

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^a (%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

^a 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^a 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

^a 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	5 881	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^a (%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

^a 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^a (%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

^a 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^a (%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

^a 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^a (%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

^a 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	1 879	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 ^a	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

^a 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^a (%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

^a 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^a 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

^a 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)^a, 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

^a 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^a, 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

^a 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^a 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

^a 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