24.1 |
| Italy                             | 5 938   | 29.8 | 7 077   | 29.5 | 16 253  | 28.7 | 18 409  | 30.9 | 18 750  | 26.4 |
| Slovakia                          | 824     | 29.7 | 870     | 30.9 | 973     | 30.1 | 846     | 23.0 | 727     | 27.1 |
| Cyprus                            | 149     | 30.2 | 156     | 30.8 | 151     | 37.1 | 92      | 20.7 | 228     | 29.8 |
| Bulgaria                          | 238     | 41.6 | 247     | 41.3 | 292     | 38.7 | 352     | 38.6 | 261     | 41.4 |
| United Kingdom                    | 21 846  | 9.2  | 27 925  | 10.3 | 28 677  | 11.0 | 26 593  | 11.5 | ND      | ND   |

ND = no data

**Table *Escherichia coli*. Total number of invasive isolates tested (N) and percentage with resistance to aminoglycosides<sup>a</sup> (%R), EU/EEA countries, 2016-2020**

| Country                           | 2016    |      | 2017    |      | 2018    |      | 2019    |      | 2020    |      |
|-----------------------------------|---------|------|---------|------|---------|------|---------|------|---------|------|
|                                   | N       | %R   | N       | %R   | N       | %R   | N       | %R   | N       | %R   |
| Denmark                           | 4 846   | 6.1  | 5 122   | 6.0  | 5 393   | 5.7  | 5 599   | 5.5  | 5 870   | 5.5  |
| Estonia                           | 702     | 7.4  | 786     | 5.7  | 849     | 6.2  | 907     | 5.3  | 968     | 5.5  |
| Finland                           | 4 519   | 4.9  | 4 982   | 5.0  | 4 815   | 4.3  | 5 159   | 4.8  | 5 373   | 5.7  |
| Norway                            | 3 614   | 5.5  | 3 732   | 7.2  | 3 880   | 5.7  | 4 074   | 5.6  | 3 763   | 5.7  |
| Sweden                            | 6 949   | 7.2  | 5 758   | 6.5  | 5 378   | 7.7  | 9 410   | 6.0  | 9 840   | 5.9  |
| Austria                           | 5 248   | 7.8  | 5 318   | 7.7  | 5 616   | 8.2  | 6 102   | 6.9  | 5 219   | 6.2  |
| Netherlands                       | 7 248   | 6.2  | 7 512   | 5.9  | 8 275   | 6.3  | 7 301   | 7.0  | 7 495   | 6.4  |
| France                            | 11 135  | 7.9  | 13 103  | 7.0  | 12 283  | 7.4  | 13 133  | 7.0  | 17 786  | 6.7  |
| Slovenia                          | 1 420   | 10.6 | 1 435   | 11.4 | 1 668   | 9.4  | 1 610   | 7.8  | 1 616   | 6.8  |
| Germany                           | 17 023  | 7.0  | 22 478  | 7.0  | 21 634  | 6.9  | 22 990  | 8.3  | 26 358  | 7.5  |
| Belgium                           | 3 499   | 8.4  | 3 769   | 8.1  | 3 822   | 7.4  | 3 922   | 6.9  | 4 312   | 7.5  |
| Iceland                           | 192     | 3.6  | 213     | 5.6  | 197     | 6.1  | 256     | 4.7  | 245     | 7.8  |
| Luxembourg                        | 418     | 9.1  | 433     | 10.4 | 423     | 7.3  | 492     | 10.2 | 428     | 8.9  |
| Ireland                           | 2 991   | 11.2 | 3 123   | 11.9 | 3 238   | 11.7 | 3 232   | 11.8 | 2 134   | 10.1 |
| Czechia                           | 3 061   | 12.2 | 3 199   | 10.7 | 3 643   | 9.5  | 3 559   | 11.4 | 2 999   | 10.2 |
| Lithuania                         | 791     | 8.0  | 848     | 8.3  | 1 103   | 7.9  | 1 129   | 7.6  | 1 141   | 10.3 |
| EU/EEA (population-weighted mean) | 124 480 | 11.6 | 141 788 | 11.4 | 154 266 | 11.1 | 161 432 | 10.8 | 134 683 | 10.9 |
| Romania                           | 414     | 15.0 | 513     | 15.2 | 649     | 12.8 | 594     | 11.6 | 367     | 10.9 |
| Latvia                            | 244     | 12.7 | 201     | 13.4 | 348     | 8.9  | 440     | 11.6 | 377     | 11.4 |
| Portugal                          | 5 765   | 13.1 | 6 387   | 11.9 | 5 825   | 12.2 | 6 428   | 12.1 | 5 788   | 11.7 |
| Malta                             | 328     | 10.4 | 314     | 10.8 | 332     | 9.9  | 332     | 9.9  | 277     | 12.6 |
| Spain                             | 6 800   | 14.5 | 6 029   | 13.7 | 7 924   | 14.1 | 8 304   | 13.6 | 7 778   | 13.6 |
| Poland                            | 2 521   | 13.3 | 2 719   | 14.0 | 2 449   | 15.1 | 2 614   | 12.6 | 2 033   | 14.5 |
| Italy                             | 6 079   | 19.0 | 7 134   | 18.4 | 15 901  | 16.0 | 18 382  | 15.9 | 17 994  | 14.9 |
| Croatia                           | 1 027   | 15.7 | 1 154   | 16.6 | 1 210   | 14.9 | 1 112   | 14.8 | 828     | 14.9 |
| Hungary                           | 1 992   | 13.3 | 2 060   | 15.1 | 2 264   | 17.4 | 2 411   | 15.7 | 1 954   | 16.7 |
| Slovakia                          | 828     | 20.2 | 875     | 22.5 | 969     | 21.6 | 847     | 16.6 | 731     | 18.5 |
| Greece                            | 1 301   | 16.8 | 1 467   | 17.0 | 1 633   | 15.5 | 201     | 12.9 | 562     | 18.7 |
| Cyprus                            | 149     | 16.1 | 156     | 21.8 | 151     | 19.9 | 92      | 10.9 | 228     | 21.9 |
| Bulgaria                          | 210     | 34.8 | 229     | 36.2 | 275     | 28.4 | 352     | 24.4 | 219     | 34.2 |
| United Kingdom                    | 23 166  | 9.9  | 30 739  | 10.0 | 32 119  | 10.5 | 30 448  | 10.7 | ND      | ND   |

<sup>a</sup> The aminoglycoside group includes only gentamicin and tobramycin from 2020 onwards.

ND = no data

**Table *Escherichia coli*. Total number of invasive isolates tested (N) and percentage with resistance to carbapenems (%R), EU/EEA countries, 2016-2020**

| Country                           | 2016    |              | 2017    |              | 2018    |     | 2019    |              | 2020    |     |
|-----------------------------------|---------|--------------|---------|--------------|---------|-----|---------|--------------|---------|-----|
|                                   | N       | %R           | N       | %R           | N       | %R  | N       | %R           | N       | %R  |
| Germany                           | 17 196  | 0.0          | 22 940  | 0.0          | 21 957  | 0.0 | 23 391  | 0.0          | 27 517  | 0.0 |
| France                            | 10 929  | 0.0          | 12 843  | 0.0          | 12 399  | 0.0 | 12 636  | 0.0          | 17 838  | 0.0 |
| Sweden                            | 6 927   | 0.1          | 5 769   | 0.0          | 5 388   | 0.0 | 9 413   | 0.0          | 9 846   | 0.0 |
| Netherlands                       | 7 245   | 0.0          | 7 506   | 0.0          | 8 272   | 0.0 | 7 299   | 0.0          | 7 487   | 0.0 |
| Finland                           | 4 832   | 0.0          | 5 315   | 0.0          | 5 057   | 0.0 | 5 331   | 0.0          | 5 375   | 0.0 |
| Belgium                           | 3 845   | 0.1          | 4 672   | 0.0          | 4 641   | 0.1 | 3 926   | 0.1          | 4 126   | 0.0 |
| Norway                            | 3 616   | 0.1          | 3 733   | 0.1          | 3 879   | 0.0 | 4 040   | 0.0          | 3 646   | 0.0 |
| Poland                            | 2 553   | 0.0          | 2 741   | 0.0          | 2 500   | 0.1 | 2 683   | 0.0          | 2 080   | 0.0 |
| Hungary                           | 1 905   | 0.0          | 1 987   | 0.1          | 2 279   | 0.0 | 2 326   | 0.0          | 1 917   | 0.0 |
| Slovenia                          | 1 420   | 0.0          | 1 435   | 0.0          | 1 668   | 0.0 | 1 610   | 0.0          | 1 617   | 0.0 |
| Lithuania                         | 793     | 0.0          | 849     | 0.0          | 1 100   | 0.0 | 1 122   | 0.2          | 1 142   | 0.0 |
| Estonia                           | 602     | 0.0          | 687     | 0.0          | 758     | 0.0 | 800     | 0.0          | 861     | 0.0 |
| Croatia                           | 1 045   | 0.0          | 1 132   | 0.0          | 1 190   | 0.0 | 1 090   | 0.2          | 820     | 0.0 |
| Luxembourg                        | 418     | 0.0          | 433     | 0.0          | 424     | 0.0 | 492     | 0.6          | 428     | 0.0 |
| Latvia                            | 246     | 0.0          | 203     | 0.0          | 346     | 0.0 | 439     | 0.0          | 378     | 0.0 |
| Malta                             | 328     | 0.0          | 314     | 0.0          | 332     | 0.0 | 332     | 0.0          | 277     | 0.0 |
| Iceland                           | 6       | <10 isolates | 8       | <10 isolates | 13      | 0.0 | 2       | <10 isolates | 245     | 0.0 |
| Cyprus                            | 149     | 0.0          | 156     | 1.3          | 150     | 2.0 | 92      | 0.0          | 228     | 0.0 |
| Austria                           | 5 134   | 0.0          | 5 227   | 0.0          | 5 564   | 0.1 | 5 935   | 0.0          | 5 141   | 0.1 |
| Ireland                           | 2 989   | 0.0          | 3 116   | 0.0          | 3 237   | 0.0 | 3 229   | 0.0          | 2 106   | 0.1 |
| Czechia                           | 1 483   | 0.0          | 1 431   | 0.0          | 1 752   | 0.1 | 1 689   | 0.0          | 1 500   | 0.1 |
| Slovakia                          | 751     | 0.0          | 844     | 0.0          | 924     | 0.0 | 785     | 0.1          | 705     | 0.1 |
| EU/EEA (population-weighted mean) | 122 437 | 0.1          | 140 438 | 0.1          | 151 457 | 0.1 | 156 871 | 0.3          | 134 032 | 0.2 |
| Denmark                           | 4 671   | 0.0          | 5 117   | 0.0          | 4 640   | 0.0 | 5 577   | 0.1          | 5 840   | 0.2 |
| Portugal                          | 5 760   | 0.0          | 6 384   | 0.3          | 5 797   | 0.5 | 6 372   | 0.1          | 5 833   | 0.2 |
| Spain                             | 6 794   | 0.1          | 6 026   | 0.0          | 7 924   | 0.0 | 8 346   | 1.9          | 7 797   | 0.4 |
| Italy                             | 6 106   | 0.3          | 7 280   | 0.3          | 15 452  | 0.4 | 17 086  | 0.4          | 18 001  | 0.5 |
| Greece                            | 1 303   | 0.9          | 1 467   | 1.6          | 1 640   | 1.0 | 203     | 1.0          | 566     | 0.5 |
| Romania                           | 411     | 1.0          | 510     | 0.4          | 653     | 0.0 | 666     | 0.6          | 454     | 0.7 |
| Bulgaria                          | 224     | 0.9          | 247     | 0.0          | 292     | 1.4 | 352     | 0.0          | 261     | 0.8 |
| United Kingdom                    | 22 762  | 0.0          | 30 074  | 0.0          | 31 229  | 0.0 | 29 609  | 0.0          | ND      | ND  |

ND = no data

<10 isolates = no proportion is displayed if <10 isolates were available for analysis

**Table *Escherichia coli*. Total number of isolates tested (N) and percentage with combined resistance to fluoroquinolones, third-generation cephalosporins and aminoglycosides<sup>a</sup> (%R), EU/EEA countries, 2016-2020**

| Country                           | 2016    |      | 2017    |      | 2018    |      | 2019    |      | 2020    |      |
|-----------------------------------|---------|------|---------|------|---------|------|---------|------|---------|------|
|                                   | N       | %R   | N       | %R   | N       | %R   | N       | %R   | N       | %R   |
| Denmark                           | 4 640   | 1.8  | 4 883   | 1.8  | 4 829   | 2.0  | 5 084   | 1.9  | 5 277   | 1.6  |
| Norway                            | 3 609   | 1.9  | 3 729   | 2.4  | 3 876   | 2.0  | 4 068   | 1.7  | 3 734   | 1.6  |
| Estonia                           | 698     | 4.0  | 780     | 3.7  | 828     | 3.0  | 894     | 2.1  | 948     | 1.6  |
| Netherlands                       | 7 247   | 2.3  | 7 504   | 2.1  | 8 268   | 2.2  | 7 296   | 2.6  | 7 486   | 1.9  |
| Finland                           | 4 492   | 2.4  | 4 971   | 2.4  | 4 798   | 2.0  | 5 151   | 2.3  | 5 346   | 1.9  |
| Sweden                            | 6 939   | 3.1  | 5 746   | 2.0  | 5 368   | 3.1  | 9 405   | 2.2  | 9 792   | 2.1  |
| Germany                           | 17 013  | 3.4  | 22 464  | 3.7  | 21 630  | 3.4  | 22 971  | 3.1  | 26 344  | 2.7  |
| Austria                           | 5 235   | 3.5  | 5 071   | 3.3  | 5 598   | 3.6  | 6 072   | 2.7  | 5 192   | 2.8  |
| France                            | 11 082  | 3.8  | 13 038  | 3.0  | 12 107  | 3.5  | 12 639  | 3.0  | 17 433  | 2.9  |
| Belgium                           | 3 496   | 3.8  | 3 765   | 3.5  | 3 809   | 3.1  | 3 920   | 3.0  | 4 312   | 2.9  |
| Iceland                           | 178     | 1.1  | 199     | 1.5  | 191     | 2.1  | 251     | 0.4  | 245     | 3.3  |
| Slovenia                          | 1 420   | 6.9  | 1 383   | 6.3  | 1 668   | 4.7  | 1 610   | 4.0  | 1 616   | 3.6  |
| Luxembourg                        | 418     | 3.8  | 433     | 3.5  | 417     | 3.8  | 492     | 3.9  | 428     | 4.0  |
| Ireland                           | 2 984   | 5.3  | 3 116   | 5.7  | 3 235   | 6.1  | 3 222   | 5.6  | 2 131   | 4.6  |
| Czechia                           | 3 061   | 7.9  | 3 199   | 6.3  | 3 638   | 6.3  | 3 554   | 6.6  | 2 995   | 5.4  |
| EU/EEA (population-weighted mean) | 121 582 | 6.4  | 135 108 | 6.3  | 148 206 | 6.2  | 154 844 | 5.9  | 132 705 | 5.7  |
| Romania                           | 410     | 11.7 | 513     | 9.7  | 641     | 7.2  | 576     | 7.3  | 360     | 5.8  |
| Portugal                          | 5 762   | 7.7  | 6 365   | 6.6  | 5 746   | 6.2  | 6 384   | 6.3  | 5 716   | 6.1  |
| Spain                             | 6 791   | 6.2  | 5 774   | 5.5  | 7 598   | 6.4  | 8 138   | 6.3  | 7 464   | 6.3  |
| Lithuania                         | 783     | 2.6  | 845     | 4.4  | 1 098   | 4.6  | 1 126   | 4.5  | 1 135   | 6.4  |
| Malta                             | 328     | 5.5  | 314     | 6.4  | 332     | 4.5  | 332     | 5.1  | 277     | 8.3  |
| Croatia                           | 1 023   | 9.4  | 1 133   | 9.4  | 1 150   | 9.2  | 1 064   | 9.2  | 825     | 8.7  |
| Hungary                           | 1 981   | 6.4  | 2 047   | 8.2  | 2 254   | 11.4 | 2 397   | 10.4 | 1 950   | 8.8  |
| Poland                            | 2 411   | 8.5  | 1 666   | 8.2  | 2 386   | 10.5 | 2 564   | 9.3  | 1 998   | 9.4  |
| Italy                             | 5 763   | 12.9 | 6 454   | 13.7 | 15 622  | 11.4 | 17 961  | 11.6 | 17 593  | 9.8  |
| Greece                            | 1 300   | 10.4 | 1 463   | 9.8  | 1 628   | 9.8  | 186     | 8.6  | 561     | 10.5 |
| Latvia                            | 242     | 10.3 | 197     | 11.2 | 344     | 7.0  | 440     | 9.3  | 376     | 10.6 |
| Cyprus                            | 149     | 11.4 | 156     | 15.4 | 151     | 14.6 | 92      | 6.5  | 228     | 13.6 |
| Slovakia                          | 822     | 14.8 | 863     | 17.7 | 965     | 16.6 | 842     | 12.7 | 724     | 14.9 |
| Bulgaria                          | 204     | 22.1 | 229     | 24.9 | 275     | 19.6 | 352     | 19.0 | 219     | 18.7 |
| United Kingdom                    | 21 101  | 4.0  | 26 808  | 4.1  | 27 756  | 4.5  | 25 761  | 4.7  | ND      | ND   |

<sup>a</sup> The aminoglycoside group includes only gentamicin and tobramycin from 2020 onwards.

ND = no data



**Table *Klebsiella pneumoniae*. Total number of invasive isolates tested (N) and percentage with resistance to fluoroquinolones (%R), EU/EEA countries, 2016-2020**

| Country                           | 2016   |      | 2017   |      | 2018   |      | 2019   |      | 2020   |      |
|-----------------------------------|--------|------|--------|------|--------|------|--------|------|--------|------|
|                                   | N      | %R   | N      | %R   | N      | %R   | N      | %R   | N      | %R   |
| Iceland                           | 21     | 0.0  | 16     | 6.3  | 16     | 0.0  | 23     | 4.3  | 32     | 0.0  |
| Finland                           | 769    | 2.7  | 756    | 7.9  | 808    | 6.3  | 865    | 7.3  | 893    | 7.4  |
| Denmark                           | 1 152  | 5.3  | 1 183  | 9.1  | 1 279  | 8.5  | 1 361  | 9.6  | 1 414  | 7.6  |
| Sweden                            | 1 533  | 5.4  | 1 034  | 9.8  | 1 087  | 10.1 | 1 789  | 10.5 | 1 830  | 10.2 |
| Norway                            | 808    | 4.3  | 781    | 10.2 | 735    | 13.1 | 832    | 8.8  | 696    | 11.2 |
| Germany                           | 3 068  | 12.6 | 3 857  | 15.3 | 3 970  | 13.4 | 4 715  | 13.1 | 5 761  | 11.6 |
| Austria                           | 1 246  | 9.8  | 1 147  | 14.2 | 1 221  | 13.2 | 1 327  | 15.7 | 1 129  | 12.0 |
| Netherlands                       | 1 320  | 7.1  | 1 330  | 11.7 | 1 521  | 11.6 | 1 432  | 11.1 | 1 395  | 13.1 |
| Ireland                           | 453    | 11.3 | 478    | 14.9 | 483    | 18.0 | 526    | 17.3 | 379    | 16.4 |
| Estonia                           | 183    | 29.5 | 161    | 24.8 | 205    | 21.0 | 179    | 16.2 | 197    | 17.3 |
| Belgium                           | 669    | 23.6 | 803    | 23.7 | 932    | 22.6 | 757    | 19.8 | 911    | 22.8 |
| Slovenia                          | 267    | 29.6 | 306    | 30.4 | 289    | 27.3 | 303    | 19.5 | 291    | 24.7 |
| Spain                             | 1 676  | 22.7 | 1 486  | 22.5 | 1 927  | 23.8 | 2 375  | 24.0 | 2 201  | 25.7 |
| France                            | 2 589  | 27.7 | 2 886  | 26.8 | 2 997  | 30.4 | 3 143  | 30.9 | 5 001  | 28.1 |
| Luxembourg                        | 78     | 35.9 | 99     | 28.3 | 85     | 24.7 | 103    | 27.2 | 87     | 31.0 |
| EU/EEA (population-weighted mean) | 30 769 | 30.3 | 32 924 | 31.5 | 38 770 | 31.6 | 41 617 | 31.3 | 39 794 | 33.8 |
| Malta                             | 102    | 33.3 | 117    | 39.3 | 137    | 55.5 | 129    | 44.2 | 132    | 37.1 |
| Hungary                           | 713    | 35.2 | 685    | 41.5 | 842    | 38.0 | 909    | 36.7 | 728    | 40.8 |
| Latvia                            | 91     | 41.8 | 116    | 32.8 | 200    | 38.5 | 198    | 36.9 | 188    | 41.5 |
| Portugal                          | 2 350  | 41.7 | 2 736  | 45.7 | 2 592  | 43.8 | 2 704  | 45.8 | 2 779  | 42.7 |
| Czechia                           | 1 384  | 50.5 | 1 329  | 49.2 | 1 482  | 47.2 | 1 562  | 48.7 | 1 474  | 44.2 |
| Lithuania                         | 324    | 54.6 | 326    | 64.7 | 370    | 56.8 | 438    | 52.1 | 413    | 45.3 |
| Cyprus                            | 75     | 32.0 | 71     | 35.2 | 87     | 49.4 | 60     | 31.7 | 172    | 50.0 |
| Italy                             | 2 248  | 56.0 | 2 562  | 55.7 | 5 752  | 52.7 | 7 692  | 54.7 | 8 486  | 52.4 |
| Slovakia                          | 466    | 66.3 | 466    | 66.7 | 497    | 61.0 | 367    | 56.9 | 403    | 53.8 |
| Croatia                           | 318    | 43.4 | 309    | 40.8 | 327    | 48.6 | 318    | 57.9 | 268    | 54.1 |
| Poland                            | 1 119  | 66.8 | 739    | 66.3 | 1 207  | 68.2 | 1 159  | 61.3 | 1 085  | 65.2 |
| Romania                           | 342    | 60.8 | 337    | 64.1 | 441    | 57.4 | 471    | 62.0 | 474    | 66.2 |
| Bulgaria                          | 160    | 55.6 | 169    | 59.8 | 193    | 62.7 | 267    | 60.7 | 249    | 67.1 |
| Greece                            | 1 180  | 68.6 | 1 346  | 66.9 | 1 488  | 68.1 | 311    | 66.9 | 726    | 74.4 |
| United Kingdom                    | 4 065  | 7.5  | 5 293  | 9.3  | 5 600  | 13.1 | 5 302  | 12.8 | ND     | ND   |

ND = no data

**Table *Klebsiella pneumoniae*. Total number of invasive isolates tested (N) and percentage with resistance to third-generation cephalosporins (%R), EU/EEA countries, 2016-2020**

| Country                           | 2016   |      | 2017   |      | 2018   |      | 2019   |      | 2020   |      |
|-----------------------------------|--------|------|--------|------|--------|------|--------|------|--------|------|
|                                   | N      | %R   | N      | %R   | N      | %R   | N      | %R   | N      | %R   |
| Iceland                           | 25     | 0.0  | 17     | 5.9  | 16     | 0.0  | 23     | 4.3  | 32     | 0.0  |
| Denmark                           | 1 118  | 7.5  | 1 125  | 7.3  | 1 159  | 6.5  | 1 248  | 6.7  | 1 264  | 6.0  |
| Finland                           | 760    | 4.1  | 744    | 4.6  | 805    | 4.5  | 868    | 6.3  | 901    | 7.2  |
| Austria                           | 1 245  | 9.6  | 1 072  | 8.6  | 1 221  | 8.4  | 1 326  | 10.3 | 1 124  | 7.8  |
| Sweden                            | 1 537  | 4.9  | 1 034  | 5.6  | 1 089  | 5.5  | 1 795  | 8.3  | 1 842  | 8.1  |
| Norway                            | 811    | 5.8  | 781    | 5.8  | 737    | 7.5  | 832    | 7.7  | 702    | 10.1 |
| Germany                           | 3 068  | 13.6 | 3 854  | 14.6 | 3 973  | 12.9 | 4 719  | 12.2 | 5 762  | 11.0 |
| Netherlands                       | 1 320  | 10.5 | 1 329  | 10.9 | 1 520  | 10.7 | 1 434  | 9.6  | 1 397  | 11.2 |
| Estonia                           | 183    | 32.8 | 161    | 21.1 | 206    | 13.6 | 179    | 10.6 | 199    | 11.6 |
| Slovenia                          | 267    | 22.8 | 312    | 23.7 | 289    | 14.9 | 303    | 16.5 | 291    | 15.8 |
| Ireland                           | 452    | 13.5 | 478    | 14.6 | 483    | 14.5 | 527    | 17.6 | 380    | 18.4 |
| Belgium                           | 669    | 22.9 | 803    | 19.3 | 935    | 21.4 | 759    | 19.5 | 912    | 19.7 |
| Luxembourg                        | 78     | 35.9 | 99     | 27.3 | 85     | 29.4 | 103    | 25.2 | 87     | 26.4 |
| Spain                             | 1 677  | 22.4 | 1 513  | 21.3 | 1 994  | 25.5 | 2 396  | 25.3 | 2 163  | 26.8 |
| France                            | 2 597  | 28.9 | 2 892  | 28.8 | 3 033  | 30.8 | 3 075  | 30.2 | 5 045  | 27.8 |
| EU/EEA (population-weighted mean) | 30 633 | 31.4 | 32 969 | 31.2 | 38 436 | 31.7 | 41 057 | 31.4 | 39 579 | 33.9 |
| Malta                             | 102    | 21.6 | 117    | 35.0 | 137    | 53.3 | 129    | 37.2 | 132    | 38.6 |
| Hungary                           | 722    | 37.5 | 693    | 41.1 | 848    | 40.2 | 911    | 36.7 | 728    | 40.4 |
| Lithuania                         | 326    | 56.7 | 326    | 63.2 | 371    | 55.8 | 440    | 55.0 | 413    | 42.6 |
| Czechia                           | 1 384  | 51.8 | 1 329  | 53.2 | 1 482  | 50.1 | 1 563  | 50.7 | 1 474  | 45.9 |
| Portugal                          | 2 349  | 46.7 | 2 743  | 44.9 | 2 579  | 50.0 | 2 697  | 47.6 | 2 762  | 47.6 |
| Latvia                            | 95     | 47.4 | 116    | 33.6 | 204    | 37.7 | 198    | 36.9 | 188    | 48.4 |
| Croatia                           | 321    | 48.6 | 309    | 41.7 | 318    | 44.3 | 317    | 53.0 | 270    | 52.2 |
| Italy                             | 2 246  | 55.8 | 2 546  | 54.6 | 5 832  | 53.6 | 7 699  | 57.6 | 8 400  | 54.3 |
| Slovakia                          | 465    | 61.3 | 459    | 63.2 | 497    | 55.9 | 367    | 57.5 | 399    | 54.4 |
| Cyprus                            | 75     | 30.7 | 71     | 46.5 | 87     | 48.3 | 60     | 48.3 | 172    | 54.7 |
| Poland                            | 1 142  | 64.4 | 1 203  | 63.0 | 1 219  | 64.6 | 1 166  | 58.3 | 1 088  | 63.0 |
| Romania                           | 344    | 68.0 | 339    | 62.5 | 443    | 61.4 | 479    | 64.1 | 477    | 67.9 |
| Greece                            | 1 181  | 72.5 | 1 362  | 69.2 | 1 500  | 70.7 | 310    | 66.5 | 726    | 74.5 |
| Bulgaria                          | 160    | 72.5 | 169    | 76.3 | 193    | 77.7 | 267    | 75.7 | 249    | 79.1 |
| United Kingdom                    | 3 914  | 8.9  | 4 973  | 11.4 | 5 181  | 13.0 | 4 867  | 13.2 | ND     | ND   |

ND = no data

**Table *Klebsiella pneumoniae*. Total number of invasive isolates tested (N) and percentage with resistance to aminoglycosides<sup>a</sup> (%R), EU/EEA countries, 2016-2020**

| Country                           | 2016   |      | 2017   |      | 2018   |      | 2019   |      | 2020   |      |
|-----------------------------------|--------|------|--------|------|--------|------|--------|------|--------|------|
|                                   | N      | %R   | N      | %R   | N      | %R   | N      | %R   | N      | %R   |
| Iceland                           | 25     | 0.0  | 17     | 11.8 | 16     | 0.0  | 23     | 8.7  | 32     | 0.0  |
| Denmark                           | 1 154  | 3.2  | 1 186  | 3.2  | 1 278  | 3.3  | 1 358  | 3.5  | 1 412  | 3.3  |
| Sweden                            | 1 141  | 3.4  | 1 033  | 4.7  | 1 087  | 3.0  | 1 794  | 4.2  | 1 839  | 3.6  |
| Austria                           | 1 157  | 4.8  | 1 141  | 4.8  | 1 214  | 4.8  | 1 319  | 5.5  | 1 085  | 3.7  |
| Germany                           | 3 042  | 7.7  | 3 776  | 8.2  | 3 918  | 6.2  | 4 654  | 7.3  | 5 545  | 5.6  |
| Finland                           | 727    | 2.3  | 721    | 2.9  | 774    | 2.6  | 831    | 4.2  | 901    | 5.8  |
| Netherlands                       | 1 320  | 6.8  | 1 330  | 7.4  | 1 521  | 7.0  | 1 434  | 6.0  | 1 397  | 7.3  |
| Norway                            | 809    | 3.3  | 781    | 4.2  | 737    | 5.3  | 831    | 6.1  | 702    | 7.3  |
| Estonia                           | 183    | 21.3 | 161    | 12.4 | 205    | 10.2 | 179    | 6.1  | 197    | 8.1  |
| Slovenia                          | 267    | 16.5 | 312    | 16.0 | 289    | 12.8 | 303    | 8.3  | 290    | 10.0 |
| Ireland                           | 453    | 11.5 | 479    | 11.9 | 483    | 13.0 | 526    | 11.0 | 379    | 10.8 |
| Belgium                           | 637    | 13.8 | 633    | 12.5 | 747    | 12.4 | 755    | 11.4 | 910    | 13.1 |
| France                            | 2 569  | 26.2 | 2 857  | 23.8 | 2 990  | 24.8 | 3 103  | 23.4 | 4 767  | 18.8 |
| Spain                             | 1 678  | 15.5 | 1 513  | 17.4 | 1 995  | 19.3 | 2 370  | 18.2 | 2 207  | 20.2 |
| Luxembourg                        | 78     | 26.9 | 99     | 18.2 | 85     | 20.0 | 103    | 17.5 | 87     | 20.7 |
| Latvia                            | 91     | 38.5 | 115    | 29.6 | 203    | 31.0 | 198    | 28.3 | 186    | 21.0 |
| Cyprus                            | 75     | 22.7 | 71     | 26.8 | 87     | 36.8 | 58     | 24.1 | 170    | 22.9 |
| Malta                             | 102    | 22.5 | 117    | 31.6 | 137    | 46.7 | 129    | 26.4 | 132    | 23.5 |
| EU/EEA (population-weighted mean) | 30 209 | 24.4 | 33 136 | 24.1 | 38 555 | 22.7 | 41 484 | 22.4 | 38 733 | 23.7 |
| Portugal                          | 2 337  | 35.0 | 2 717  | 33.5 | 2 572  | 34.4 | 2 708  | 32.2 | 2 759  | 28.2 |
| Italy                             | 2 300  | 36.1 | 2 571  | 34.5 | 5 693  | 27.0 | 7 682  | 32.6 | 8 084  | 31.6 |
| Lithuania                         | 325    | 49.2 | 322    | 53.7 | 369    | 48.5 | 435    | 39.8 | 410    | 33.9 |
| Hungary                           | 720    | 34.7 | 693    | 37.8 | 845    | 32.7 | 912    | 30.8 | 727    | 34.9 |
| Croatia                           | 316    | 36.1 | 311    | 30.9 | 330    | 36.4 | 325    | 42.8 | 270    | 38.1 |
| Czechia                           | 1 385  | 47.1 | 1 330  | 49.6 | 1 483  | 48.6 | 1 563  | 47.7 | 1 474  | 42.5 |
| Slovakia                          | 466    | 62.4 | 468    | 61.1 | 496    | 54.8 | 369    | 49.3 | 405    | 48.9 |
| Romania                           | 336    | 61.9 | 338    | 58.6 | 436    | 50.9 | 411    | 53.0 | 399    | 49.6 |
| Poland                            | 1 075  | 56.7 | 1 165  | 55.5 | 1 178  | 54.2 | 1 128  | 47.5 | 1 019  | 50.0 |
| Greece                            | 1 171  | 52.9 | 1 348  | 53.2 | 1 487  | 54.4 | 310    | 55.2 | 718    | 61.0 |
| Bulgaria                          | 135    | 64.4 | 168    | 63.1 | 191    | 59.2 | 267    | 57.3 | 230    | 67.0 |
| United Kingdom                    | 4 135  | 6.7  | 5 363  | 7.9  | 5 709  | 9.1  | 5 406  | 8.2  | ND     | ND   |

<sup>a</sup> The aminoglycoside group includes only gentamicin and tobramycin from 2020 onwards.

ND = no data

**Table *Klebsiella pneumoniae*. Total number of invasive isolates tested (N) and percentage with resistance to carbapenems (%R), EU/EEA countries, 2016-2020**

| Country                           | 2016   |              | 2017   |      | 2018   |              | 2019   |      | 2020   |      |
|-----------------------------------|--------|--------------|--------|------|--------|--------------|--------|------|--------|------|
|                                   | N      | %R           | N      | %R   | N      | %R           | N      | %R   | N      | %R   |
| Slovenia                          | 267    | 0.0          | 312    | 0.0  | 289    | 0.7          | 303    | 0.3  | 291    | 0.0  |
| Estonia                           | 168    | 0.0          | 143    | 0.0  | 179    | 0.6          | 152    | 0.0  | 173    | 0.0  |
| Iceland                           | 1      | <10 isolates | ND     |      | 1      | <10 isolates | ND     |      | 32     | 0.0  |
| Netherlands                       | 1 317  | 0.1          | 1 330  | 0.5  | 1 520  | 0.5          | 1 433  | 0.2  | 1 396  | 0.1  |
| Finland                           | 770    | 0.3          | 758    | 0.3  | 810    | 0.6          | 850    | 0.4  | 901    | 0.1  |
| Norway                            | 810    | 0.0          | 781    | 0.0  | 736    | 0.1          | 826    | 0.2  | 687    | 0.1  |
| Sweden                            | 1 531  | 0.1          | 1 033  | 0.1  | 1 088  | 0.2          | 1 793  | 0.1  | 1 843  | 0.3  |
| Ireland                           | 453    | 0.7          | 478    | 0.2  | 482    | 0.6          | 527    | 0.9  | 370    | 0.3  |
| Germany                           | 3 068  | 0.5          | 3 857  | 0.5  | 3 968  | 0.4          | 4 718  | 0.9  | 5 762  | 0.5  |
| France                            | 2 528  | 0.4          | 2 807  | 0.7  | 2 998  | 0.5          | 3 003  | 1.0  | 4 796  | 0.5  |
| Czechia                           | 1 096  | 0.0          | 1 051  | 0.4  | 1 194  | 0.3          | 1 314  | 0.6  | 1 232  | 0.5  |
| Hungary                           | 703    | 0.4          | 681    | 0.1  | 827    | 0.2          | 890    | 0.9  | 721    | 0.7  |
| Denmark                           | 1 119  | 0.3          | 1 185  | 0.3  | 1 109  | 0.5          | 1 356  | 0.3  | 1 413  | 0.8  |
| Austria                           | 1 198  | 0.7          | 1 109  | 1.0  | 1 184  | 1.0          | 1 296  | 1.2  | 1 055  | 0.9  |
| Belgium                           | 669    | 2.4          | 791    | 1.1  | 935    | 1.4          | 757    | 1.1  | 881    | 1.1  |
| Latvia                            | 90     | 2.2          | 116    | 1.7  | 204    | 0.5          | 198    | 0.0  | 189    | 1.1  |
| Luxembourg                        | 78     | 0.0          | 99     | 0.0  | 85     | 0.0          | 103    | 1.0  | 87     | 1.1  |
| Lithuania                         | 325    | 0.0          | 325    | 0.6  | 371    | 0.3          | 438    | 3.4  | 413    | 2.9  |
| Spain                             | 1 677  | 2.1          | 1 510  | 2.8  | 1 995  | 3.8          | 2 398  | 4.8  | 2 205  | 4.7  |
| Malta                             | 102    | 5.9          | 117    | 10.3 | 136    | 15.4         | 129    | 7.8  | 132    | 7.6  |
| Poland                            | 1 123  | 2.1          | 1 161  | 6.4  | 1 183  | 8.1          | 1 155  | 7.7  | 1 074  | 8.2  |
| Slovakia                          | 435    | 2.5          | 450    | 4.4  | 488    | 3.5          | 351    | 4.6  | 392    | 8.2  |
| EU/EEA (population-weighted mean) | 30 309 | 7.4          | 32 960 | 7.1  | 38 140 | 7.5          | 40 714 | 8.0  | 39 006 | 10.0 |
| Portugal                          | 2 340  | 5.2          | 2 720  | 8.6  | 2 563  | 11.7         | 2 690  | 10.9 | 2 780  | 11.6 |
| Croatia                           | 323    | 0.0          | 302    | 0.0  | 325    | 2.2          | 325    | 12.0 | 267    | 19.1 |
| Cyprus                            | 75     | 10.7         | 71     | 15.5 | 87     | 21.8         | 60     | 13.3 | 172    | 19.8 |
| Bulgaria                          | 159    | 4.4          | 169    | 12.4 | 193    | 21.2         | 267    | 27.0 | 249    | 28.1 |
| Italy                             | 2 303  | 33.8         | 2 633  | 29.5 | 5 660  | 26.8         | 7 325  | 28.5 | 8 293  | 29.5 |
| Romania                           | 334    | 31.4         | 334    | 22.5 | 441    | 29.5         | 470    | 32.3 | 474    | 48.3 |
| Greece                            | 1 180  | 66.9         | 1 363  | 64.7 | 1 498  | 63.9         | 312    | 58.3 | 726    | 66.3 |
| United Kingdom                    | 4 068  | 0.3          | 5 274  | 0.6  | 5 592  | 0.7          | 5 275  | 0.7  | ND     | ND   |

ND = no data

<10 isolates = no proportion is displayed if <10 isolates were available for analysis

**Table *Klebsiella pneumoniae*. Total number of isolates tested (N) and percentage with combined resistance to fluoroquinolones, third-generation cephalosporins and aminoglycosides<sup>a</sup> (%R), EU/EEA countries, 2016-2020**

| Country                           | 2016   |      | 2017   |      | 2018   |      | 2019   |      | 2020   |      |
|-----------------------------------|--------|------|--------|------|--------|------|--------|------|--------|------|
|                                   | N      | %R   | N      | %R   | N      | %R   | N      | %R   | N      | %R   |
| Iceland                           | 21     | 0.0  | 16     | 0.0  | 16     | 0.0  | 23     | 0.0  | 32     | 0.0  |
| Denmark                           | 1 112  | 1.4  | 1 122  | 2.4  | 1 159  | 1.9  | 1 245  | 2.3  | 1 261  | 1.7  |
| Sweden                            | 1 141  | 2.1  | 1 033  | 3.3  | 1 086  | 2.6  | 1 789  | 3.2  | 1 827  | 2.4  |
| Austria                           | 1 156  | 3.5  | 1 062  | 3.0  | 1 203  | 3.1  | 1 312  | 3.0  | 1 076  | 2.8  |
| Finland                           | 726    | 1.2  | 716    | 2.4  | 771    | 1.6  | 827    | 3.1  | 893    | 3.5  |
| Germany                           | 3 038  | 5.3  | 3 774  | 6.3  | 3 918  | 4.7  | 4 649  | 4.8  | 5 544  | 3.7  |
| Netherlands                       | 1 320  | 3.9  | 1 329  | 4.7  | 1 520  | 4.4  | 1 432  | 3.5  | 1 395  | 4.3  |
| Norway                            | 807    | 2.6  | 781    | 3.2  | 735    | 3.8  | 831    | 3.9  | 696    | 4.7  |
| Ireland                           | 452    | 5.8  | 477    | 5.9  | 483    | 8.1  | 525    | 5.3  | 378    | 6.6  |
| Estonia                           | 183    | 16.9 | 161    | 11.8 | 204    | 8.8  | 179    | 5.6  | 196    | 7.1  |
| Slovenia                          | 267    | 13.1 | 306    | 16.0 | 289    | 10.0 | 303    | 7.6  | 290    | 7.6  |
| Belgium                           | 637    | 9.3  | 633    | 8.5  | 742    | 9.8  | 755    | 8.7  | 909    | 10.3 |
| France                            | 2 556  | 21.3 | 2 844  | 19.4 | 2 948  | 21.5 | 3 004  | 19.8 | 4 692  | 16.4 |
| Spain                             | 1 674  | 12.4 | 1 484  | 12.8 | 1 926  | 15.7 | 2 339  | 15.5 | 2 129  | 16.4 |
| Cyprus                            | 75     | 18.7 | 71     | 25.4 | 87     | 32.2 | 58     | 20.7 | 170    | 18.2 |
| Malta                             | 102    | 14.7 | 117    | 28.2 | 137    | 43.8 | 129    | 22.5 | 132    | 18.9 |
| Latvia                            | 91     | 31.9 | 115    | 24.3 | 199    | 27.6 | 198    | 25.3 | 185    | 19.5 |
| Luxembourg                        | 78     | 24.4 | 99     | 17.2 | 85     | 15.3 | 103    | 13.6 | 87     | 20.7 |
| EU/EEA (population-weighted mean) | 29 589 | 20.6 | 31 613 | 20.5 | 37 402 | 19.5 | 40 270 | 19.4 | 38 094 | 21.0 |
| Portugal                          | 2 332  | 27.2 | 2 711  | 28.4 | 2 538  | 26.7 | 2 692  | 26.5 | 2 734  | 23.8 |
| Lithuania                         | 323    | 42.1 | 322    | 48.1 | 368    | 45.1 | 433    | 35.3 | 410    | 28.5 |
| Italy                             | 2 174  | 32.7 | 2 352  | 31.6 | 5 587  | 24.8 | 7 560  | 30.3 | 7 842  | 29.5 |
| Hungary                           | 711    | 30.1 | 685    | 33.1 | 837    | 28.9 | 908    | 26.4 | 723    | 31.8 |
| Czechia                           | 1 384  | 40.8 | 1 329  | 41.8 | 1 482  | 38.7 | 1 562  | 39.3 | 1 473  | 34.6 |
| Croatia                           | 309    | 27.5 | 305    | 23.0 | 312    | 28.2 | 312    | 38.1 | 268    | 35.8 |
| Slovakia                          | 465    | 55.7 | 457    | 57.1 | 491    | 49.5 | 366    | 45.1 | 399    | 44.4 |
| Poland                            | 1 052  | 53.6 | 703    | 52.6 | 1 162  | 51.5 | 1 112  | 45.0 | 1 012  | 47.4 |
| Romania                           | 335    | 55.2 | 336    | 55.4 | 434    | 46.3 | 402    | 52.0 | 397    | 47.9 |
| Bulgaria                          | 133    | 45.9 | 168    | 50.0 | 191    | 47.6 | 267    | 44.9 | 230    | 57.4 |
| Greece                            | 1 171  | 48.4 | 1 345  | 47.9 | 1 487  | 50.4 | 307    | 53.1 | 714    | 58.3 |
| United Kingdom                    | 3 764  | 3.7  | 4 760  | 4.2  | 5 005  | 5.7  | 4 648  | 5.4  | ND     | ND   |

<sup>a</sup> The aminoglycoside group includes only gentamicin and tobramycin from 2020 onwards.

ND = no data

**Table *Pseudomonas aeruginosa*. Total number of invasive isolates tested (N) and percentage with resistance to piperacillin-tazobactam (%R), EU/EEA countries, 2016-2020**

| Country                           | 2016   |      | 2017   |      | 2018   |      | 2019   |              | 2020   |      |
|-----------------------------------|--------|------|--------|------|--------|------|--------|--------------|--------|------|
|                                   | N      | %R   | N      | %R   | N      | %R   | N      | %R           | N      | %R   |
| Denmark                           | 460    | 3.5  | 484    | 2.9  | 489    | 2.9  | 493    | 4.1          | 505    | 4.4  |
| Sweden                            | 472    | 7.4  | 446    | 6.3  | 411    | 7.8  | 706    | 6.8          | 735    | 5.4  |
| Finland                           | 351    | 9.4  | 377    | 6.4  | 391    | 6.6  | 457    | 6.6          | 433    | 5.5  |
| Norway                            | 215    | 7.4  | 183    | 6.0  | 227    | 5.7  | 270    | 4.1          | 254    | 5.9  |
| Luxembourg                        | 40     | 12.5 | 54     | 11.1 | 56     | 12.5 | 44     | 2.3          | 51     | 5.9  |
| Netherlands                       | 635    | 4.1  | 696    | 7.0  | 764    | 6.2  | 621    | 5.8          | 701    | 6.1  |
| Austria                           | 674    | 11.4 | 628    | 10.4 | 650    | 10.6 | 665    | 9.5          | 624    | 9.0  |
| Estonia                           | 53     | 17.0 | 55     | 14.5 | 48     | 8.3  | 70     | 7.1          | 77     | 9.1  |
| Croatia                           | 252    | 18.7 | 234    | 16.2 | 196    | 11.2 | 182    | 14.3         | 164    | 10.4 |
| Spain                             | 817    | 7.8  | 813    | 7.4  | 1 076  | 9.1  | 1 077  | 14.2         | 1 159  | 11.0 |
| Belgium                           | 318    | 9.7  | 438    | 10.5 | 430    | 10.0 | 439    | 12.1         | 503    | 11.1 |
| Germany                           | 1 410  | 15.0 | 1 856  | 12.6 | 1 765  | 12.4 | 2 077  | 11.7         | 2 558  | 11.7 |
| Ireland                           | 242    | 12.4 | 286    | 14.0 | 270    | 8.1  | 276    | 10.9         | 174    | 14.4 |
| Slovenia                          | 143    | 19.6 | 138    | 13.0 | 174    | 16.1 | 175    | 14.9         | 186    | 14.5 |
| France                            | 1 949  | 16.0 | 1 684  | 16.7 | 1 850  | 17.4 | 1879   | 16.7         | 3 417  | 17.1 |
| Portugal                          | 1 230  | 22.7 | 1 206  | 24.2 | 1 096  | 21.9 | 1 054  | 20.3         | 1 060  | 17.5 |
| Malta                             | 40     | 10.0 | 37     | 18.9 | 29     | 17.2 | 39     | 15.4         | 49     | 18.4 |
| EU/EEA (population-weighted mean) | 15 125 | 17.5 | 16 428 | 16.7 | 18 607 | 16.8 | 19 465 | 17.0         | 19 695 | 18.8 |
| Hungary                           | 720    | 23.6 | 721    | 24.3 | 791    | 24.3 | 860    | 19.7         | 774    | 20.3 |
| Czechia                           | 446    | 23.3 | 405    | 20.7 | 531    | 22.6 | 584    | 23.6         | 550    | 20.4 |
| Lithuania                         | 74     | 13.5 | 89     | 18.0 | 101    | 17.8 | 102    | 23.5         | 121    | 23.1 |
| Italy                             | 1 146  | 29.8 | 1 309  | 23.2 | 2 938  | 23.9 | 3 768  | 24.1         | 4 537  | 24.2 |
| Cyprus                            | 64     | 10.9 | 53     | 15.1 | 55     | 21.8 | 33     | 21.2         | 109    | 25.7 |
| Latvia                            | 15     | 26.7 | 14     | 35.7 | 39     | 35.9 | 45     | 35.6         | 14     | 28.6 |
| Poland                            | 370    | 27.6 | 374    | 31.0 | 366    | 34.4 | 409    | 26.4         | 266    | 32.3 |
| Slovakia                          | 165    | 27.3 | 180    | 33.3 | 236    | 28.0 | 175    | 28.0         | 213    | 33.3 |
| Greece                            | 644    | 23.3 | 771    | 23.7 | 815    | 21.5 | 109    | 34.9         | 270    | 35.6 |
| Romania                           | 86     | 48.8 | 131    | 52.7 | 135    | 45.9 | 178    | 52.8         | 121    | 42.1 |
| Bulgaria                          | 55     | 40.0 | 69     | 33.3 | 89     | 32.6 | 107    | 31.8         | 70     | 64.3 |
| Iceland                           | ND     | ND   | ND     | ND   | ND     | ND   | 2      | <10 isolates | ND     | ND   |
| United Kingdom                    | 2 039  | 6.0  | 2 697  | 5.3  | 2 589  | 5.6  | 2 571  | 5.6          | ND     | ND   |

ND = no data

<10 isolates = no proportion is displayed if <10 isolates were available for analysis

**Table *Pseudomonas aeruginosa*. Total number of invasive isolates tested (N) and percentage with resistance to fluoroquinolones (%R), EU/EEA countries, 2016-2020**

| Country                           | 2016   |      | 2017   |      | 2018   |      | 2019   |      | 2020  |      |
|-----------------------------------|--------|------|--------|------|--------|------|--------|------|-------|------|
|                                   | N      | %R   | N      | %R   | N      | %R   | N      | %R   | N     | %R   |
| Denmark                           | 460    | 3.7  | 484    | 5.0  | 489    | 4.3  | 493    | 5.5  | 505   | 3.2  |
| Iceland                           | 17     | 17.6 | 17     | 11.8 | 12     | 8.3  | 22     | 4.5  | 25    | 4.0  |
| Sweden                            | 469    | 6.0  | 445    | 9.0  | 408    | 7.1  | 706    | 9.2  | 733   | 7.4  |
| Norway                            | 227    | 5.7  | 205    | 4.9  | 250    | 10.4 | 296    | 5.7  | 282   | 8.5  |
| Netherlands                       | 659    | 6.1  | 738    | 9.1  | 808    | 8.9  | 682    | 10.4 | 749   | 9.1  |
| Finland                           | 292    | 7.9  | 356    | 11.2 | 376    | 12.8 | 468    | 8.5  | 431   | 10.2 |
| Estonia                           | 56     | 3.6  | 56     | 12.5 | 45     | 13.3 | 68     | 5.9  | 76    | 10.5 |
| Germany <sup>a</sup>              | 1 423  | 12.4 | 1 895  | 13.9 | 1 789  | 12.4 | 2 108  | 13.4 | 2 579 | 10.6 |
| Ireland                           | 243    | 11.9 | 287    | 13.9 | 272    | 8.8  | 276    | 9.4  | 194   | 12.9 |
| Austria                           | 694    | 7.2  | 721    | 12.3 | 736    | 14.0 | 805    | 10.7 | 676   | 14.3 |
| Belgium                           | 366    | 14.5 | 430    | 10.5 | 451    | 14.0 | 440    | 14.3 | 503   | 14.7 |
| France                            | 1 971  | 13.6 | 1 709  | 15.1 | 1 893  | 15.1 | 2 074  | 13.7 | 3 585 | 14.8 |
| Slovenia                          | 143    | 20.3 | 123    | 20.3 | 174    | 21.8 | 175    | 18.9 | 186   | 15.6 |
| Malta                             | 40     | 10.0 | 37     | 10.8 | 29     | 0.0  | 39     | 12.8 | 49    | 16.3 |
| Spain                             | 843    | 23.0 | 868    | 19.9 | 1 102  | 20.1 | 1 105  | 18.7 | 1 196 | 18.1 |
| Lithuania                         | 73     | 15.1 | 89     | 21.3 | 101    | 12.9 | 104    | 17.3 | 120   | 18.3 |
| Portugal                          | 1 227  | 20.1 | 1 208  | 23.7 | 1 104  | 23.7 | 1 057  | 21.6 | 1 059 | 18.5 |
| EU/EEA (population-weighted mean) | 15 504 | 18.8 | 16 951 | 20.2 | 19 211 | 19.7 | 20 384 | 18.9 | 20279 | 19.6 |
| Italy                             | 1 166  | 24.7 | 1 390  | 25.1 | 2 994  | 22.9 | 3 875  | 21.7 | 4 599 | 19.6 |
| Hungary                           | 736    | 24.3 | 732    | 23.4 | 805    | 26.0 | 879    | 20.3 | 777   | 22.0 |
| Luxembourg                        | 40     | 12.5 | 56     | 12.5 | 59     | 22.0 | 56     | 8.9  | 50    | 22.0 |
| Croatia                           | 259    | 37.5 | 237    | 32.9 | 200    | 29.0 | 181    | 29.8 | 165   | 23.0 |
| Czechia                           | 464    | 34.7 | 411    | 30.2 | 539    | 33.4 | 594    | 33.7 | 559   | 28.4 |
| Latvia                            | 16     | 31.3 | 14     | 64.3 | 39     | 23.1 | 49     | 28.6 | 39    | 30.8 |
| Cyprus                            | 64     | 20.3 | 53     | 5.7  | 55     | 25.5 | 33     | 12.1 | 83    | 31.3 |
| Poland                            | 400    | 31.0 | 358    | 37.2 | 389    | 39.1 | 417    | 34.1 | 270   | 32.6 |
| Greece                            | 702    | 34.6 | 816    | 35.3 | 856    | 33.1 | 141    | 46.8 | 333   | 42.9 |
| Romania                           | 89     | 51.7 | 132    | 62.1 | 155    | 52.3 | 184    | 52.2 | 140   | 46.4 |
| Slovakia                          | 190    | 47.4 | 211    | 46.9 | 252    | 52.4 | 201    | 46.3 | 246   | 49.6 |
| Bulgaria                          | 56     | 35.7 | 71     | 28.2 | 90     | 30.0 | 107    | 29.9 | 70    | 52.9 |
| United Kingdom                    | 2 119  | 6.9  | 2 802  | 7.7  | 2 739  | 9.8  | 2 749  | 8.7  | ND    | ND   |

<sup>a</sup> For 2020 only ciprofloxacin data was reported.

ND = no data

**Table *Pseudomonas aeruginosa*. Total number of invasive isolates tested (N) and percentage with resistance to ceftazidime (%R), EU/EEA countries, 2016-2020**

| Country                           | 2016   |      | 2017   |      | 2018   |      | 2019   |      | 2020   |      |
|-----------------------------------|--------|------|--------|------|--------|------|--------|------|--------|------|
|                                   | N      | %R   | N      | %R   | N      | %R   | N      | %R   | N      | %R   |
| Netherlands                       | 660    | 3.3  | 738    | 3.5  | 805    | 2.7  | 662    | 3.5  | 748    | 2.9  |
| Denmark                           | 447    | 4.5  | 461    | 3.5  | 458    | 3.3  | 471    | 4.0  | 471    | 3.2  |
| Luxembourg                        | 40     | 5.0  | 56     | 12.5 | 59     | 8.5  | 56     | 3.6  | 50     | 4.0  |
| Sweden                            | 473    | 7.4  | 446    | 4.5  | 412    | 6.1  | 706    | 5.1  | 735    | 5.0  |
| Finland                           | 352    | 5.4  | 378    | 6.1  | 390    | 4.4  | 463    | 4.5  | 433    | 5.3  |
| Norway                            | 224    | 7.1  | 197    | 5.1  | 240    | 6.3  | 282    | 3.9  | 277    | 5.4  |
| Estonia                           | 17     | 17.6 | 47     | 8.5  | 47     | 4.3  | 66     | 4.5  | 77     | 6.5  |
| Iceland                           | 17     | 0.0  | 17     | 0.0  | 12     | 0.0  | 22     | 13.6 | 25     | 8.0  |
| Belgium                           | 320    | 7.8  | 431    | 7.2  | 441    | 7.5  | 427    | 8.2  | 489    | 9.0  |
| Austria                           | 628    | 11.3 | 620    | 8.7  | 729    | 10.3 | 781    | 8.5  | 688    | 9.4  |
| Spain                             | 836    | 10.2 | 862    | 9.6  | 1 087  | 8.7  | 1 098  | 11.1 | 1 152  | 9.6  |
| Germany                           | 1 421  | 10.1 | 1 883  | 9.8  | 1 784  | 9.1  | 2 104  | 10.0 | 2 576  | 10.0 |
| Malta                             | 40     | 7.5  | 37     | 13.5 | 29     | 13.8 | 39     | 15.4 | 49     | 12.2 |
| France                            | 1 956  | 11.3 | 1 568  | 12.2 | 1 892  | 13.0 | 1 999  | 11.5 | 3 574  | 12.8 |
| Ireland                           | 243    | 10.7 | 272    | 9.6  | 261    | 8.4  | 272    | 9.2  | 172    | 12.8 |
| Slovenia                          | 143    | 17.5 | 138    | 13.0 | 174    | 14.9 | 175    | 16.0 | 186    | 13.4 |
| Portugal                          | 1 228  | 18.0 | 1 216  | 18.6 | 1 090  | 18.6 | 1 054  | 17.6 | 977    | 14.4 |
| EU/EEA (population-weighted mean) | 15 219 | 14.4 | 16 512 | 14.7 | 18 960 | 14.1 | 19 959 | 14.3 | 20 014 | 15.5 |
| Lithuania                         | 74     | 10.8 | 88     | 14.8 | 101    | 11.9 | 103    | 15.5 | 119    | 16.8 |
| Cyprus                            | 64     | 10.9 | 53     | 13.2 | 55     | 16.4 | 33     | 18.2 | 122    | 18.0 |
| Croatia                           | 240    | 20.8 | 231    | 19.5 | 195    | 17.9 | 173    | 20.2 | 164    | 18.9 |
| Czechia                           | 464    | 19.2 | 411    | 13.4 | 539    | 20.4 | 594    | 22.7 | 559    | 19.0 |
| Italy                             | 1 160  | 23.0 | 1 332  | 20.0 | 2 974  | 19.9 | 3 798  | 19.0 | 4 473  | 19.3 |
| Hungary                           | 735    | 20.7 | 729    | 23.9 | 804    | 22.5 | 882    | 18.4 | 772    | 20.6 |
| Poland                            | 401    | 19.5 | 415    | 24.6 | 390    | 26.9 | 418    | 20.1 | 312    | 21.8 |
| Latvia                            | 15     | 26.7 | 14     | 42.9 | 39     | 33.3 | 49     | 32.7 | 42     | 23.8 |
| Greece                            | 696    | 33.6 | 814    | 24.9 | 853    | 22.3 | 136    | 39.7 | 344    | 30.2 |
| Slovakia                          | 164    | 31.1 | 180    | 35.6 | 237    | 32.1 | 178    | 31.5 | 214    | 32.7 |
| Romania                           | 86     | 44.2 | 127    | 55.9 | 152    | 46.7 | 180    | 52.2 | 144    | 41.0 |
| Bulgaria                          | 54     | 38.9 | 71     | 38.0 | 90     | 20.0 | 107    | 30.8 | 70     | 54.3 |
| United Kingdom                    | 2 021  | 4.3  | 2 680  | 4.7  | 2 621  | 4.9  | 2 631  | 5.0  | ND     | ND   |

ND = no data



**Table *Pseudomonas aeruginosa*. Total number of invasive isolates tested (N) and percentage with resistance to aminoglycosides<sup>a</sup> (%R), EU/EEA countries, 2016-2020**

| Country                           | 2016   |      | 2017   |      | 2018   |      | 2019   |      | 2020   |              |
|-----------------------------------|--------|------|--------|------|--------|------|--------|------|--------|--------------|
|                                   | N      | %R   | N      | %R   | N      | %R   | N      | %R   | N      | %R           |
| Denmark                           | 460    | 1.7  | 484    | 1.0  | 489    | 0.6  | 490    | 2.7  | 61     | 0.0          |
| Iceland                           | 17     | 0.0  | 17     | 0.0  | 12     | 0.0  | 22     | 4.5  | 25     | 0.0          |
| Norway                            | 213    | 0.9  | 183    | 0.5  | 236    | 0.8  | 292    | 0.3  | 281    | 0.4          |
| Sweden                            | 471    | 0.8  | 444    | 0.9  | 411    | 1.0  | 707    | 2.3  | 464    | 0.6          |
| Netherlands                       | 658    | 2.4  | 738    | 3.7  | 808    | 2.4  | 683    | 1.6  | 748    | 1.1          |
| Finland                           | 352    | 2.3  | 378    | 1.9  | 391    | 1.0  | 458    | 0.7  | 433    | 1.4          |
| Ireland                           | 243    | 10.3 | 288    | 8.7  | 273    | 5.5  | 276    | 6.5  | 113    | 1.8          |
| Germany                           | 1 421  | 6.8  | 1 869  | 4.8  | 1 788  | 3.5  | 2 107  | 4.1  | 2 348  | 2.0          |
| Malta                             | 40     | 7.5  | 37     | 10.8 | 29     | 0.0  | 39     | 5.1  | 49     | 2.0          |
| Luxembourg                        | 40     | 15.0 | 56     | 5.4  | 53     | 3.8  | 56     | 1.8  | 40     | 2.5          |
| Austria                           | 692    | 6.1  | 717    | 5.0  | 729    | 6.3  | 784    | 3.8  | 426    | 2.6          |
| Slovenia                          | 143    | 13.3 | 138    | 8.7  | 174    | 6.9  | 175    | 4.0  | 56     | 3.6          |
| Portugal                          | 1 230  | 11.6 | 1 210  | 12.1 | 1 109  | 11.9 | 1 060  | 9.9  | 877    | 5.4          |
| France                            | 1 976  | 10.7 | 1 713  | 10.9 | 1 898  | 9.3  | 2 086  | 7.8  | 3 059  | 5.6          |
| Cyprus                            | 64     | 4.7  | 53     | 1.9  | 55     | 7.3  | 33     | 3.0  | 98     | 6.1          |
| Belgium                           | 327    | 11.0 | 377    | 7.7  | 406    | 8.4  | 438    | 7.1  | 304    | 6.3          |
| Spain                             | 843    | 15.3 | 864    | 12.4 | 1 121  | 11.6 | 1 083  | 15.0 | 1 182  | 8.7          |
| EU/EEA (population-weighted mean) | 15 525 | 14.0 | 16 979 | 13.2 | 19 186 | 11.8 | 20 344 | 11.5 | 12 840 | 9.4          |
| Hungary                           | 740    | 17.6 | 734    | 14.6 | 784    | 17.9 | 883    | 16.9 | 761    | 11.4         |
| Czechia                           | 464    | 18.8 | 411    | 14.4 | 539    | 19.3 | 594    | 21.7 | 559    | 13.2         |
| Poland                            | 367    | 25.6 | 384    | 25.5 | 384    | 26.0 | 402    | 19.7 | 239    | 19.7         |
| Greece                            | 701    | 28.0 | 815    | 30.2 | 856    | 26.5 | 141    | 42.6 | 301    | 28.6         |
| Bulgaria                          | 39     | 48.7 | 71     | 28.2 | 90     | 24.4 | 107    | 31.8 | 50     | 32.0         |
| Slovakia                          | 191    | 33.0 | 211    | 36.0 | 254    | 37.4 | 199    | 33.2 | 242    | 33.1         |
| Romania                           | 87     | 50.6 | 132    | 57.6 | 146    | 50.7 | 176    | 48.9 | 124    | 37.1         |
| Latvia                            | 15     | 20.0 | 14     | 42.9 | 39     | 28.2 | 49     | 22.4 | 7      | <10 isolates |
| Estonia                           | 54     | 7.4  | 56     | 5.4  | 48     | 4.2  | 67     | 3.0  | 1      | <10 isolates |
| Croatia                           | 260    | 33.5 | 237    | 26.6 | 199    | 21.6 | 183    | 20.2 | ND     | ND           |
| Italy                             | 1 203  | 19.1 | 1 428  | 18.0 | 2 983  | 12.8 | 3 859  | 11.4 | ND     | ND           |
| Lithuania                         | 74     | 14.9 | 89     | 13.5 | 101    | 9.9  | 103    | 12.6 | ND     | ND           |
| United Kingdom                    | 2 140  | 3.6  | 2 831  | 3.9  | 2 781  | 4.5  | 2 792  | 4.3  | ND     | ND           |

<sup>a</sup> The aminoglycoside group includes only tobramycin from 2020 onwards.

ND = no data

<10 isolates = no proportion is displayed if <10 isolates were available for analysis

**Table *Pseudomonas aeruginosa*. Total number of invasive isolates tested (N) and percentage with resistance to carbapenems (%R), EU/EEA countries, 2016-2020**

| Country                           | 2016   |      | 2017   |      | 2018   |      | 2019   |      | 2020   |      |
|-----------------------------------|--------|------|--------|------|--------|------|--------|------|--------|------|
|                                   | N      | %R   | N      | %R   | N      | %R   | N      | %R   | N      | %R   |
| Netherlands                       | 660    | 4.4  | 736    | 4.5  | 805    | 5.1  | 682    | 5.1  | 746    | 3.6  |
| Finland                           | 352    | 6.0  | 377    | 6.1  | 391    | 4.9  | 462    | 6.3  | 433    | 3.7  |
| Sweden                            | 472    | 11.0 | 446    | 9.0  | 412    | 4.4  | 706    | 9.8  | 733    | 4.2  |
| Denmark                           | 458    | 2.4  | 484    | 2.5  | 422    | 5.2  | 491    | 3.3  | 503    | 4.4  |
| Norway                            | 225    | 6.7  | 205    | 3.4  | 250    | 4.8  | 296    | 7.4  | 282    | 6.4  |
| Ireland                           | 243    | 6.2  | 288    | 9.0  | 273    | 6.6  | 275    | 6.5  | 193    | 7.8  |
| Malta                             | 40     | 12.5 | 37     | 10.8 | 29     | 3.4  | 39     | 7.7  | 49     | 8.2  |
| Luxembourg                        | 31     | 6.5  | 56     | 10.7 | 54     | 11.1 | 31     | 9.7  | 47     | 8.5  |
| Iceland                           | 17     | 5.9  | 17     | 0.0  | 12     | 0.0  | 22     | 0.0  | 25     | 12.0 |
| Belgium                           | 365    | 9.6  | 474    | 8.2  | 487    | 7.4  | 440    | 10.7 | 474    | 12.4 |
| France                            | 1 968  | 15.6 | 1 710  | 13.9 | 1 896  | 16.0 | 2 076  | 12.7 | 3 583  | 12.6 |
| Estonia                           | 54     | 20.4 | 55     | 9.1  | 48     | 16.7 | 69     | 5.8  | 79     | 12.7 |
| Portugal                          | 1 227  | 19.2 | 1215   | 18.3 | 1 108  | 15.7 | 1 052  | 17.8 | 1 057  | 13.4 |
| Slovenia                          | 143    | 19.6 | 138    | 17.4 | 174    | 14.9 | 175    | 20.0 | 186    | 13.4 |
| Germany                           | 1 422  | 14.5 | 1 892  | 12.6 | 1 790  | 12.1 | 2 108  | 12.9 | 2 579  | 13.8 |
| Austria                           | 696    | 12.9 | 725    | 13.9 | 736    | 12.8 | 786    | 13.4 | 683    | 15.1 |
| Czechia                           | 464    | 8.8  | 411    | 14.8 | 539    | 18.0 | 595    | 14.5 | 559    | 15.7 |
| Italy                             | 1 206  | 23.3 | 1 433  | 19.6 | 3 014  | 15.8 | 3 794  | 13.7 | 4 615  | 15.9 |
| Spain                             | 842    | 21.4 | 861    | 18.4 | 1 120  | 18.5 | 1 107  | 21.8 | 1 211  | 16.6 |
| EU/EEA (population-weighted mean) | 15 573 | 18.2 | 17 109 | 17.4 | 19 233 | 17.2 | 20 238 | 16.6 | 20 414 | 17.8 |
| Cyprus                            | 64     | 18.8 | 53     | 17.0 | 55     | 12.7 | 33     | 21.2 | 126    | 20.6 |
| Lithuania                         | 74     | 16.2 | 89     | 24.7 | 101    | 21.8 | 104    | 16.3 | 121    | 25.6 |
| Latvia                            | 16     | 31.3 | 14     | 57.1 | 39     | 28.2 | 49     | 32.7 | 43     | 25.6 |
| Poland                            | 397    | 26.2 | 393    | 24.2 | 374    | 33.2 | 409    | 24.4 | 316    | 28.5 |
| Croatia                           | 260    | 42.3 | 238    | 30.7 | 199    | 27.6 | 183    | 26.2 | 165    | 30.3 |
| Hungary                           | 739    | 33.2 | 733    | 36.6 | 807    | 37.3 | 883    | 33.2 | 779    | 33.8 |
| Greece                            | 699    | 42.1 | 821    | 39.3 | 856    | 37.5 | 141    | 48.9 | 378    | 35.7 |
| Bulgaria                          | 56     | 30.4 | 71     | 25.4 | 90     | 25.6 | 107    | 25.2 | 70     | 42.9 |
| Romania                           | 93     | 51.6 | 131    | 63.4 | 156    | 55.1 | 184    | 55.4 | 148    | 43.9 |
| Slovakia                          | 182    | 42.3 | 202    | 47.0 | 248    | 44.0 | 197    | 39.1 | 231    | 48.9 |
| United Kingdom                    | 2 108  | 5.1  | 2 804  | 5.7  | 2 748  | 6.0  | 2 742  | 5.9  | ND     | ND   |

ND = no data

**Table *Pseudomonas aeruginosa*. Total number of invasive isolates tested (N) with combined resistance (resistance to three or more antimicrobial groups among piperacillin-tazobactam, ceftazidime, fluoroquinolones, aminoglycosides<sup>a</sup> and carbapenems), EU/EEA countries, 2016-2020**

| Country                           | 2016   |      | 2017   |      | 2018   |      | 2019   |      | 2020   |      |
|-----------------------------------|--------|------|--------|------|--------|------|--------|------|--------|------|
|                                   | N      | %R   | N      | %R   | N      | %R   | N      | %R   | N      | %R   |
| Iceland                           | 17     | 0.0  | 17     | 0.0  | 12     | 0.0  | 22     | 4.5  | 25     | 0.0  |
| Denmark                           | 460    | 1.3  | 484    | 0.4  | 489    | 1.2  | 493    | 1.6  | 505    | 1.2  |
| Sweden                            | 472    | 5.3  | 446    | 3.1  | 412    | 1.9  | 706    | 3.5  | 735    | 1.4  |
| Netherlands                       | 660    | 2.3  | 738    | 2.0  | 808    | 1.9  | 683    | 1.9  | 749    | 1.7  |
| Norway                            | 227    | 2.6  | 205    | 1.5  | 250    | 2.4  | 296    | 2.0  | 282    | 2.5  |
| Finland                           | 352    | 3.4  | 378    | 3.4  | 391    | 1.8  | 462    | 2.4  | 433    | 3.5  |
| Luxembourg                        | 40     | 2.5  | 56     | 5.4  | 59     | 3.4  | 56     | 0.0  | 50     | 4.0  |
| Austria                           | 697    | 6.5  | 724    | 6.1  | 736    | 6.7  | 787    | 5.5  | 709    | 4.9  |
| Estonia                           | 56     | 3.6  | 57     | 8.8  | 48     | 6.3  | 70     | 2.9  | 79     | 5.1  |
| Ireland                           | 243    | 8.6  | 288    | 7.6  | 273    | 3.3  | 276    | 5.1  | 192    | 5.7  |
| Germany                           | 1 423  | 7.3  | 1 894  | 6.6  | 1 790  | 5.8  | 2 108  | 6.3  | 2 579  | 6.6  |
| Belgium                           | 366    | 6.3  | 439    | 6.6  | 454    | 5.3  | 440    | 5.9  | 503    | 6.6  |
| France                            | 1 972  | 10.3 | 1 709  | 10.1 | 1 894  | 10.5 | 2 073  | 8.0  | 3 594  | 8.4  |
| Slovenia                          | 143    | 15.4 | 138    | 10.9 | 174    | 11.5 | 175    | 12.0 | 186    | 8.6  |
| Spain                             | 843    | 14.0 | 863    | 10.7 | 1 120  | 10.6 | 1 107  | 13.3 | 1 197  | 9.1  |
| Malta                             | 40     | 5.0  | 37     | 8.1  | 29     | 3.4  | 39     | 7.7  | 49     | 10.2 |
| Portugal                          | 1 230  | 14.8 | 1 214  | 16.1 | 1 108  | 15.3 | 1 056  | 14.1 | 1 060  | 10.8 |
| Italy                             | 1 205  | 19.8 | 1 434  | 17.2 | 3 006  | 14.9 | 3 882  | 13.1 | 4 593  | 11.2 |
| Croatia                           | 260    | 31.9 | 238    | 21.4 | 200    | 19.0 | 184    | 17.4 | 164    | 11.6 |
| Latvia                            | 16     | 18.8 | 14     | 42.9 | 39     | 30.8 | 49     | 22.4 | 43     | 11.6 |
| EU/EEA (population-weighted mean) | 15 628 | 13.4 | 17 129 | 13.0 | 19 306 | 12.6 | 20 406 | 12.1 | 20 421 | 12.1 |
| Lithuania                         | 74     | 10.8 | 89     | 16.9 | 101    | 11.9 | 104    | 12.5 | 121    | 14.0 |
| Cyprus                            | 64     | 4.7  | 53     | 9.4  | 55     | 16.4 | 33     | 12.1 | 122    | 14.8 |
| Hungary                           | 740    | 19.1 | 735    | 18.1 | 807    | 20.2 | 883    | 17.3 | 778    | 15.2 |
| Czechia                           | 464    | 18.5 | 411    | 16.5 | 539    | 21.3 | 594    | 18.7 | 559    | 15.7 |
| Poland                            | 403    | 20.3 | 417    | 22.1 | 394    | 29.2 | 420    | 22.6 | 309    | 22.0 |
| Greece                            | 701    | 31.5 | 816    | 32.0 | 855    | 28.7 | 141    | 44.7 | 360    | 30.6 |
| Slovakia                          | 183    | 33.3 | 202    | 38.1 | 248    | 35.5 | 197    | 30.5 | 231    | 35.5 |
| Romania                           | 90     | 48.9 | 132    | 59.1 | 154    | 49.4 | 185    | 49.7 | 144    | 39.6 |
| Bulgaria                          | 56     | 35.7 | 71     | 26.8 | 90     | 25.6 | 107    | 30.8 | 70     | 47.1 |
| United Kingdom                    | 2 131  | 2.5  | 2 830  | 2.4  | 2 771  | 3.0  | 2 778  | 2.9  | ND     | ND   |

<sup>a</sup> The aminoglycoside group includes only tobramycin from 2020 onwards.

ND = no data

**Table *Staphylococcus aureus*. Total number of invasive isolates tested (N) and percentage with resistance to meticillin (MRSA)<sup>a</sup>, EU/EEA countries, 2016-2020**

| Country                           | 2016   |      | 2017   |      | 2018   |      | 2019   |      | 2020   |      |
|-----------------------------------|--------|------|--------|------|--------|------|--------|------|--------|------|
|                                   | N      | %R   | N      | %R   | N      | %R   | N      | %R   | N      | %R   |
| Netherlands                       | 3 041  | 1.2  | 3 045  | 1.6  | 3 566  | 1.3  | 3 221  | 1.6  | 3 293  | 1.4  |
| Denmark                           | 1 963  | 2.0  | 1 996  | 2.5  | 2 181  | 1.7  | 2 172  | 2.2  | 2 390  | 1.7  |
| Norway                            | 1 448  | 1.2  | 1 462  | 1.0  | 1 547  | 0.9  | 1 644  | 1.1  | 1 552  | 1.7  |
| Sweden                            | 3 450  | 2.3  | 3 787  | 1.2  | 3 639  | 1.9  | 5 948  | 1.8  | 6 871  | 2.3  |
| Finland                           | 1 890  | 2.2  | 2 439  | 2.0  | 2 105  | 2.0  | 2 473  | 2.1  | 2 188  | 2.5  |
| Estonia                           | 314    | 3.5  | 290    | 2.1  | 359    | 3.3  | 366    | 3.0  | 367    | 3.0  |
| Luxembourg                        | 187    | 10.2 | 200    | 9.5  | 181    | 7.7  | 209    | 6.2  | 195    | 3.1  |
| Austria                           | 3 053  | 7.2  | 3 158  | 6.0  | 3 307  | 6.4  | 3 323  | 5.2  | 2 843  | 4.4  |
| Iceland                           | 76     | 1.3  | 69     | 1.4  | 82     | 0.0  | 121    | 6.6  | 116    | 5.2  |
| Germany                           | 9 866  | 10.2 | 13 128 | 9.1  | 11 918 | 7.7  | 11 950 | 6.7  | 13 927 | 5.5  |
| Belgium                           | 1 364  | 12.2 | 1 511  | 8.5  | 1 735  | 9.1  | 1 168  | 6.7  | 1 455  | 6.9  |
| Czechia                           | 1 887  | 14.0 | 1 944  | 13.2 | 2 243  | 13.7 | 2 108  | 12.6 | 2 089  | 9.3  |
| Latvia                            | 284    | 4.2  | 210    | 5.7  | 315    | 5.7  | 421    | 7.4  | 353    | 9.3  |
| Slovenia                          | 534    | 11.0 | 576    | 9.0  | 606    | 11.7 | 656    | 7.5  | 711    | 9.8  |
| Lithuania                         | 503    | 11.3 | 514    | 8.8  | 691    | 8.4  | 656    | 9.3  | 704    | 9.8  |
| Bulgaria                          | 231    | 14.3 | 227    | 13.7 | 313    | 17.6 | 324    | 14.8 | 220    | 11.8 |
| France                            | 5 578  | 13.8 | 6 472  | 12.9 | 6 903  | 12.1 | 6 467  | 11.6 | 10 763 | 12.1 |
| Ireland                           | 1 143  | 14.3 | 1 140  | 16.3 | 1 188  | 12.4 | 1 146  | 12.6 | 777    | 12.1 |
| Poland                            | 1 772  | 16.4 | 1 805  | 15.2 | 1 959  | 15.9 | 1 841  | 14.9 | 1 351  | 13.8 |
| EU/EEA (population-weighted mean) | 57 730 | 17.7 | 66 279 | 16.8 | 72 882 | 16.4 | 74 718 | 15.7 | 72 314 | 16.7 |
| Malta                             | 97     | 37.1 | 95     | 42.1 | 88     | 36.4 | 75     | 24.0 | 92     | 19.6 |
| Hungary                           | 1 668  | 25.2 | 1 566  | 23.6 | 1 721  | 23.1 | 1 884  | 19.4 | 1 513  | 21.0 |
| Spain                             | 1 945  | 25.8 | 1 856  | 25.1 | 2 444  | 24.2 | 2 711  | 22.4 | 2 292  | 23.3 |
| Slovakia                          | 571    | 27.1 | 613    | 29.2 | 610    | 26.6 | 563    | 27.2 | 540    | 24.8 |
| Croatia                           | 458    | 25.3 | 520    | 28.5 | 458    | 26.4 | 358    | 24.9 | 424    | 29.2 |
| Portugal                          | 3 454  | 43.6 | 3 728  | 39.2 | 3 810  | 38.1 | 3 265  | 34.8 | 3 299  | 29.7 |
| Italy                             | 2 981  | 33.6 | 3 591  | 33.9 | 8 263  | 34.0 | 9 681  | 34.3 | 10 923 | 33.5 |
| Greece                            | 639    | 38.8 | 822    | 38.4 | 888    | 36.4 | 170    | 37.6 | 448    | 40.2 |
| Romania                           | 477    | 50.5 | 507    | 44.4 | 600    | 43.0 | 625    | 46.7 | 406    | 47.3 |
| Cyprus                            | 139    | 38.8 | 125    | 31.2 | 117    | 40.2 | 58     | 36.2 | 212    | 49.1 |
| United Kingdom                    | 6 717  | 6.7  | 8 883  | 6.9  | 9 045  | 7.3  | 9 114  | 6.0  | ND     | ND   |

<sup>a</sup> MRSA is based on AST results for oxacillin or cefoxitin, but AST results reported as cloxacillin, dicloxacillin, flucloxacillin or meticillin are accepted as a marker for oxacillin resistance if AST results for oxacillin are not reported. Data from molecular confirmation tests (detection of *mecA* gene by polymerase chain reaction (PCR) or a positive PBP2A-agglutination test) are given priority over phenotypic AST results.

ND = no data

**Table *Streptococcus pneumoniae*. Total number of tested isolates (N) and percentages of penicillin non-wild-type<sup>a</sup>, EU/EEA countries, 2016-2020**

| Country                           | 2016   |      | 2017   |      | 2018   |      | 2019   |              | 2020  |      |
|-----------------------------------|--------|------|--------|------|--------|------|--------|--------------|-------|------|
|                                   | N      | %R   | N      | %R   | N      | %R   | N      | %R           | N     | %R   |
| Austria                           | 440    | 3.4  | 463    | 6.0  | 523    | 6.3  | 458    | 6.8          | 258   | 3.9  |
| Czechia                           | 266    | 4.5  | 366    | 4.9  | 378    | 5.0  | 387    | 4.9          | 204   | 4.4  |
| Netherlands                       | 1 544  | 2.5  | 1 532  | 3.4  | 1 713  | 3.0  | 1 360  | 4.0          | 799   | 4.8  |
| Estonia                           | 112    | 3.6  | 141    | 2.1  | 142    | 2.8  | 161    | 4.3          | 79    | 5.1  |
| Germany                           | 1 359  | 4.6  | 1 989  | 4.5  | 1 867  | 5.2  | 1 962  | 5.7          | 1 275 | 6.1  |
| Denmark                           | 707    | 6.1  | 727    | 3.9  | 760    | 5.5  | 601    | 5.0          | 351   | 6.8  |
| Bulgaria                          | 33     | 27.3 | 29     | 27.6 | 42     | 9.5  | 46     | 8.7          | 28    | 7.1  |
| Norway                            | 500    | 4.4  | 480    | 4.8  | 500    | 5.0  | 504    | 6.3          | 242   | 7.4  |
| Sweden                            | 882    | 7.1  | 750    | 6.1  | 676    | 5.2  | 1 070  | 6.5          | 544   | 8.5  |
| Hungary                           | 174    | 15.5 | 204    | 6.9  | 207    | 10.1 | 222    | 6.3          | 124   | 8.9  |
| Poland                            | 337    | 19.3 | 290    | 16.6 | 343    | 15.7 | 310    | 15.5         | 158   | 10.8 |
| Finland                           | 706    | 10.3 | 698    | 10.5 | 600    | 11.5 | 594    | 12.0         | 252   | 11.5 |
| Italy                             | 399    | 6.5  | 522    | 10.5 | 928    | 9.2  | 1 017  | 11.9         | 516   | 13.4 |
| Slovenia                          | 269    | 6.7  | 319    | 10.0 | 271    | 9.6  | 283    | 11.0         | 172   | 13.4 |
| Lithuania                         | 99     | 16.2 | 109    | 15.6 | 93     | 19.4 | 120    | 10.8         | 96    | 13.5 |
| Portugal                          | 884    | 12.2 | 997    | 12.8 | 986    | 13.4 | 887    | 13.9         | 513   | 13.8 |
| Slovakia                          | 13     | 7.7  | 39     | 25.6 | 46     | 13.0 | 40     | 5.0          | 14    | 14.3 |
| Belgium                           | 1 327  | 0.4  | 1 472  | 0.2  | 1 526  | 0.1  | 1 548  | 9.7          | 858   | 14.5 |
| EU/EEA (population-weighted mean) | 15 666 | 13.1 | 17 212 | 12.9 | 18 676 | 12.9 | 18 235 | 12.2         | 8 032 | 15.6 |
| Luxembourg                        | 51     | 13.7 | 45     | 6.7  | 45     | 11.1 | 38     | 21.1         | 24    | 16.7 |
| Latvia                            | 61     | 11.5 | 51     | 17.6 | 69     | 10.1 | 79     | 10.1         | 41    | 17.1 |
| Ireland                           | 363    | 16.5 | 412    | 15.8 | 455    | 20.7 | 348    | 14.4         | 136   | 17.6 |
| Spain                             | 643    | 25.0 | 735    | 22.3 | 981    | 18.5 | 958    | 19.8         | 540   | 20.7 |
| Croatia                           | 155    | 21.9 | 129    | 22.5 | 144    | 18.1 | 154    | 20.1         | 55    | 23.6 |
| Iceland                           | 19     | 10.5 | 27     | 18.5 | 31     | 9.7  | 44     | 15.9         | 20    | 30.0 |
| France                            | 1 046  | 25.3 | 614    | 25.9 | 1 045  | 29.1 | 1 264  | 25.3         | 668   | 32.3 |
| Romania                           | 56     | 41.1 | 79     | 29.1 | 90     | 40.0 | 86     | 19.8         | 39    | 38.5 |
| Cyprus                            | 10     | 40.0 | 11     | 45.5 | 16     | 6.3  | 2      | <10 isolates | 10    | 40.0 |
| Malta                             | 10     | 10.0 | 19     | 31.6 | 37     | 24.3 | 27     | 33.3         | 16    | 56.3 |
| Greece                            | ND     | ND   | ND     | ND   | ND     | ND   | ND     | ND           | ND    | ND   |
| United Kingdom                    | 3 201  | 4.9  | 3 963  | 5.3  | 4 162  | 5.6  | 3 667  | 5.5          | ND    | ND   |

<sup>a</sup> Penicillin results are based on penicillin or, if not available, oxacillin. For *S. pneumoniae*, the term penicillin non-wild-type is used in this report, referring to *S. pneumoniae* isolates reported by the local laboratories as susceptible increased exposure (I) or resistant (R) to penicillin, assuming MIC to benzylpenicillin above those of wild-type isolates (>0.06 mg/L). The qualitative susceptibility categories (S/I/R) as reported by the laboratory are used, since quantitative susceptibility information is missing for a large part of the data. Laboratories not using EUCAST clinical breakpoints in the period 2016–2018 might define the cut-off values for the susceptibility categories differently.

ND = no data

<10 isolates = no proportion is displayed if <10 isolates were available for analysis

**Table *Streptococcus pneumoniae*. Total number of tested isolates (N) and percentages resistant to macrolides (%R), EU/EEA countries, 2016-2020**

| Country                           | 2016   |              | 2017   |      | 2018   |      | 2019   |              | 2020  |      |
|-----------------------------------|--------|--------------|--------|------|--------|------|--------|--------------|-------|------|
|                                   | N      | %R           | N      | %R   | N      | %R   | N      | %R           | N     | %R   |
| Netherlands                       | 1 602  | 3.1          | 1 597  | 5.1  | 1 806  | 3.9  | 1 406  | 4.8          | 919   | 3.5  |
| Denmark                           | 707    | 4.8          | 727    | 3.6  | 760    | 2.5  | 601    | 3.5          | 351   | 3.7  |
| Norway                            | 473    | 5.3          | 439    | 5.5  | 460    | 7.6  | 459    | 5.7          | 215   | 5.1  |
| Sweden                            | 899    | 5.3          | 750    | 4.7  | 674    | 4.5  | 1 069  | 6.5          | 549   | 6.6  |
| Czechia                           | 263    | 7.2          | 366    | 9.0  | 378    | 10.1 | 387    | 10.3         | 204   | 6.9  |
| Germany                           | 1 386  | 8.0          | 2 029  | 6.9  | 1 883  | 7.1  | 1 970  | 7.7          | 1 281 | 7.2  |
| Estonia                           | 100    | 7.0          | 127    | 3.9  | 136    | 7.4  | 158    | 7.0          | 76    | 9.2  |
| Bulgaria                          | 32     | 21.9         | 29     | 27.6 | 42     | 16.7 | 46     | 30.4         | 28    | 10.7 |
| Latvia                            | 52     | 5.8          | 28     | 3.6  | 66     | 9.1  | 76     | 5.3          | 27    | 11.1 |
| Austria                           | 455    | 8.6          | 507    | 10.8 | 562    | 11.6 | 547    | 12.4         | 295   | 11.5 |
| Finland                           | 791    | 11.4         | 808    | 15.0 | 653    | 12.1 | 655    | 10.5         | 288   | 11.8 |
| Luxembourg                        | 51     | 15.7         | 49     | 8.2  | 45     | 11.1 | 38     | 7.9          | 24    | 12.5 |
| Ireland                           | 354    | 13.3         | 396    | 12.9 | 419    | 13.6 | 340    | 12.6         | 130   | 13.8 |
| Slovenia                          | 269    | 13.4         | 216    | 15.7 | 271    | 10.3 | 283    | 9.9          | 172   | 14.5 |
| Lithuania                         | 94     | 18.1         | 107    | 15.9 | 92     | 20.7 | 119    | 10.1         | 96    | 14.6 |
| Portugal                          | 912    | 14.4         | 1 024  | 14.8 | 985    | 15.5 | 952    | 12.8         | 565   | 15.6 |
| EU/EEA (population-weighted mean) | 16 027 | 16.6         | 17 613 | 15.7 | 19 217 | 15.2 | 18 940 | 14.5         | 8 362 | 16.9 |
| Hungary                           | 166    | 13.3         | 187    | 11.8 | 190    | 14.7 | 215    | 12.1         | 115   | 17.4 |
| Belgium                           | 1 327  | 15.7         | 1 472  | 15.1 | 1 526  | 15.2 | 1 548  | 15.7         | 858   | 19.1 |
| Slovakia                          | 12     | 8.3          | 31     | 35.5 | 45     | 24.4 | 36     | 11.1         | 15    | 20.0 |
| France                            | 1 046  | 22.9         | 614    | 23.1 | 1 045  | 23.9 | 1 264  | 19.4         | 668   | 21.6 |
| Spain                             | 630    | 24.9         | 717    | 21.8 | 1 007  | 18.0 | 975    | 21.0         | 586   | 22.2 |
| Poland                            | 277    | 30.3         | 253    | 24.5 | 309    | 24.9 | 312    | 25.0         | 123   | 22.8 |
| Italy                             | 464    | 22.4         | 599    | 22.7 | 1 095  | 20.3 | 1 298  | 22.3         | 639   | 24.1 |
| Romania                           | 59     | 37.3         | 76     | 26.3 | 93     | 32.3 | 92     | 17.4         | 37    | 27.0 |
| Iceland                           | 19     | 0.0          | 27     | 18.5 | 31     | 12.9 | 44     | 15.9         | 20    | 30.0 |
| Croatia                           | 154    | 33.8         | 127    | 36.2 | 143    | 32.2 | 154    | 29.9         | 55    | 40.0 |
| Cyprus                            | 10     | 60.0         | 19     | 26.3 | 14     | 7.1  | 8      | <10 isolates | 10    | 40.0 |
| Malta                             | 9      | <10 isolates | 19     | 36.8 | 37     | 24.3 | 25     | 28.0         | 16    | 43.8 |
| Greece                            | ND     | ND           | ND     | ND   | ND     | ND   | ND     | ND           | ND    | ND   |
| United Kingdom                    | 3 423  | 5.9          | 4 273  | 5.6  | 4 450  | 5.6  | 3 871  | 5.5          | ND    | ND   |

ND = no data

<10 isolates = no proportion is displayed if <10 isolates were available for analysis

**Table *Streptococcus pneumoniae*. Total number of tested isolates (N) and percentages of penicillin non-wild-type<sup>a</sup> and resistant to macrolides, EU/EEA countries, 2016-2020**

| Country                           | 2016   |              | 2017   |      | 2018   |      | 2019   |              | 2020  |      |
|-----------------------------------|--------|--------------|--------|------|--------|------|--------|--------------|-------|------|
|                                   | N      | %R           | N      | %R   | N      | %R   | N      | %R           | N     | %R   |
| Luxembourg                        | 51     | 7.8          | 45     | 4.4  | 45     | 4.4  | 38     | 2.6          | 24    | 0.0  |
| Netherlands                       | 1 410  | 0.5          | 1 422  | 1.0  | 1 583  | 0.9  | 1 215  | 1.3          | 722   | 0.8  |
| Czechia                           | 263    | 1.1          | 366    | 3.0  | 378    | 2.6  | 387    | 2.3          | 204   | 2.0  |
| Germany                           | 1 342  | 2.2          | 1 969  | 2.2  | 1 839  | 2.5  | 1 903  | 3.0          | 1 242 | 2.2  |
| Denmark                           | 707    | 2.3          | 727    | 1.8  | 760    | 1.3  | 601    | 1.3          | 351   | 2.3  |
| Austria                           | 438    | 1.4          | 457    | 3.3  | 519    | 3.3  | 455    | 3.5          | 252   | 2.4  |
| Estonia                           | 100    | 1.0          | 127    | 1.6  | 136    | 2.2  | 158    | 2.5          | 75    | 2.7  |
| Sweden                            | 877    | 4.0          | 745    | 3.0  | 674    | 2.7  | 1 068  | 3.7          | 542   | 2.8  |
| Norway                            | 469    | 2.3          | 439    | 2.5  | 454    | 3.5  | 457    | 3.5          | 214   | 2.8  |
| Bulgaria                          | 32     | 9.4          | 29     | 17.2 | 42     | 2.4  | 46     | 8.7          | 28    | 3.6  |
| Latvia                            | 51     | 3.9          | 28     | 3.6  | 66     | 6.1  | 76     | 3.9          | 27    | 3.7  |
| Slovakia                          | 12     | 0.0          | 30     | 23.3 | 44     | 11.4 | 36     | 2.8          | 14    | 7.1  |
| Finland                           | 687    | 6.1          | 671    | 6.7  | 591    | 5.8  | 571    | 6.3          | 247   | 7.3  |
| Slovenia                          | 269    | 3.3          | 216    | 6.5  | 271    | 4.8  | 283    | 4.9          | 172   | 7.6  |
| Italy                             | 361    | 4.4          | 474    | 5.3  | 879    | 4.7  | 989    | 6.7          | 491   | 7.7  |
| Portugal                          | 868    | 6.6          | 978    | 7.1  | 922    | 8.0  | 865    | 7.5          | 492   | 8.5  |
| Belgium                           | 1 327  | 0.3          | 1 472  | 0.1  | 1 526  | 0.1  | 1 548  | 5.7          | 858   | 8.7  |
| Hungary                           | 166    | 7.8          | 187    | 6.4  | 190    | 7.9  | 215    | 5.1          | 115   | 8.7  |
| EU/EEA (population-weighted mean) | 15 182 | 8.4          | 16 584 | 8.2  | 18 082 | 7.8  | 17 529 | 7.3          | 7739  | 9.0  |
| Lithuania                         | 94     | 12.8         | 107    | 11.2 | 92     | 13.0 | 119    | 7.6          | 96    | 9.4  |
| Poland                            | 271    | 16.6         | 241    | 14.1 | 285    | 10.9 | 268    | 13.4         | 116   | 9.5  |
| Ireland                           | 354    | 9.6          | 396    | 9.3  | 419    | 10.0 | 340    | 8.2          | 130   | 11.5 |
| Spain                             | 612    | 13.7         | 701    | 12.4 | 957    | 9.6  | 905    | 10.9         | 524   | 11.8 |
| Croatia                           | 154    | 14.9         | 126    | 15.9 | 141    | 11.3 | 152    | 13.8         | 55    | 16.4 |
| France                            | 1 046  | 18.0         | 614    | 17.6 | 1 045  | 20.4 | 1 264  | 16.1         | 668   | 18.4 |
| Cyprus                            | 10     | 40.0         | 11     | 45.5 | 14     | 7.1  | 2      | <10 isolates | 10    | 20.0 |
| Romania                           | 56     | 30.4         | 75     | 24.0 | 90     | 26.7 | 74     | 9.5          | 34    | 23.5 |
| Iceland                           | 19     | 0.0          | 27     | 14.8 | 31     | 9.7  | 44     | 11.4         | 20    | 30.0 |
| Malta                             | 9      | <10 isolates | 19     | 26.3 | 37     | 13.5 | 25     | 20.0         | 16    | 37.5 |
| Greece                            | ND     | ND           | ND     | ND   | ND     | ND   | ND     | ND           | ND    | ND   |
| United Kingdom                    | 3 136  | 2.6          | 3 885  | 1.9  | 4 052  | 2.0  | 3 427  | 2.3          | ND    | ND   |

<sup>a</sup> Penicillin results are based on penicillin or, if not available, oxacillin. For *S. pneumoniae*, the term penicillin non-wild-type is used in this report, referring to *S. pneumoniae* isolates reported by the local laboratories as susceptible increased exposure (I) or resistant (R) to penicillin, assuming MIC to benzylpenicillin above those of wild-type isolates (>0.06 mg/L). The qualitative susceptibility categories (S/I/R) as reported by the laboratory are used, since quantitative susceptibility information is missing for a large part of the data. Laboratories not using EUCAST clinical breakpoints in the period 2016–2018 might define the cut-off values for the susceptibility categories differently.

ND = no data

<10 isolates = no proportion is displayed if <10 isolates were available for analysis