

Table ESCCOL1 *Escherichia coli*. Total number of invasive isolates tested (N) and percentage with resistance to aminopenicillins (%R), EU/EEA countries, 2015–2019

Country	2015		2016		2017		2018		2019		Trend
	N	%R	N	%R	N	%R	N	%R	N	%R	2015-2019*
Finland	2472	36	2690	35.8	2874	35.2	3129	35.3	3000	35.5	
Norway	3299	45.8	3615	42.9	3731	42.2	3880	42.3	4072	41	↓
Estonia	196	47.4	471	46.7	439	47.8	457	43.5	499	42.1	
Netherlands	7070	47.7	7246	46.1	7512	46	8272	46	7301	45.4	↓
Austria	4880	49.9	5094	50.5	5188	49.5	5456	50.7	6042	46.3	↓
Denmark	4594	45.3	4698	45	4885	45.6	5383	46	5593	46.3	
Germany	8358	49.4	15957	49	21646	48.9	20841	49.2	23324	48.7	
Slovenia	1326	54.8	1420	57.1	1435	51.6	1668	53.5	1610	51.7	↓
Iceland	173	44.5	192	43.8	213	41.3	198	49	257	52.5	↑
France	10946	57	11248	57.2	13293	55.6	12553	55.6	13415	54.5	↓
Czechia	3172	54.3	3055	55.1	3198	53	3640	54.2	3556	54.6	
Belgium	2674	58	3736	58	4669	57.5	4445	55.8	3601	56.5	↓#
Greece	1079	56.1	1170	56.9	1306	57.5	1444	57.5	154	57.1	
Croatia	1042	55.3	1043	57.3	1135	58.8	1214	57.7	1108	57.1	
EU/EEA (population-weighted mean)	79507	58.9	108239	59	125866	58.7	133700	57.5	129576	57.1	↓
Luxembourg	347	60.2	419	53.2	433	55.9	420	55.2	492	57.5	
Slovakia	878	62.8	817	62.3	853	64.9	967	61.7	849	57.8	↓#
Latvia	192	53.6	247	55.1	202	60.4	347	56.2	438	57.8	
Portugal	5177	57.8	5772	59.2	6245	56.2	5895	55.1	5933	58.5	
Lithuania	582	59.6	794	59.2	845	57.8	1106	59	1129	59.1	
Hungary	1970	60.6	1969	57.4	2021	60.3	2312	62.7	2363	59.3	
United Kingdom	5117	65.8	21614	62.7	28647	62.5	29502	60.8	28228	60.3	↓
Spain	6427	63.9	6795	64.1	5947	62.4	7599	62.9	6805	61.6	↓
Poland	346	64.7	1034	64.5	913	69.4	890	64.3	836	61.6	
Romania	259	73	376	72.3	494	68.2	542	62.2	538	63	↓
Bulgaria	143	66.4	186	78	203	73.9	287	66.6	352	63.4	↓#
Malta	238	55.5	328	60.1	314	59.6	332	59.6	332	64.8	
Ireland	2646	66.2	2990	68.1	2991	69.8	3237	67.6	3201	67.5	
Italy	3385	67.4	3114	66.9	4078	67.1	7533	64.5	4456	68.1	
Cyprus	123	68.3	149	69.1	156	65.4	151	64.9	92	71.7	
Sweden	396	34.1	0		0		0		0		N/A

* ↑ and ↓ indicate significant increasing and decreasing trends, respectively.

N/A: Not applicable as data were not reported for all years, a significant change in data source occurred during the period or number of isolates was below 20 in any year during the period.

The symbol # indicates a significant trend in the overall data, which was not observed when only data from laboratories consistently reporting for all five years were included.

Less than 10 isolates reported, no percentage calculated

Table ESCCOL2 *Escherichia coli*. Total number of invasive isolates tested (N) and percentage with resistance to fluoroquinolones (%R), EU/EEA countries, 2015–2019

Country	2015		2016		2017		2018		2019		Trend
	N	%R	N	%R	N	%R	N	%R	N	%R	2015-2019*
Norway	3298	10.2	3611	10.9	3731	13.6	3877	12.9	4068	11.3	↑
Finland	4404	11.2	4808	11.5	5305	12	5043	11.4	5410	11.4	
Denmark	4570	11.9	4827	11	5123	12.8	5386	13.3	5605	11.5	
Iceland	162	6.8	178	9.6	199	11.6	192	17.2	252	13.1	↑
Netherlands	7074	13.2	7249	12.9	7511	14.4	8274	14.7	7298	14.6	↑
Sweden	5525	12.6	6947	13.7	5762	15.8	5378	18.1	9412	15.9	↑
France	10998	17.7	11251	16.7	13328	15	12443	16.3	13431	16	↓
Estonia	256	15.2	699	13.9	781	17.4	829	17.6	897	17.1	
Germany	9019	19.4	17196	19.4	22940	20.7	21958	19.8	23374	17.5	↓
United Kingdom	5812	15.6	22883	16.3	30185	17.5	31340	17.7	29703	17.8	↑
Lithuania	583	20.6	790	19.7	849	25.2	1104	19.7	1129	18	
Austria	4808	20	5278	19.8	5367	20.5	5679	21.9	6111	18.2	
Slovenia	1325	24.6	1420	25.6	1383	24.9	1668	22.8	1610	19	↓
Belgium	2565	26.6	3854	24.5	4382	23.8	4211	21.8	3925	19.1	↓
Ireland	2631	23.1	2990	22.9	3119	23.6	3238	23.9	3223	20.4	
Luxembourg	347	24.2	418	28.9	433	22.9	418	21.8	492	20.5	↓
Czechia	3165	22.6	3061	27.6	3199	24.5	3638	24.3	3554	23	
EU/EEA (population-weighted mean)	91832	24.8	125161	25.2	141562	25.7	154698	25.3	160692	23.8	↓
Latvia	194	27.8	245	27.8	201	30.3	344	24.1	442	24.9	
Portugal	5371	29.7	5783	28.9	6424	27.3	5868	25.5	6431	26.5	↓
Croatia	1038	24	1041	27.9	1150	28.2	1199	30	1108	27.3	↑
Romania	371	30.7	418	30.6	518	26.4	646	29.1	654	28.3	
Greece	1191	30.6	1304	32.1	1464	32.9	1631	30.8	203	29.6	
Spain	6484	31.6	6797	32.8	5781	32.5	7616	32.1	7166	29.7	↓
Hungary	2021	29	1986	26.8	2051	30.6	2364	33.2	2398	30.3	↑
Poland	1571	27.9	2637	33.1	1832	35.9	2567	34.7	2753	33	↑#
Slovakia	894	44.2	826	40.4	882	43.2	969	42.1	850	34	↓
Bulgaria	204	35.3	237	42.2	247	42.1	292	41.8	352	38.6	
Malta	238	37.4	328	41.5	314	43.3	332	41.9	332	40.1	
Italy	5590	44.4	5950	43.3	6945	44.9	16043	41.7	18417	40.6	↓
Cyprus	123	45.5	149	47	156	42.9	151	42.4	92	43.5	

* ↑ and ↓ indicate significant increasing and decreasing trends, respectively.

N/A: Not applicable as data were not reported for all years, a significant change in data source occurred during the period or number of isolates was below 20 in any year during the period.

The symbol # indicates a significant trend in the overall data, which was not observed when only data from laboratories consistently reporting for all five years were included.

Less than 10 isolates reported, no percentage calculated

Table ESCCOL3 *Escherichia coli*. Total number of invasive isolates tested (N) and percentage with resistance to third-generation cephalosporins (%R), EU/EEA countries, 2015–2019

Country	2015		2016		2017		2018		2019		Trend
	N	%R	N	%R	N	%R	N	%R	N	%R	2015-2019*
Norway	3301	6	3617	5.6	3734	5.9	3879	6.8	4075	6.2	
Iceland	173	1.7	192	4.2	213	6.1	198	8.1	257	7	↑
Netherlands	7074	6.1	7250	6.6	7509	6.4	8270	7.3	7300	7.5	↑
Denmark	4561	7.5	4659	6.6	4883	6.9	4833	7.7	5091	7.5	
Finland	4342	6.1	4742	6.9	5223	6.9	5020	7.6	5413	7.8	↑
Sweden	5995	6.2	6958	8.3	5790	7.4	5390	8.3	9419	7.8	↑
France	11051	11	11313	11.2	13352	10.2	12614	9.6	13019	8.8	↓
Austria	4900	9.7	5267	10	5129	9.6	5672	10.2	6106	9.3	
Slovenia	1326	13.7	1420	12.5	1435	12.5	1668	11.3	1610	9.8	↓
Belgium	2593	9.7	3737	10.5	4672	9.7	4644	9	3937	10	
Estonia	246	11.4	701	9	788	8.8	850	9.8	910	11.5	
United Kingdom	5169	11.3	21846	9.2	27925	10.3	28677	11	26593	11.5	↑
Germany	9031	10.3	17190	11.1	22929	12.3	21989	12.2	23413	11.5	↑#
Ireland	2638	11.4	2985	11.4	3121	12	3237	12.9	3231	12.1	
Luxembourg	347	12.7	418	13.6	433	9.7	424	12.5	492	12.6	
Lithuania	581	16	795	14.7	852	16.8	1109	15.3	1132	13.9	
Spain	6428	11.6	6800	15	6027	12.8	7923	13.8	7318	14	↑
EU/EEA (population-weighted mean)	91822	14.6	123944	14.9	140584	14.9	152720	15.1	156887	15.1	↑#
Croatia	1046	12.5	1045	14.7	1148	16.5	1168	14.8	1085	15.9	↑
Czechia	3172	14.5	3061	15.1	3199	14.2	3641	15.2	3557	15.9	
Portugal	5376	16.1	5784	16.1	6441	15.6	5881	14.7	6390	16.1	
Poland	1610	11.9	2719	13.7	2866	16.7	2620	17.6	2803	17.1	↑#
Malta	238	11.8	328	14.6	314	15.6	332	15.4	332	17.5	
Greece	1215	19.8	1304	17.6	1470	18.3	1640	19.3	190	18.9	
Latvia	201	17.9	253	24.1	205	22	348	20.4	442	19.7	
Romania	369	26.8	418	23.4	518	18.7	654	20.2	664	20.3	↓
Hungary	2026	16.7	1993	16.7	2058	20.1	2370	22.6	2413	20.6	↑
Cyprus	123	28.5	149	30.2	156	30.8	151	37.1	92	20.7	
Slovakia	893	30	824	29.7	870	30.9	973	30.1	846	23	↓
Italy	5592	30.1	5938	29.8	7077	29.5	16253	28.7	18405	30.9	
Bulgaria	205	38.5	238	41.6	247	41.3	292	38.7	352	38.6	

* ↑ and ↓ indicate significant increasing and decreasing trends, respectively.

N/A: Not applicable as data were not reported for all years, a significant change in data source occurred during the period or number of isolates was below 20 in any year during the period.

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Less than 10 isolates reported, no percentage calculated

Table ESCCOL4 *Escherichia coli*. Total number of invasive isolates tested (N) and percentage with resistance to aminoglycosides (%R), EU/EEA countries, 2015-2019

Country	2015		2016		2017		2018		2019		Trend 2015-2019*
	N	%R	N	%R	N	%R	N	%R	N	%R	
Iceland	173	2.9	192	3.6	213	5.6	197	6.1	256	4.7	
Finland	4135	5.4	4519	4.9	4982	5	4815	4.3	5159	4.8	
Estonia	257	9.3	702	7.4	786	5.7	849	6.2	907	5.3	↓
Denmark	4591	6.8	4846	6.1	5122	6	5393	5.7	5599	5.5	↓
Norway	3301	6	3614	5.5	3732	7.2	3880	5.7	4074	5.6	
Sweden	5761	6.4	6949	7.2	5758	6.5	5378	7.7	9410	6	
Belgium	2286	8.4	3499	8.4	3769	8.1	3822	7.4	3922	6.9	↓#
Austria	4884	7	5248	7.8	5318	7.7	5616	8.2	6102	6.9	
France	11055	8.2	11135	7.9	13103	7	12283	7.4	13133	7	↓
Netherlands	7074	6.1	7248	6.2	7512	5.9	8275	6.3	7301	7	↑#
Lithuania	583	10.1	791	8	848	8.3	1103	7.9	1129	7.6	
Slovenia	1326	12.9	1420	10.6	1435	11.4	1668	9.4	1610	7.8	↓
Germany	9029	7.1	17023	7	22478	7	21634	6.9	22990	8.3	↑#
Malta	238	12.2	328	10.4	314	10.8	332	9.9	332	9.9	
Luxembourg	347	8.9	418	9.1	433	10.4	423	7.3	492	10.2	
United Kingdom	6052	9.9	23166	9.9	30739	10	32119	10.5	30448	10.7	↑
EU/EEA (population-weighted mean)	91746	11.6	124480	11.6	141788	11.4	154266	11.1	160406	10.8	↓
Cyprus	123	13.8	149	16.1	156	21.8	151	19.9	92	10.9	
Czechia	3172	11.3	3061	12.2	3199	10.7	3643	9.5	3559	11.4	
Latvia	191	14.1	244	12.7	201	13.4	348	8.9	440	11.6	
Romania	366	18.3	414	15	513	15.2	649	12.8	594	11.6	↓
Ireland	2646	11.8	2991	11.2	3123	11.9	3238	11.7	3232	11.8	
Portugal	5372	13.8	5765	13.1	6387	11.9	5825	12.2	6428	12.1	↓
Poland	1581	11.2	2521	13.3	2719	14	2449	15.1	2614	12.6	
Greece	1200	16.1	1301	16.8	1467	17	1633	15.5	201	12.9	
Spain	6489	14.7	6800	14.5	6029	13.7	7924	14.1	7277	13.5	↓
Croatia	1008	12.7	1027	15.7	1154	16.6	1210	14.9	1112	14.8	
Hungary	2020	13.6	1992	13.3	2060	15.1	2264	17.4	2411	15.7	↑
Italy	5408	20.2	6079	19	7134	18.4	15901	16	18383	15.9	↓
Slovakia	896	24.2	828	20.2	875	22.5	969	21.6	847	16.6	↓
Bulgaria	182	19.8	210	34.8	229	36.2	275	28.4	352	24.4	

* ↑ and ↓ indicate significant increasing and decreasing trends, respectively.

N/A: Not applicable as data were not reported for all years, a significant change in data source occurred during the period or number of isolates was below 20 in any year during the period.

The symbol # indicates a significant trend in the overall data, which was not observed when only data from laboratories consistently reporting for all five years were included.

Less than 10 isolates reported, no percentage calculated

Table ESCCOL5 *Escherichia coli*. Total number of invasive isolates tested (N) and percentage with resistance to carbapenems (%R), EU/EEA countries, 2015-2019

Country	2015		2016		2017		2018		2019		Trend 2015-2019*
	N	%R	N	%R	N	%R	N	%R	N	%R	
Poland	1499	0.1	2553	0	2741	0	2500	0.1	2683	0	
Estonia	219	0	602	0	687	0	758	0	800	0	
Ireland	2615	0	2989	0	3116	0	3237	0	3229	0	
Germany	9032	0	17196	0	22940	0	21957	0	23391	0	
Sweden	5307	0.1	6927	0.1	5769	0	5388	0	9413	0	↓#
Slovenia	1326	0	1420	0	1435	0	1668	0	1610	0	
Latvia	192	0	246	0	203	0	346	0	439	0	
Netherlands	7070	0	7245	0	7506	0	8272	0	7299	0	
United Kingdom	5497	0.3	22762	0	30074	0	31229	0	29609	0	↓
Bulgaria	182	0	224	0.9	247	0	292	1.4	352	0	
Malta	238	0	328	0	314	0	332	0	332	0	
Hungary	1922	0	1905	0	1987	0.1	2279	0	2326	0	
Finland	4425	0	4832	0	5315	0	5057	0	5331	0	
Cyprus	123	0	149	0	156	1.3	150	2	92	0	
Czechia	1471	0	1483	0	1431	0	1752	0.1	1689	0	
Norway	3297	0	3616	0.1	3733	0.1	3879	0	4040	0	
Austria	4760	0	5134	0	5227	0	5564	0.1	5935	0	
France	10481	0	10929	0	12843	0	12399	0	12636	0	
Portugal	5354	0.1	5760	0	6384	0.3	5797	0.5	6372	0.1	↑#
Slovakia	830	0	751	0	844	0	924	0	785	0.1	
Denmark	4046	0	4671	0	5117	0	4640	0	5577	0.1	
Belgium	2588	0	3845	0.1	4672	0	4641	0.1	3926	0.1	
Lithuania	579	0	793	0	849	0	1100	0	1122	0.2	
Croatia	1046	0	1045	0	1132	0	1190	0	1090	0.2	↑
EU/EEA (population-weighted mean)	88020	0.2	122437	0.1	140438	0.1	151457	0.1	155841	0.3	↑
Italy	5592	0.2	6106	0.3	7280	0.3	15452	0.4	17083	0.4	↑#
Romania	368	1.9	411	1	510	0.4	653	0	666	0.6	↓#
Luxembourg	347	0	418	0	433	0	424	0	492	0.6	↑
Greece	1215	1.2	1303	0.9	1467	1.6	1640	1	203	1	
Spain	6399	0	6794	0.1	6026	0	7924	0	7319	1.6	↑
Iceland	0		6		8		13	0	2		N/A

* ↑ and ↓ indicate significant increasing and decreasing trends, respectively.

N/A: Not applicable as data were not reported for all years, a significant change in data source occurred during the period or number of isolates was below 20 in any year during the period.

The symbol # indicates a significant trend in the overall data, which was not observed when only data from laboratories consistently reporting for all five years were included.

Less than 10 isolates reported, no percentage calculated

Table ESCCOL6 *Escherichia coli*. Total number of isolates tested (N) and percentage with combined resistance to fluoroquinolones, third-generation cephalosporins and aminoglycosides (%R), EU/EEA countries, 2015-2019

Country	2015		2016		2017		2018		2019		Trend 2015-2019*
	N	%R	N	%R	N	%R	N	%R	N	%R	
Iceland	162	0	178	1.1	199	1.5	191	2.1	251	0.4	
Norway	3298	1.9	3609	1.9	3729	2.4	3876	2	4068	1.7	
Denmark	4531	2.5	4640	1.8	4883	1.8	4829	2	5084	1.9	
Estonia	233	5.2	698	4	780	3.7	828	3	894	2.1	↓
Sweden	5257	2.5	6939	3.1	5746	2	5368	3.1	9405	2.2	
Finland	4103	2.6	4492	2.4	4971	2.4	4798	2	5151	2.3	
Netherlands	7073	2	7247	2.3	7504	2.1	8268	2.2	7296	2.6	↑#
Austria	4785	2.9	5235	3.5	5071	3.3	5598	3.6	6072	2.7	
Belgium	2285	3.5	3496	3.8	3765	3.5	3809	3.1	3920	3	
France	10988	3.9	11082	3.8	13038	3	12107	3.5	12639	3	↓
Germany	9013	3	17013	3.4	22464	3.7	21630	3.4	22971	3.1	
Luxembourg	347	5.2	418	3.8	433	3.5	417	3.8	492	3.9	
Slovenia	1325	8.1	1420	6.9	1383	6.3	1668	4.7	1610	4	↓
Lithuania	581	4.3	783	2.6	845	4.4	1098	4.6	1126	4.5	
United Kingdom	5119	4.5	21101	4	26808	4.1	27756	4.5	25761	4.7	↑#
Malta	238	7.1	328	5.5	314	6.4	332	4.5	332	5.1	
Ireland	2621	5.4	2984	5.3	3116	5.7	3235	6.1	3222	5.6	
EU/EEA (population-weighted mean)	89780	6.3	121582	6.4	135108	6.3	148206	6.2	153818	5.9	↓
Spain	6416	5.5	6791	6.2	5774	5.5	7598	6.4	7112	6.2	
Portugal	5366	7.6	5762	7.7	6365	6.6	5746	6.2	6384	6.3	↓
Cyprus	123	9.8	149	11.4	156	15.4	151	14.6	92	6.5	
Czechia	3165	6.9	3061	7.9	3199	6.3	3638	6.3	3554	6.6	
Romania	364	13.5	410	11.7	513	9.7	641	7.2	576	7.3	↓
Greece	1187	10.7	1300	10.4	1463	9.8	1628	9.8	186	8.6	
Croatia	1000	6.9	1023	9.4	1133	9.4	1150	9.2	1064	9.2	
Poland	1532	6.1	2411	8.5	1666	8.2	2386	10.5	2564	9.3	↑#
Latvia	191	10.5	242	10.3	197	11.2	344	7	440	9.3	
Hungary	2015	6.7	1981	6.4	2047	8.2	2254	11.4	2397	10.4	↑
Italy	5389	14.6	5763	12.9	6454	13.7	15622	11.4	17961	11.6	↓
Slovakia	891	17.1	822	14.8	863	17.7	965	16.6	842	12.7	
Bulgaria	182	12.6	204	22.1	229	24.9	275	19.6	352	19	

* ↑ and ↓ indicate significant increasing and decreasing trends, respectively.

N/A: Not applicable as data were not reported for all years, a significant change in data source occurred during the period or number of isolates was below 20 in any year during the period.

The symbol # indicates a significant trend in the overall data, which was not observed when only data from laboratories consistently reporting for all five years were included.

Less than 10 isolates reported, no percentage calculated

Table KLEPNE1 *Klebsiella pneumoniae*. Total number of invasive isolates tested (N) and percentage with resistance to fluoroquinolones (%R), EU/EEA countries, 2015-2019

Country	2015		2016		2017		2018		2019		Trend
	N	%R	N	%R	N	%R	N	%R	N	%R	2015-2019*
Iceland	35	2.9	21	0	16	6.3	16	0	23	4.3	N/A
Finland	658	3.3	769	2.7	756	7.9	808	6.3	865	7.3	↑
Norway	700	5	808	4.3	781	10.2	735	13.1	832	8.8	↑
Denmark	935	5.3	1152	5.3	1183	9.1	1279	8.5	1361	9.6	↑
Sweden	907	4.5	1533	5.4	1034	9.8	1087	10.1	1789	10.5	↑
Netherlands	1198	7.3	1320	7.1	1330	11.7	1521	11.6	1432	11.1	↑
United Kingdom	1011	13.3	4065	7.5	5293	9.3	5600	13.1	5302	12.8	↑
Germany	1580	9.6	3068	12.6	3857	15.3	3970	13.4	4715	13.1	↑#
Austria	1029	11.7	1246	9.8	1147	14.2	1221	13.2	1327	15.7	↑
Estonia	62	33.9	183	29.5	161	24.8	205	21	179	16.2	↓
Ireland	388	17	453	11.3	478	14.9	483	18	526	17.3	
Slovenia	237	24.5	267	29.6	306	30.4	289	27.3	303	19.5	
Belgium	379	22.7	669	23.6	803	23.7	932	22.6	757	19.8	
Spain	1508	21.6	1676	22.7	1486	22.5	1927	23.8	2089	22.5	
Luxembourg	60	20	78	35.9	99	28.3	85	24.7	103	27.2	
France	2332	30.7	2589	27.7	2886	26.8	2997	30.4	3143	30.9	
EU/EEA (population-weighted mean)	22707	30.1	30769	30.3	32924	31.5	38770	31.6	41330	31.2	↑#
Cyprus	62	37.1	75	32	71	35.2	87	49.4	60	31.7	
Hungary	700	36.7	713	35.2	685	41.5	842	38	909	36.7	
Latvia	112	42	91	41.8	116	32.8	200	38.5	198	36.9	
Malta	88	26.1	102	33.3	117	39.3	137	55.5	129	44.2	↑
Portugal	2094	38.6	2350	41.7	2736	45.7	2592	43.8	2704	45.8	↑
Czechia	1416	48.9	1384	50.5	1329	49.2	1482	47.2	1562	48.7	
Lithuania	179	45.8	324	54.6	326	64.7	370	56.8	438	52.1	
Italy	2000	53.7	2248	56	2562	55.7	5752	52.7	7691	54.7	
Slovakia	474	70	466	66.3	466	66.7	497	61	367	56.9	↓
Croatia	380	48.7	318	43.4	309	40.8	327	48.6	318	57.9	↑
Bulgaria	96	37.5	160	55.6	169	59.8	193	62.7	267	60.7	↑
Poland	659	63.9	1119	66.8	739	66.3	1207	68.2	1159	61.3	
Romania	267	61.4	342	60.8	337	64.1	441	57.4	471	62	
Greece	1161	66.4	1180	68.6	1346	66.9	1488	68.1	311	66.9	

* ↑ and ↓ indicate significant increasing and decreasing trends, respectively.

N/A: Not applicable as data were not reported for all years, a significant change in data source occurred during the period or number of isolates was below 20 in any year during the period.

The symbol # indicates a significant trend in the overall data, which was not observed when only data from laboratories consistently reporting for all five years were included.

Less than 10 isolates reported, no percentage calculated

Table KLEPNE2 *Klebsiella pneumoniae*. Total number of invasive isolates tested (N) and percentage with resistance to third-generation cephalosporins (%R), EU/EEA countries, 2015-2019

Country	2015		2016		2017		2018		2019		Trend
	N	%R	N	%R	N	%R	N	%R	N	%R	2015-2019*
Iceland	36	0	25	0	17	5.9	16	0	23	4.3	N/A
Finland	644	3	760	4.1	744	4.6	805	4.5	868	6.3	↑
Denmark	929	7.8	1118	7.5	1125	7.3	1159	6.5	1248	6.7	
Norway	701	5	811	5.8	781	5.8	737	7.5	832	7.7	↑
Sweden	1001	3.3	1537	4.9	1034	5.6	1089	5.5	1795	8.3	↑
Netherlands	1198	9.4	1320	10.5	1329	10.9	1520	10.7	1434	9.6	
Austria	1050	8.4	1245	9.6	1072	8.6	1221	8.4	1326	10.3	
Estonia	93	23.7	183	32.8	161	21.1	206	13.6	179	10.6	↓
Germany	1581	10.2	3068	13.6	3854	14.6	3973	12.9	4719	12.2	
United Kingdom	916	10.5	3914	8.9	4973	11.4	5181	13	4867	13.2	↑
Slovenia	237	22.8	267	22.8	312	23.7	289	14.9	303	16.5	↓
Ireland	387	14.7	452	13.5	478	14.6	483	14.5	527	17.6	
Belgium	406	19.7	669	22.9	803	19.3	935	21.4	759	19.5	
Spain	1491	20.3	1677	22.4	1513	21.3	1994	25.5	2110	23.9	↑#
Luxembourg	60	28.3	78	35.9	99	27.3	85	29.4	103	25.2	
France	2338	30.5	2597	28.9	2892	28.8	3033	30.8	3075	30.2	
EU/EEA (population-weighted mean)	22801	31.1	30633	31.4	32969	31.2	38436	31.7	40764	31.3	
Hungary	704	37.2	722	37.5	693	41.1	848	40.2	911	36.7	
Latvia	115	47	95	47.4	116	33.6	204	37.7	198	36.9	↓
Malta	88	15.9	102	21.6	117	35	137	53.3	129	37.2	↑
Portugal	2094	40.4	2349	46.7	2743	44.9	2579	50	2697	47.6	↑
Cyprus	62	43.5	75	30.7	71	46.5	87	48.3	60	48.3	
Czechia	1417	54.1	1384	51.8	1329	53.2	1482	50.1	1563	50.7	↓
Croatia	380	46.8	321	48.6	309	41.7	318	44.3	317	53	
Lithuania	178	51.7	326	56.7	326	63.2	371	55.8	440	55	
Slovakia	469	67.2	465	61.3	459	63.2	497	55.9	367	57.5	↓
Italy	1999	55.9	2246	55.8	2546	54.6	5832	53.6	7692	57.6	
Poland	676	64.2	1142	64.4	1203	63	1219	64.6	1166	58.3	↓#
Romania	270	70.7	344	68	339	62.5	443	61.4	479	64.1	↓#
Greece	1185	69.5	1181	72.5	1362	69.2	1500	70.7	310	66.5	
Bulgaria	96	75	160	72.5	169	76.3	193	77.7	267	75.7	

* ↑ and ↓ indicate significant increasing and decreasing trends, respectively.

N/A: Not applicable as data were not reported for all years, a significant change in data source occurred during the period or number of isolates was below 20 in any year during the period.

The symbol # indicates a significant trend in the overall data, which was not observed when only data from laboratories consistently reporting for all five years were included.

Less than 10 isolates reported, no percentage calculated

Table KLEPNE3 *Klebsiella pneumoniae*. Total number of invasive isolates tested (N) and percentage with resistance to aminoglycosides (%R), EU/EEA countries, 2015-2019

Country	2015		2016		2017		2018		2019		Trend 2015-2019*
	N	%R	N	%R	N	%R	N	%R	N	%R	
Denmark	938	2.6	1154	3.2	1186	3.2	1278	3.3	1358	3.5	
Finland	625	1.9	727	2.3	721	2.9	774	2.6	831	4.2	↑
Sweden	943	3.2	1141	3.4	1033	4.7	1087	3	1794	4.2	
Austria	959	4.8	1157	4.8	1141	4.8	1214	4.8	1319	5.5	
Netherlands	1198	6.9	1320	6.8	1330	7.4	1521	7	1434	6	
Estonia	61	21.3	183	21.3	161	12.4	205	10.2	179	6.1	↓
Norway	700	3.6	809	3.3	781	4.2	737	5.3	831	6.1	↑
Germany	1582	5.6	3042	7.7	3776	8.2	3918	6.2	4654	7.3	
United Kingdom	1070	9.3	4135	6.7	5363	7.9	5709	9.1	5406	8.2	↑#
Slovenia	237	19	267	16.5	312	16	289	12.8	303	8.3	↓
Iceland	36	0	25	0	17	11.8	16	0	23	8.7	N/A
Ireland	389	15.9	453	11.5	479	11.9	483	13	526	11	
Belgium	354	11.6	637	13.8	633	12.5	747	12.4	755	11.4	
Spain	1509	16	1678	15.5	1513	17.4	1995	19.3	2084	16.7	
Luxembourg	60	15	78	26.9	99	18.2	85	20	103	17.5	
EU/EEA (population-weighted mean)	22650	24.2	30209	24.4	33136	24.1	38555	22.7	41195	22.3	↓
France	2337	26.3	2569	26.2	2857	23.8	2990	24.8	3103	23.4	↓
Cyprus	62	37.1	75	22.7	71	26.8	87	36.8	58	24.1	
Malta	88	22.7	102	22.5	117	31.6	137	46.7	129	26.4	↑
Latvia	113	43.4	91	38.5	115	29.6	203	31	198	28.3	↓
Hungary	706	34.6	720	34.7	693	37.8	845	32.7	912	30.8	
Portugal	2090	32.6	2337	35	2717	33.5	2572	34.4	2708	32.2	
Italy	1956	34	2300	36.1	2571	34.5	5693	27	7679	32.6	↓
Lithuania	179	46.4	325	49.2	322	53.7	369	48.5	435	39.8	↓
Croatia	380	43.2	316	36.1	311	30.9	330	36.4	325	42.8	
Poland	666	58.6	1075	56.7	1165	55.5	1178	54.2	1128	47.5	↓
Czechia	1417	51.9	1385	47.1	1330	49.6	1483	48.6	1563	47.7	
Slovakia	475	66.5	466	62.4	468	61.1	496	54.8	369	49.3	↓
Romania	266	54.1	336	61.9	338	58.6	436	50.9	411	53	
Greece	1170	50.7	1171	52.9	1348	53.2	1487	54.4	310	55.2	↑
Bulgaria	84	59.5	135	64.4	168	63.1	191	59.2	267	57.3	

* ↑ and ↓ indicate significant increasing and decreasing trends, respectively.

N/A: Not applicable as data were not reported for all years, a significant change in data source occurred during the period or number of isolates was below 20 in any year during the period.

The symbol # indicates a significant trend in the overall data, which was not observed when only data from laboratories consistently reporting for all five years were included.

Less than 10 isolates reported, no percentage calculated

Table KLEPNE4 *Klebsiella pneumoniae*. Total number of invasive isolates tested (N) and percentage with resistance to carbapenems (%R), EU/EEA countries, 2015-2019

Country	2015		2016		2017		2018		2019		Trend
	N	%R	N	%R	N	%R	N	%R	N	%R	2015-2019*
Estonia	56	0	168	0	143	0	179	0.6	152	0	
Latvia	112	0	90	2.2	116	1.7	204	0.5	198	0	
Sweden	900	0	1531	0.1	1033	0.1	1088	0.2	1793	0.1	
Netherlands	1197	0.2	1317	0.1	1330	0.5	1520	0.5	1433	0.2	
Norway	700	0.1	810	0	781	0	736	0.1	826	0.2	
Denmark	846	0	1119	0.3	1185	0.3	1109	0.5	1356	0.3	
Slovenia	237	0.8	267	0	312	0	289	0.7	303	0.3	
Finland	658	0	770	0.3	758	0.3	810	0.6	850	0.4	
Czechia	1100	0.3	1096	0	1051	0.4	1194	0.3	1314	0.6	
United Kingdom	962	0.4	4068	0.3	5274	0.6	5592	0.7	5275	0.7	↑#
Germany	1583	0.1	3068	0.5	3857	0.5	3968	0.4	4718	0.9	↑
Hungary	687	0.1	703	0.4	681	0.1	827	0.2	890	0.9	↑
Ireland	389	0.5	453	0.7	478	0.2	482	0.6	527	0.9	
France	2244	0.5	2528	0.4	2807	0.7	2998	0.5	3003	1	↑
Luxembourg	60	0	78	0	99	0	85	0	103	1	
Belgium	389	0.5	669	2.4	791	1.1	935	1.4	757	1.1	
Austria	1022	0.8	1198	0.7	1109	1	1184	1	1296	1.2	
Lithuania	177	0	325	0	325	0.6	371	0.3	438	3.4	↑
Spain	1483	2.2	1677	2.1	1510	2.8	1995	3.8	2112	4.4	↑
Slovakia	436	0.9	435	2.5	450	4.4	488	3.5	351	4.6	↑#
Poland	660	0.5	1123	2.1	1161	6.4	1183	8.1	1155	7.7	↑
Malta	88	4.5	102	5.9	117	10.3	136	15.4	129	7.8	
EU/EEA (population-weighted mean)	22063	6.8	30309	7.4	32960	7.1	38140	7.5	40430	7.9	↑
Portugal	2085	3.4	2340	5.2	2720	8.6	2563	11.7	2690	10.9	↑
Croatia	380	2.4	323	0	302	0	325	2.2	325	12	↑
Cyprus	62	12.9	75	10.7	71	15.5	87	21.8	60	13.3	
Bulgaria	95	3.2	159	4.4	169	12.4	193	21.2	267	27	↑
Italy	1999	33.2	2303	33.8	2633	29.5	5660	26.8	7327	28.5	↓
Romania	271	24.7	334	31.4	334	22.5	441	29.5	470	32.3	
Greece	1185	61.9	1180	66.9	1363	64.7	1498	63.9	312	58.3	
Iceland	2		1		0		1		0		N/A

* ↑ and ↓ indicate significant increasing and decreasing trends, respectively.

N/A: Not applicable as data were not reported for all years, a significant change in data source occurred during the period or number of isolates was below 20 in any year during the period.

The symbol # indicates a significant trend in the overall data, which was not observed when only data from laboratories consistently reporting for all five years were included.

Less than 10 isolates reported, no percentage calculated

Table KLEPNE5 *Klebsiella pneumoniae*. Total number of isolates tested (N) and percentage with combined resistance to fluoroquinolones, third-generation cephalosporins and aminoglycosides (%R), EU/EEA countries, 2015-2019

Country	2015		2016		2017		2018		2019		Trend 2015-2019*
	N	%R	N	%R	N	%R	N	%R	N	%R	
Iceland	35	0	21	0	16	0	16	0	23	0	N/A
Denmark	924	1.1	1112	1.4	1122	2.4	1159	1.9	1245	2.3	↑
Austria	936	3.3	1156	3.5	1062	3	1203	3.1	1312	3	
Finland	623	1.1	726	1.2	716	2.4	771	1.6	827	3.1	↑
Sweden	860	1.9	1141	2.1	1033	3.3	1086	2.6	1789	3.2	↑#
Netherlands	1198	3.6	1320	3.9	1329	4.7	1520	4.4	1432	3.5	
Norway	699	2.3	807	2.6	781	3.2	735	3.8	831	3.9	↑
Germany	1578	3.2	3038	5.3	3774	6.3	3918	4.7	4649	4.8	
Ireland	387	7.2	452	5.8	477	5.9	483	8.1	525	5.3	
United Kingdom	906	4.2	3764	3.7	4760	4.2	5005	5.7	4648	5.4	↑#
Estonia	36	22.2	183	16.9	161	11.8	204	8.8	179	5.6	↓
Slovenia	237	16.9	267	13.1	306	16	289	10	303	7.6	↓
Belgium	353	9.3	637	9.3	633	8.5	742	9.8	755	8.7	
Luxembourg	60	13.3	78	24.4	99	17.2	85	15.3	103	13.6	
Spain	1488	11.7	1674	12.4	1484	12.8	1926	15.7	2053	14	↑#
EU/EEA (population-weighted mean)	22220	19.7	29589	20.6	31613	20.5	37402	19.5	39983	19.3	↓
France	2324	22.5	2556	21.3	2844	19.4	2948	21.5	3004	19.8	
Cyprus	62	17.7	75	18.7	71	25.4	87	32.2	58	20.7	
Malta	88	14.8	102	14.7	117	28.2	137	43.8	129	22.5	↑
Latvia	112	36.6	91	31.9	115	24.3	199	27.6	198	25.3	↓
Hungary	698	30.2	711	30.1	685	33.1	837	28.9	908	26.4	
Portugal	2084	25	2332	27.2	2711	28.4	2538	26.7	2692	26.5	
Italy	1940	29.7	2174	32.7	2352	31.6	5587	24.8	7559	30.3	
Lithuania	178	39.9	323	42.1	322	48.1	368	45.1	433	35.3	
Croatia	380	32.4	309	27.5	305	23	312	28.2	312	38.1	
Czechia	1416	41.5	1384	40.8	1329	41.8	1482	38.7	1562	39.3	
Bulgaria	84	28.6	133	45.9	168	50	191	47.6	267	44.9	
Poland	645	54	1052	53.6	703	52.6	1162	51.5	1112	45	↓
Slovakia	468	59.6	465	55.7	457	57.1	491	49.5	366	45.1	↓
Romania	261	49.8	335	55.2	336	55.4	434	46.3	402	52	
Greece	1160	46.7	1171	48.4	1345	47.9	1487	50.4	307	53.1	↑#

* ↑ and ↓ indicate significant increasing and decreasing trends, respectively.

N/A: Not applicable as data were not reported for all years, a significant change in data source occurred during the period or number of isolates was below 20 in any year during the period.

The symbol # indicates a significant trend in the overall data, which was not observed when only data from laboratories consistently reporting for all five years were included.

Less than 10 isolates reported, no percentage calculated

Table PSEAER1 *Pseudomonas aeruginosa*. Total number of invasive isolates tested (N) and percentage with resistance to piperacillin + tazobactam (%R), EU/EEA countries, 2015-2019

Country	2015		2016		2017		2018		2019		Trend 2015-2019*
	N	%R	N	%R	N	%R	N	%R	N	%R	
Luxembourg	27	0	40	12.5	54	11.1	56	12.5	44	2.3	
Denmark	441	4.1	460	3.5	484	2.9	489	2.9	493	4.1	
Norway	227	5.7	215	7.4	183	6	227	5.7	270	4.1	
United Kingdom	490	6.3	2039	6	2697	5.3	2589	5.6	2571	5.6	
Netherlands	603	5.5	635	4.1	696	7	764	6.2	621	5.8	
Finland	333	7.2	351	9.4	377	6.4	391	6.6	457	6.6	
Sweden	399	5.8	472	7.4	446	6.3	411	7.8	706	6.8	
Estonia	16	6.3	53	17	55	14.5	48	8.3	70	7.1	N/A
Austria	659	10.5	674	11.4	628	10.4	650	10.6	665	9.5	
Ireland	194	8.8	242	12.4	286	14	270	8.1	276	10.9	
Germany	970	16	1410	15	1856	12.6	1765	12.4	2077	11.7	↓
Belgium	244	8.2	318	9.7	438	10.5	430	10	439	12.1	
Spain	869	8.5	817	7.8	813	7.4	1076	9.1	967	13.9	↑#
Croatia	249	24.5	252	18.7	234	16.2	196	11.2	182	14.3	↓
Slovenia	141	9.9	143	19.6	138	13	174	16.1	175	14.9	
Malta	25	16	40	10	37	18.9	29	17.2	39	15.4	
France	1904	14.1	1949	16	1684	16.7	1850	17.4	1879	16.7	↑
EU/EEA (population-weighted mean)	12498	18.1	15125	17.5	16428	16.7	18607	16.8	19355	16.9	↓
Hungary	747	26.9	720	23.6	721	24.3	791	24.3	860	19.7	↓
Portugal	1176	24.5	1230	22.7	1206	24.2	1096	21.9	1054	20.3	↓
Cyprus	43	4.7	64	10.9	53	15.1	55	21.8	33	21.2	↑
Lithuania	41	29.3	74	13.5	89	18	101	17.8	102	23.5	
Czechia	445	22	446	23.3	405	20.7	531	22.6	584	23.6	
Italy	1074	28.7	1146	29.8	1309	23.2	2938	23.9	3768	24.1	↓
Poland	232	32.8	370	27.6	374	31	366	34.4	409	26.4	
Slovakia	257	37	165	27.3	180	33.3	236	28	175	28	↓#
Bulgaria	50	28	55	40	69	33.3	89	32.6	107	31.8	
Greece	553	18.8	644	23.3	771	23.7	815	21.5	109	34.9	↑#
Latvia	11	27.3	15	26.7	14	35.7	39	35.9	45	35.6	N/A
Romania	78	59	86	48.8	131	52.7	135	45.9	178	52.8	
Iceland	0		0		0		0		2		N/A

* ↑ and ↓ indicate significant increasing and decreasing trends, respectively.

N/A: Not applicable as data were not reported for all years, a significant change in data source occurred during the period or number of isolates was below 20 in any year during the period.

The symbol # indicates a significant trend in the overall data, which was not observed when only data from laboratories consistently reporting for all five years were included.

Less than 10 isolates reported, no percentage calculated

Table PSEAER2 *Pseudomonas aeruginosa*. Total number of invasive isolates tested (N) and percentage with resistance to fluoroquinolones (%R), EU/EEA countries, 2015-2019

Country	2015		2016		2017		2018		2019		Trend
	N	%R	N	%R	N	%R	N	%R	N	%R	2015-2019*
Iceland	12	8.3	17	17.6	17	11.8	12	8.3	22	4.5	N/A
Denmark	420	5	460	3.7	484	5	489	4.3	493	5.5	
Norway	230	5.2	227	5.7	205	4.9	250	10.4	296	5.7	
Estonia	18	0	56	3.6	56	12.5	45	13.3	68	5.9	N/A
Finland	302	8.9	292	7.9	356	11.2	376	12.8	468	8.5	
United Kingdom	522	8.8	2119	6.9	2802	7.7	2739	9.8	2749	8.7	↑#
Luxembourg	28	17.9	40	12.5	56	12.5	59	22	56	8.9	
Sweden	382	4.7	469	6	445	9	408	7.1	706	9.2	↑#
Ireland	194	9.8	243	11.9	287	13.9	272	8.8	276	9.4	
Netherlands	624	5.6	659	6.1	738	9.1	808	8.9	682	10.4	↑
Austria	659	10.3	694	7.2	721	12.3	736	14	805	10.7	↑
Cyprus	43	11.6	64	20.3	53	5.7	55	25.5	33	12.1	
Malta	25	12	40	10	37	10.8	29	0	39	12.8	
Germany	970	14.3	1423	12.4	1895	13.9	1789	12.4	2108	13.4	
France	1939	19.1	1971	13.6	1709	15.1	1893	15.1	2074	13.7	↓
Belgium	261	11.1	366	14.5	430	10.5	451	14	440	14.3	
Lithuania	41	26.8	73	15.1	89	21.3	101	12.9	104	17.3	
Spain	881	23	843	23	868	19.9	1102	20.1	995	17.9	↓
EU/EEA (population-weighted mean)	12803	20.9	15504	18.8	16951	20.2	19211	19.7	20273	18.9	↓#
Slovenia	141	14.2	143	20.3	123	20.3	174	21.8	175	18.9	
Hungary	769	24.7	736	24.3	732	23.4	805	26	879	20.3	
Portugal	1185	22.7	1227	20.1	1208	23.7	1104	23.7	1057	21.6	
Italy	1080	24.6	1166	24.7	1390	25.1	2994	22.9	3874	21.7	↓#
Latvia	13	23.1	16	31.3	14	64.3	39	23.1	49	28.6	N/A
Croatia	256	35.2	259	37.5	237	32.9	200	29	181	29.8	
Bulgaria	55	36.4	56	35.7	71	28.2	90	30	107	29.9	
Czechia	464	30	464	34.7	411	30.2	539	33.4	594	33.7	
Poland	257	36.2	400	31	358	37.2	389	39.1	417	34.1	
Slovakia	278	52.2	190	47.4	211	46.9	252	52.4	201	46.3	
Greece	662	34.1	702	34.6	816	35.3	856	33.1	141	46.8	
Romania	92	62	89	51.7	132	62.1	155	52.3	184	52.2	

* ↑ and ↓ indicate significant increasing and decreasing trends, respectively.

N/A: Not applicable as data were not reported for all years, a significant change in data source occurred during the period or number of isolates was below 20 in any year during the period.

The symbol # indicates a significant trend in the overall data, which was not observed when only data from laboratories consistently reporting for all five years were included.

Less than 10 isolates reported, no percentage calculated

Table PSEAER3 *Pseudomonas aeruginosa*. Total number of invasive isolates tested (N) and percentage with resistance to ceftazidime (%R), EU/EEA countries, 2015-2019

Country	2015		2016		2017		2018		2019		Trend 2015-2019*
	N	%R	N	%R	N	%R	N	%R	N	%R	
Netherlands	624	4.3	660	3.3	738	3.5	805	2.7	662	3.5	
Luxembourg	28	7.1	40	5	56	12.5	59	8.5	56	3.6	
Norway	216	5.6	224	7.1	197	5.1	240	6.3	282	3.9	
Denmark	439	3.6	447	4.5	461	3.5	458	3.3	471	4	
Finland	334	6.9	352	5.4	378	6.1	390	4.4	463	4.5	
Estonia	7		17	17.6	47	8.5	47	4.3	66	4.5	N/A
United Kingdom	472	6.1	2021	4.3	2680	4.7	2621	4.9	2631	5	
Sweden	379	4.5	473	7.4	446	4.5	412	6.1	706	5.1	
Belgium	226	6.2	320	7.8	431	7.2	441	7.5	427	8.2	
Austria	577	9.9	628	11.3	620	8.7	729	10.3	781	8.5	
Ireland	195	7.2	243	10.7	272	9.6	261	8.4	272	9.2	
Germany	968	8.9	1421	10.1	1883	9.8	1784	9.1	2104	10	
Spain	816	10.4	836	10.2	862	9.6	1087	8.7	988	10.7	
France	1919	11.6	1956	11.3	1568	12.2	1892	13	1999	11.5	
Iceland	11	0	17	0	17	0	12	0	22	13.6	N/A
EU/EEA (population-weighted mean)	12498	15.4	15219	14.4	16512	14.7	18960	14.1	19849	14.3	↓#
Malta	25	8	40	7.5	37	13.5	29	13.8	39	15.4	
Lithuania	41	19.5	74	10.8	88	14.8	101	11.9	103	15.5	
Slovenia	141	9.9	143	17.5	138	13	174	14.9	175	16	
Portugal	1185	19.2	1228	18	1216	18.6	1090	18.6	1054	17.6	
Cyprus	43	4.7	64	10.9	53	13.2	55	16.4	33	18.2	↑#
Hungary	763	24.2	735	20.7	729	23.9	804	22.5	882	18.4	↓
Italy	1068	21.7	1160	23	1332	20	2974	19.9	3798	19.1	↓
Poland	259	27.8	401	19.5	415	24.6	390	26.9	418	20.1	
Croatia	248	18.5	240	20.8	231	19.5	195	17.9	173	20.2	
Czechia	464	19.6	464	19.2	411	13.4	539	20.4	594	22.7	
Bulgaria	52	26.9	54	38.9	71	38	90	20	107	30.8	
Slovakia	247	34.8	164	31.1	180	35.6	237	32.1	178	31.5	
Latvia	13	23.1	15	26.7	14	42.9	39	33.3	49	32.7	N/A
Greece	660	19.4	696	33.6	814	24.9	853	22.3	136	39.7	
Romania	85	65.9	86	44.2	127	55.9	152	46.7	180	52.2	

* ↑ and ↓ indicate significant increasing and decreasing trends, respectively.

N/A: Not applicable as data were not reported for all years, a significant change in data source occurred during the period or number of isolates was below 20 in any year during the period.

The symbol # indicates a significant trend in the overall data, which was not observed when only data from laboratories consistently reporting for all five years were included.

Less than 10 isolates reported, no percentage calculated

Table PSEAER4 *Pseudomonas aeruginosa*. Total number of invasive isolates tested (N) and percentage with resistance to aminoglycosides (%R), EU/EEA countries, 2015-2019

Country	2015		2016		2017		2018		2019		Trend 2015-2019*
	N	%R	N	%R	N	%R	N	%R	N	%R	
Norway	219	0.9	213	0.9	183	0.5	236	0.8	292	0.3	
Finland	341	1.8	352	2.3	378	1.9	391	1	458	0.7	
Netherlands	624	2.6	658	2.4	738	3.7	808	2.4	683	1.6	
Luxembourg	28	3.6	40	15	56	5.4	53	3.8	56	1.8	
Sweden	387	1.3	471	0.8	444	0.9	411	1	707	2.3	
Denmark	441	2.3	460	1.7	484	1	489	0.6	490	2.7	
Estonia	17	5.9	54	7.4	56	5.4	48	4.2	67	3	N/A
Cyprus	43	0	64	4.7	53	1.9	55	7.3	33	3	
Austria	678	6.3	692	6.1	717	5	729	6.3	784	3.8	
Germany	966	7.1	1421	6.8	1869	4.8	1788	3.5	2107	4.1	↓
United Kingdom	539	5.2	2140	3.6	2831	3.9	2781	4.5	2792	4.3	
Iceland	12	0	17	0	17	0	12	0	22	4.5	N/A
Malta	25	16	40	7.5	37	10.8	29	0	39	5.1	
Slovenia	141	9.2	143	13.3	138	8.7	174	6.9	50	6	
Ireland	195	4.1	243	10.3	288	8.7	273	5.5	276	6.5	
Belgium	218	6	327	11	377	7.7	406	8.4	438	7.1	
France	1950	14.1	1976	10.7	1713	10.9	1898	9.3	2086	7.8	↓
Portugal	1191	13.5	1230	11.6	1210	12.1	1109	11.9	1060	9.9	↓
Italy	1050	17.2	1203	19.1	1428	18	2983	12.8	3859	11.4	↓
EU/EEA (population-weighted mean)	12825	15.3	15525	14	16979	13.2	19186	11.8	20109	11.5	↓
Lithuania	41	24.4	74	14.9	89	13.5	101	9.9	103	12.6	
Spain	883	16.4	843	15.3	864	12.4	1121	11.6	973	14	↓#
Hungary	766	20.5	740	17.6	734	14.6	784	17.9	883	16.9	
Poland	258	30.6	367	25.6	384	25.5	384	26	402	19.7	↓#
Croatia	256	34	260	33.5	237	26.6	199	21.6	183	20.2	↓
Czechia	464	21.3	464	18.8	411	14.4	539	19.3	594	21.7	
Latvia	11	9.1	15	20	14	42.9	39	28.2	49	22.4	N/A
Bulgaria	47	27.7	39	48.7	71	28.2	90	24.4	107	31.8	
Slovakia	277	41.9	191	33	211	36	254	37.4	199	33.2	
Greece	667	26.4	701	28	815	30.2	856	26.5	141	42.6	
Romania	90	63.3	87	50.6	132	57.6	146	50.7	176	48.9	↓

* ↑ and ↓ indicate significant increasing and decreasing trends, respectively.

N/A: Not applicable as data were not reported for all years, a significant change in data source occurred during the period or number of isolates was below 20 in any year during the period.

The symbol # indicates a significant trend in the overall data, which was not observed when only data from laboratories consistently reporting for all five years were included.

Less than 10 isolates reported, no percentage calculated

Table PSEAER5 *Pseudomonas aeruginosa*. Total number of invasive isolates tested (N) and percentage with resistance to carbapenems (%R), EU/EEA countries, 2015-2019

Country	2015		2016		2017		2018		2019		Trend
	N	%R	N	%R	N	%R	N	%R	N	%R	2015-2019*
Iceland	12	0	17	5.9	17	0	12	0	22	0	N/A
Denmark	437	4.6	458	2.4	484	2.5	422	5.2	491	3.3	
Netherlands	622	3.7	660	4.4	736	4.5	805	5.1	682	5.1	
Estonia	16	12.5	54	20.4	55	9.1	48	16.7	69	5.8	N/A
United Kingdom	499	2.4	2108	5.1	2804	5.7	2748	6	2742	5.9	↑
Finland	341	4.7	352	6	377	6.1	391	4.9	462	6.3	
Ireland	195	9.2	243	6.2	288	9	273	6.6	275	6.5	
Norway	228	5.7	225	6.7	205	3.4	250	4.8	296	7.4	
Malta	25	16	40	12.5	37	10.8	29	3.4	39	7.7	
Luxembourg	24	8.3	31	6.5	56	10.7	54	11.1	31	9.7	
Sweden	398	6.5	472	11	446	9	412	4.4	706	9.8	
Belgium	256	3.9	365	9.6	474	8.2	487	7.4	440	10.7	↑#
France	1925	16.4	1968	15.6	1710	13.9	1896	16	2076	12.7	↓
Germany	971	14.7	1422	14.5	1892	12.6	1790	12.1	2108	12.9	↓
Austria	680	12.2	696	12.9	725	13.9	736	12.8	786	13.4	
Italy	1082	22.8	1206	23.3	1433	19.6	3014	15.8	3793	13.7	↓
Czechia	464	10.6	464	8.8	411	14.8	539	18	595	14.5	↑
Lithuania	41	26.8	74	16.2	89	24.7	101	21.8	104	16.3	
EU/EEA (population-weighted mean)	12840	19.3	15573	18.2	17109	17.4	19233	17.2	20127	16.5	↓
Portugal	1191	19.8	1227	19.2	1215	18.3	1108	15.7	1052	17.8	↓#
Slovenia	141	15.6	143	19.6	138	17.4	174	14.9	175	20	
Cyprus	43	20.9	64	18.8	53	17	55	12.7	33	21.2	
Spain	872	22.7	842	21.4	861	18.4	1120	18.5	997	21.8	
Poland	254	37	397	26.2	393	24.2	374	33.2	409	24.4	
Bulgaria	55	25.5	56	30.4	71	25.4	90	25.6	107	25.2	
Croatia	257	38.5	260	42.3	238	30.7	199	27.6	183	26.2	↓
Latvia	13	15.4	16	31.3	14	57.1	39	28.2	49	32.7	N/A
Hungary	769	35.8	739	33.2	733	36.6	807	37.3	883	33.2	
Slovakia	262	51.9	182	42.3	202	47	248	44	197	39.1	↓
Greece	675	40.4	699	42.1	821	39.3	856	37.5	141	48.9	
Romania	92	66.3	93	51.6	131	63.4	156	55.1	184	55.4	

* ↑ and ↓ indicate significant increasing and decreasing trends, respectively.

N/A: Not applicable as data were not reported for all years, a significant change in data source occurred during the period or number of isolates was below 20 in any year during the period.

The symbol # indicates a significant trend in the overall data, which was not observed when only data from laboratories consistently reporting for all five years were included.

Less than 10 isolates reported, no percentage calculated

Table PSEAER6 *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 and carbapenems) EU/EEA countries, 2015-2019

Country	2015		2016		2017		2018		2019		Trend 2015-2019*
	N	%R	N	%R	N	%R	N	%R	N	%R	
Luxembourg	28	3.6	40	2.5	56	5.4	59	3.4	56	0	
Denmark	441	2.3	460	1.3	484	0.4	489	1.2	493	1.6	
Netherlands	624	2.2	660	2.3	738	2	808	1.9	683	1.9	
Norway	230	1.3	227	2.6	205	1.5	250	2.4	296	2	
Finland	341	4.7	352	3.4	378	3.4	391	1.8	462	2.4	↓
United Kingdom	501	3.4	2131	2.5	2830	2.4	2771	3	2778	2.9	
Estonia	15	0	56	3.6	57	8.8	48	6.3	70	2.9	N/A
Sweden	386	2.6	472	5.3	446	3.1	412	1.9	706	3.5	
Iceland	12	0	17	0	17	0	12	0	22	4.5	N/A
Ireland	195	5.1	243	8.6	288	7.6	273	3.3	276	5.1	
Austria	680	6.6	697	6.5	724	6.1	736	6.7	787	5.5	
Belgium	260	4.6	366	6.3	439	6.6	454	5.3	440	5.9	
Germany	971	7.6	1423	7.3	1894	6.6	1790	5.8	2108	6.3	
Malta	25	12	40	5	37	8.1	29	3.4	39	7.7	
France	1940	11.4	1972	10.3	1709	10.1	1894	10.5	2073	8	↓
Slovenia	141	7.1	143	15.4	138	10.9	174	11.5	175	12	
EU/EEA (population-weighted mean)	12863	14.6	15628	13.4	17129	13	19306	12.6	20296	12.1	↓
Cyprus	43	2.3	64	4.7	53	9.4	55	16.4	33	12.1	↑
Spain	874	14	843	14	863	10.7	1120	10.6	997	12.5	
Lithuania	41	24.4	74	10.8	89	16.9	101	11.9	104	12.5	
Italy	1082	19.8	1205	19.8	1434	17.2	3006	14.9	3882	13.1	↓
Portugal	1186	16.9	1230	14.8	1214	16.1	1108	15.3	1056	14.1	
Hungary	770	20.9	740	19.1	735	18.1	807	20.2	883	17.3	
Croatia	257	28	260	31.9	238	21.4	200	19	184	17.4	↓
Czechia	464	18.3	464	18.5	411	16.5	539	21.3	594	18.7	
Latvia	13	15.4	16	18.8	14	42.9	39	30.8	49	22.4	N/A
Poland	260	27.3	403	20.3	417	22.1	394	29.2	420	22.6	
Slovakia	270	40	183	33.3	202	38.1	248	35.5	197	30.5	
Bulgaria	55	29.1	56	35.7	71	26.8	90	25.6	107	30.8	
Greece	666	27.8	701	31.5	816	32	855	28.7	141	44.7	
Romania	92	63	90	48.9	132	59.1	154	49.4	185	49.7	

* ↑ and ↓ indicate significant increasing and decreasing trends, respectively.

N/A: Not applicable as data were not reported for all years, a significant change in data source occurred during the period or number of isolates was below 20 in any year during the period.

The symbol # indicates a significant trend in the overall data, which was not observed when only data from laboratories consistently reporting for all five years were included.

Less than 10 isolates reported, no percentage calculated

Table ASCSPP1 *Acinetobacter* spp. Total number of invasive isolates tested (N) and percentage with resistance to fluoroquinolones (%R), EU/EEA countries, 2015-2019

Country	2015		2016		2017		2018		2019		Trend 2015-2019*
	N	%R	N	%R	N	%R	N	%R	N	%R	
Finland	43	2.3	28	0	37	2.7	28	0	43	0	
Norway	32	9.4	33	3	31	0	32	0	23	0	↓
Germany	339	8.6	460	5.7	536	6.5	520	6.7	443	5	
Malta	15	13.3	7		9		9		15	6.7	N/A
Denmark	68	5.9	72	2.8	68	1.5	55	9.1	72	6.9	
United Kingdom	139	7.2	589	4.4	793	6.3	720	2.9	707	7.1	
Ireland	83	4.8	68	1.5	66	7.6	61	0	64	7.8	
Netherlands	96	5.2	134	2.2	132	3	149	7.4	127	7.9	
Sweden	26	3.8	86	4.7	54	0	55	7.3	113	8	
Belgium	26	0.0	78	7.7	130	10.8	134	12.7	93	8.6	
Austria	61	16.4	81	16	74	9.5	91	7.7	82	9.8	
Luxembourg	8		8		8		11	0	10	10	N/A
France	430	13.5	452	15	473	12.3	491	12	481	13.3	
Portugal	308	55.8	206	50.5	172	38.4	123	34.1	88	26.1	↓
Slovenia	31	58.1	60	55	36	47.2	39	28.2	40	27.5	↓
Czechia	60	18.3	57	17.5	55	20	91	24.2	95	32.6	↑
EU/EEA (population-weighted mean)	5032	38.5	5596	37.5	6098	37.4	6496	36.2	5918	36.9	↓
Spain	95	64.2	106	68.9	92	68.5	81	56.8	77	58.4	
Slovakia	154	51.9	115	46.1	126	52.4	141	56	94	61.7	
Hungary	464	68.1	397	68	352	67	356	66	412	63.3	
Bulgaria	131	78.6	106	67.9	92	95.7	110	78.2	132	74.2	
Estonia	4		5		11	36.4	11	45.5	10	80	N/A
Italy	664	81.6	697	79.9	804	79.2	1368	81.1	1636	82.5	
Latvia	60	78.3	68	85.3	33	81.8	47	80.9	24	83.3	
Poland	243	88.1	393	83	348	83	268	86.9	304	85.5	
Cyprus	60	83.3	28	71.4	50	76	55	89.1	32	90.6	
Romania	189	82.5	157	91.1	183	89.1	218	88.1	262	91.2	↑
Lithuania	73	93.2	87	87.4	86	91.9	88	90.9	108	91.7	
Croatia	196	92.3	176	94.9	204	98	155	96.1	142	93.7	
Greece	946	94.9	862	94.9	1060	96	998	93.5	189	95.8	
Iceland	6		3		6		2		3		N/A

* ↑ and ↓ indicate significant increasing and decreasing trends, respectively.

N/A: Not applicable as data were not reported for all years, a significant change in data source occurred during the period or number of isolates was below 20 in any year during the period.

The symbol # indicates a significant trend in the overall data, which was not observed when only data from laboratories consistently reporting for all five years were included.

Less than 10 isolates reported, no percentage calculated

Table ASCSPP2 *Acinetobacter* spp. Total number of invasive isolates tested (N) and percentage with resistance to aminoglycosides (%R), EU/EEA countries, 2015-2019

Country	2015		2016		2017		2018		2019		Trend 2015-2019*
	N	%R	N	%R	N	%R	N	%R	N	%R	
Finland	42	2.4	28	3.6	36	0	27	7.4	42	0	
Malta	15	13.3	7		9		8		14	0	N/A
Luxembourg	8		8		8		11	0	10	0	N/A
Ireland	80	3.8	63	1.6	62	3.2	56	3.6	57	1.8	
Denmark	63	4.8	70	0	68	0	53	7.5	72	2.8	
Netherlands	96	9.4	131	3.1	130	3.1	148	4.7	124	3.2	
Belgium	15	0	66	1.5	99	13.1	122	7.4	85	3.5	N/A
Germany	331	5.4	436	3	498	3.4	498	3.4	430	4.2	
Norway	32	9.4	32	3.1	31	0	32	0	23	4.3	
United Kingdom	153	2	598	3.3	790	4.6	726	5.1	721	5.1	↑#
Sweden	26	3.8	85	5.9	51	0	55	5.5	113	5.3	
Austria	63	6.3	81	16	75	9.3	92	8.7	82	7.3	
France	431	11.1	449	12.2	474	9.1	482	8.9	473	14.6	
Portugal	310	46.5	206	39.3	168	28.6	126	25.4	93	24.7	↓
Slovenia	31	41.9	60	43.3	36	41.7	39	20.5	40	25	↓
EU/EEA (population-weighted mean)	5003	32.4	5562	32.7	6042	32.2	6459	31.3	5909	33	
Czechia	60	15	57	8.8	55	12.7	91	22	95	33.7	↑
Slovakia	154	42.9	115	40.9	125	40	144	44.4	97	46.4	
Spain	96	49	106	50.9	92	52.2	81	49.4	78	50	
Hungary	465	60.6	401	59.1	358	56.1	343	48.7	419	50.6	↓
Latvia	61	59	81	77.8	33	78.8	48	60.4	44	68.2	
Poland	245	70.2	387	72.6	344	72.7	285	67.4	315	70.8	
Bulgaria	116	74.1	79	81	92	89.1	110	73.6	132	78	
Italy	656	74.7	704	76.4	836	76.1	1369	77	1636	78.8	↑#
Lithuania	73	90.4	87	82.8	86	81.4	87	85.1	107	83.2	
Romania	188	80.9	152	89.5	183	83.6	210	80	241	83.8	
Cyprus	59	74.6	28	57.1	50	76	57	75.4	32	84.4	
Greece	945	83.7	878	85	1064	85.6	1003	81.6	194	88.7	
Croatia	197	88.3	182	83	206	84	153	91.5	140	92.1	
Iceland	6		3		6		2		3		N/A
Estonia	2		5		9		11	45.5	8		N/A

* ↑ and ↓ indicate significant increasing and decreasing trends, respectively.

N/A: Not applicable as data were not reported for all years, a significant change in data source occurred during the period or number of isolates was below 20 in any year during the period.

The symbol # indicates a significant trend in the overall data, which was not observed when only data from laboratories consistently reporting for all five years were included.

Less than 10 isolates reported, no percentage calculated

Table ASCSPP3 *Acinetobacter* spp. Total number of invasive isolates tested (N) and percentage with resistance to carbapenems (%R), EU/EEA countries, 2015-2019

Country	2015		2016		2017		2018		2019		Trend 2015-2019*
	N	%R	N	%R	N	%R	N	%R	N	%R	
Norway	32	9.4	33	0	31	0	32	0	23	0	↓
Finland	43	2.3	28	0	37	2.7	28	0	43	0	
Malta	15	13.3	7		9		9		15	0	N/A
Denmark	65	4.6	69	0	66	0	47	6.4	72	0	
Belgium	24	0	78	2.6	131	6.9	132	3.8	94	0	
Netherlands	94	4.3	132	0	130	0.8	148	4.7	124	0.8	
Ireland	84	6	65	0	63	6.3	60	1.7	63	1.6	
United Kingdom	132	0.8	584	1.5	782	2.8	714	1.8	718	2.1	
Germany	337	6.5	452	4.9	540	4.1	527	4.4	462	2.2	↓
Sweden	34	2.9	84	1.2	54	0	54	3.7	112	3.6	
Austria	64	9.4	81	12.3	75	6.7	91	4.4	81	7.4	
France	428	5.6	450	7.1	469	6.2	490	6.5	487	9	
Slovenia	31	38.7	60	43.3	36	41.7	39	17.9	40	22.5	↓
Czechia	60	6.7	57	1.8	55	12.7	91	19.8	95	30.5	↑
Portugal	307	57.7	206	51.9	172	40.7	127	30.7	90	31.1	↓
EU/EEA (population-weighted mean)	5057	32.1	5590	32.6	6186	33.1	6526	31.9	5953	32.6	
Estonia	3		8		15	33.3	14	28.6	16	50	N/A
Hungary	467	53.7	401	57.1	358	52	357	55.2	418	51	
Slovakia	142	28.2	109	28.4	120	31.7	141	44	96	55.2	↑
Spain	95	53.7	106	62.3	92	66.3	81	54.3	78	59	
Poland	244	65.6	391	66	344	67.4	278	67.3	317	71	
Bulgaria	130	73.8	103	74.8	92	80.4	110	74.5	132	72	
Italy	664	78.2	702	78.5	868	78.7	1383	79.2	1588	79.2	
Latvia	61	68.9	82	73.2	34	79.4	51	78.4	46	84.8	↑#
Lithuania	73	80.8	87	81.6	87	88.5	88	89.8	108	85.2	
Cyprus	59	83.1	28	71.4	50	76	57	84.2	32	87.5	
Romania	189	81.5	160	85	182	87.4	218	85.3	264	88.3	
Greece	983	93.5	861	95.4	1095	94.8	1013	92.4	196	92.3	
Croatia	200	89	181	94.5	208	96.2	155	95.5	143	92.3	
Iceland	6		3		6		2		3		N/A
Luxembourg	7		8		8		6		8		N/A

* ↑ and ↓ indicate significant increasing and decreasing trends, respectively.

N/A: Not applicable as data were not reported for all years, a significant change in data source occurred during the period or number of isolates was below 20 in any year during the period.

The symbol # indicates a significant trend in the overall data, which was not observed when only data from laboratories consistently reporting for all five years were included.

Less than 10 isolates reported, no percentage calculated

Table ASCSPP4 *Acinetobacter* spp. Total number of isolates tested (N) and percentage with combined resistance to fluoroquinolones, aminoglycosides and carbapenems (%R), EU/EEA countries, 2015-2019

Country	2015		2016		2017		2018		2019		Trend 2015-2019*
	N	%R	N	%R	N	%R	N	%R	N	%R	
Norway	32	9.4	32	0	31	0	32	0	23	0	↓
Denmark	60	3.3	67	0	66	0	46	4.3	72	0	
Ireland	75	1.3	61	0	59	1.7	55	0	53	0	
Finland	42	2.4	28	0	36	0	27	0	42	0	
Belgium	13	0	64	0	98	7.1	120	3.3	84	0	N/A
Malta	15	6.7	7		9		8		14	0	N/A
Netherlands	94	3.2	128	0	129	0.8	147	4.8	122	0.8	
United Kingdom	131	0	558	0.9	746	1.7	676	0.9	670	1.2	
Germany	328	3.7	435	2.3	495	1.2	498	2.2	425	1.4	
Sweden	26	3.8	84	1.2	51	0	54	3.7	112	2.7	
Austria	61	4.9	81	8.6	74	6.8	88	4.5	81	6.2	
France	424	5.2	447	6.7	468	5.3	470	5.5	458	8.5	
Slovenia	31	35.5	60	38.3	36	41.7	39	17.9	40	20	↓
Portugal	302	45	206	37.9	166	24.1	123	22	83	20.5	↓
Czechia	60	5	57	0	55	5.5	91	18.7	95	29.5	↑
EU/EEA (population-weighted mean)	4908	27.6	5418	28.3	5872	28.2	6294	28.3	5677	29.7	↑#
Slovakia	142	23.2	109	24.8	119	25.2	139	36	93	41.9	↑
Hungary	462	50.2	397	51.4	352	48.6	341	41.3	410	45.6	↓
Latvia	60	46.7	67	67.2	32	75	44	56.8	22	50	
Spain	94	41.5	106	44.3	92	48.9	81	44.4	77	50.6	
Poland	240	54.6	383	59.3	333	59.5	251	62.9	299	63.2	↑#
Bulgaria	112	66.1	76	72.4	92	78.3	110	66.4	132	69.7	
Italy	650	72.5	692	74.7	763	72.6	1351	75.7	1569	76.5	↑#
Lithuania	73	76.7	87	75.9	85	77.6	87	85.1	107	78.5	
Cyprus	59	72.9	28	57.1	50	76	55	78.2	32	81.3	
Romania	186	76.9	152	82.9	182	81.3	210	77.6	236	83.5	
Greece	943	82.2	838	84	1059	84.3	995	81.3	187	91.4	
Croatia	193	87	175	81.1	203	83.7	153	90.8	139	91.4	↑#
Estonia	1		5		9		11	36.4	8		N/A
Luxembourg	7		8		8		6		8		N/A
Iceland	6		3		6		2		3		N/A

* ↑ and ↓ indicate significant increasing and decreasing trends, respectively.

N/A: Not applicable as data were not reported for all years, a significant change in data source occurred during the period or number of isolates was below 20 in any year during the period.

The symbol # indicates a significant trend in the overall data, which was not observed when only data from laboratories consistently reporting for all five years were included.

Less than 10 isolates reported, no percentage calculated

Table STAAUR1 *Staphylococcus aureus*. Total number of invasive isolates tested (N) and percentage with resistance to meticillin (MRSA), EU/EEA countries, 2015-2019

Country	2015		2016		2017		2018		2019		Trend 2015-2019*
	N	%R	N	%R	N	%R	N	%R	N	%R	
Norway	1453	1.2	1448	1.2	1462	1	1547	0.9	1644	1.1	
Netherlands	2770	1.6	3041	1.2	3045	1.6	3566	1.2	3221	1.6	
Sweden	3124	0.8	3450	2.3	3787	1.2	3639	1.9	5948	1.8	↑#
Finland	2070	1.9	1890	2.2	2439	2	2105	2	2473	2.1	
Denmark	1876	1.6	1963	2	1996	2.5	2181	1.7	2172	2.2	
Estonia	151	4	314	3.5	290	2.1	359	3.3	366	3	
Austria	2785	7.5	3053	7.1	3158	5.9	3307	6.4	3323	5.6	↓
United Kingdom	2757	10.8	6717	6.7	8883	6.9	9045	7.3	9114	6	↓
Luxembourg	135	8.9	187	10.2	200	9.5	181	7.7	209	6.2	
Iceland	88	0	76	1.3	69	1.4	82	0	121	6.6	↑
Belgium	913	12.3	1364	12.2	1511	8.5	1735	9.1	1168	6.7	↓
Germany	5020	11.3	9866	10.2	13128	9.1	11918	7.7	11950	6.7	↓
Latvia	251	5.6	284	4.2	210	5.7	315	5.7	421	7.4	
Slovenia	513	9.2	534	11	576	9	606	11.7	656	7.5	
Lithuania	376	8.5	503	11.3	514	8.8	691	8.4	656	9.3	
France	5535	15.7	5578	13.8	6472	12.9	6903	12.1	6467	11.6	↓
Czechia	1806	13.7	1887	13.9	1944	13.2	2243	13.6	2108	12.5	
Ireland	1057	18.1	1143	14.3	1140	16.3	1188	12.4	1146	12.6	↓
Bulgaria	222	13.1	231	14.3	227	13.7	313	17.6	324	14.8	
Poland	958	15.8	1772	16.4	1805	15.2	1959	15.9	1841	14.9	
EU/EEA (population-weighted mean)	46173	19	57730	17.7	66279	16.8	72882	16.4	73808	15.5	↓
Spain	1969	25.3	1945	25.8	1856	25.1	2444	24.2	2374	19.2	↓
Hungary	1517	24.7	1668	25.2	1566	23.6	1721	23.1	1884	19.4	↓
Malta	87	49.4	97	37.1	95	42.1	88	36.4	75	24	↓
Croatia	486	24.5	458	25.3	520	28.5	458	26.4	358	24.9	
Slovakia	583	28.1	571	27.1	613	29.2	610	26.6	563	27.2	
Portugal	3619	46.8	3454	43.6	3728	39.2	3810	38.1	3265	34.8	↓
Italy	3000	34.1	2981	33.6	3591	33.9	8263	34	9108	35.6	↑#
Cyprus	143	43.4	139	38.8	125	31.2	117	40.2	58	36.2	
Greece	612	39.4	639	38.8	822	38.4	888	36.4	170	37.6	
Romania	297	57.2	477	50.5	507	44.4	600	43	625	46.7	↓

* ↑ and ↓ indicate significant increasing and decreasing trends, respectively.

N/A: Not applicable as data were not reported for all years, a significant change in data source occurred during the period or number of isolates was below 20 in any year during the period.

The symbol # indicates a significant trend in the overall data, which was not observed when only data from laboratories consistently reporting for all five years were included.

Less than 10 isolates reported, no percentage calculated

Table STRPNE1 *Streptococcus pneumoniae*. Total number of tested isolates (N) and percentages of penicillin non-wild-type, EU/EEA countries, 2015-2019

Country	2015		2016		2017		2018		2019		Trend
	N	%R	N	%R	N	%R	N	%R	N	%R	2015-2019*
Netherlands	1498	1.9	1544	2.5	1532	3.4	1713	3	1360	4	↑
Estonia	72	2.8	112	3.6	141	2.1	142	2.8	161	4.3	
Czechia	284	3.2	266	4.5	366	4.9	378	5	387	4.9	
Slovakia	27	22.2	13	7.7	39	25.6	46	13	40	5	N/A
Denmark	747	4.7	707	6.1	727	3.9	760	5.5	601	5	
United Kingdom	1095	7.8	3201	4.9	3963	5.3	4162	5.6	3667	5.5	
Germany	761	6.2	1359	4.6	1989	4.5	1867	5.2	1962	5.7	
Norway	429	5.4	500	4.4	480	4.8	500	5	504	6.3	
Hungary	181	7.2	174	15.5	204	6.9	207	10.1	222	6.3	
Sweden	420	9.8	882	7.1	750	6.1	676	5.2	1070	6.5	↓#
Austria	444	5.6	440	3.4	463	6	523	6.3	458	6.8	
Bulgaria	35	22.9	33	27.3	29	27.6	42	9.5	46	8.7	↓
Belgium	1361	0.6	1327	0.4	1472	0.2	1526	0.1	1548	9.7	**
Latvia	59	8.5	61	11.5	51	17.6	69	10.1	79	10.1	
Lithuania	87	16.1	99	16.2	109	15.6	93	19.4	120	10.8	
Slovenia	323	9	269	6.7	319	10	271	9.6	283	11	
Italy	389	12.3	399	6.5	522	10.5	928	9.2	1017	11.9	
Finland	677	12.7	706	10.3	698	10.5	600	11.5	594	12	
EU/EEA (population-weighted mean)	12178	14.2	15666	13.1	17212	12.9	18676	12.9	18112	12.1	↓
Portugal	797	11.2	884	12.2	997	12.8	986	13.4	887	13.9	
Ireland	303	17.5	363	16.5	412	15.8	455	20.7	348	14.4	
Poland	217	24.4	337	19.3	290	16.6	343	15.7	310	15.5	↓#
Iceland	25	24	19	10.5	27	18.5	31	9.7	44	15.9	N/A
Spain	665	23.5	643	25	735	22.3	981	18.5	835	18.8	↓
Romania	41	39	56	41.1	79	29.1	90	40	86	19.8	↓#
Croatia	126	19	155	21.9	129	22.5	144	18.1	154	20.1	
Luxembourg	27	3.7	51	13.7	45	6.7	45	11.1	38	21.1	
France	1068	22.9	1046	25.3	614	25.9	1045	29.1	1264	25.3	
Malta	20	35	10	10	19	31.6	37	24.3	27	33.3	N/A
Cyprus	7		10	40	11	45.5	16	6.3	2		N/A
Greece	-	-	-	-	-	-	-	-	-	-	N/A

* ↑ and ↓ indicate significant increasing and decreasing trends, respectively.

** Due to changes over time in the applied breakpoints trend analyses have not been carried out.

N/A: Not applicable as data were not reported for all years, a significant change in data source occurred during the period or number of isolates was below 20 in any year during the period.

The symbol # indicates a significant trend in the overall data, which was not observed when only data from laboratories consistently reporting for all five years were included.

Less than 10 isolates reported, no percentage calculated

Table STRPNE2 *Streptococcus pneumoniae*. Total number of tested isolates (N) and percentages resistant to macrolides (%R), EU/EEA countries, 2015-2019

Country	2015		2016		2017		2018		2019		Trend
	N	%R	N	%R	N	%R	N	%R	N	%R	2015-2019*
Denmark	747	5.2	707	4.8	727	3.6	760	2.5	601	3.5	↓
Netherlands	1560	3.4	1602	3.1	1597	5.1	1806	3.9	1406	4.8	↑#
Latvia	58	5.2	52	5.8	28	3.6	66	9.1	76	5.3	
United Kingdom	1077	6.9	3423	5.9	4273	5.6	4450	5.6	3871	5.5	
Norway	403	4	473	5.3	439	5.5	460	7.6	459	5.7	
Sweden	850	6.6	899	5.3	750	4.7	674	4.5	1069	6.5	
Estonia	54	7.4	100	7	127	3.9	136	7.4	158	7	
Germany	758	8.2	1386	8	2029	6.9	1883	7.1	1970	7.7	
Luxembourg	29	0	51	15.7	49	8.2	45	11.1	38	7.9	
Slovenia	323	18.6	269	13.4	216	15.7	271	10.3	283	9.9	↓
Lithuania	72	12.5	94	18.1	107	15.9	92	20.7	119	10.1	
Czechia	284	6.7	263	7.2	366	9	378	10.1	387	10.3	↑
Finland	765	14	791	11.4	808	15	653	12.1	655	10.5	
Slovakia	34	32.4	12	8.3	31	35.5	45	24.4	36	11.1	N/A
Hungary	170	10.6	166	13.3	187	11.8	190	14.7	215	12.1	
Austria	439	8.4	455	8.6	507	10.8	562	11.6	547	12.4	↑
Ireland	296	13.9	354	13.3	396	12.9	419	13.6	340	12.6	
Portugal	822	16.3	912	14.4	1024	14.8	985	15.5	952	12.8	
EU/EEA (population-weighted mean)	12659	16.6	16027	16.6	17613	15.7	19217	15.2	18832	14.5	↓
Belgium	1361	18.6	1327	15.7	1472	15.1	1526	15.2	1548	15.7	**
Iceland	25	12	19	0	27	18.5	31	12.9	44	15.9	N/A
Romania	20	30	59	37.3	76	26.3	93	32.3	92	17.4	↓#
France	1068	24.4	1046	22.9	614	23.1	1045	23.9	1264	19.4	↓
Spain	631	21.2	630	24.9	717	21.8	1007	18	866	20.6	
Italy	428	23.4	464	22.4	599	22.7	1095	20.3	1299	22.2	
Poland	206	30.6	277	30.3	253	24.5	309	24.9	312	25	
Malta	20	40	9		19	36.8	37	24.3	25	28	N/A
Croatia	126	19	154	33.8	127	36.2	143	32.2	154	29.9	
Bulgaria	33	18.2	32	21.9	29	27.6	42	16.7	46	30.4	
Cyprus	7		10	60	19	26.3	14	7.1	8		N/A
Greece	-	-	-	-	-	-	-	-	-	-	N/A

* ↑ and ↓ indicate significant increasing and decreasing trends, respectively.

** Due to changes over time in the applied breakpoints trend analyses have not been carried out.

N/A: Not applicable as data were not reported for all years, a significant change in data source occurred during the period or number of isolates was below 20 in any year during the period.

The symbol # indicates a significant trend in the overall data, which was not observed when only data from laboratories consistently reporting for all five years were included.

Less than 10 isolates reported, no percentage calculated

Table STRPNE3 *Streptococcus pneumoniae*. Total number of tested isolates (N) and percentages of penicillin non-wild-type and resistant to macrolides, EU/EEA countries, 2015-2019

Country	2015		2016		2017		2018		2019		Trend 2015-2019*
	N	%R	N	%R	N	%R	N	%R	N	%R	
Denmark	747	2.4	707	2.3	727	1.8	760	1.3	601	1.3	
Netherlands	1357	0.9	1410	0.5	1422	1	1583	0.9	1215	1.3	
United Kingdom	1060	2.6	3136	2.6	3885	1.9	4052	2	3427	2.3	
Czechia	284	1.8	263	1.1	366	3	378	2.6	387	2.3	
Estonia	27	3.7	100	1	127	1.6	136	2.2	158	2.5	
Luxembourg	27	0	51	7.8	45	4.4	45	4.4	38	2.6	
Slovakia	27	22.2	12	0	30	23.3	44	11.4	36	2.8	N/A
Germany	748	2.7	1342	2.2	1969	2.2	1839	2.5	1903	3	
Norway	403	1.7	469	2.3	439	2.5	454	3.5	457	3.5	
Austria	433	2.5	438	1.4	457	3.3	519	3.3	455	3.5	
Sweden	409	5.6	877	4	745	3	674	2.7	1068	3.7	
Latvia	53	1.9	51	3.9	28	3.6	66	6.1	76	3.9	
Slovenia	323	5	269	3.3	216	6.5	0		283	4.9	N/A
Hungary	170	1.8	166	7.8	187	6.4	190	7.9	215	5.1	
Belgium	1361	0.4	1327	0.3	1472	0.1	1526	0.1	1548	5.7	**
Finland	654	6.7	687	6.1	671	6.7	591	5.8	571	6.3	
Italy	347	5.5	361	4.4	474	5.3	879	4.7	989	6.7	
EU/EEA (population-weighted mean)	11684	8.5	15182	8.4	16584	8.2	17811	7.8	17420	7.2	↓
Portugal	776	6.4	868	6.6	978	7.1	922	8	865	7.5	
Lithuania	72	11.1	94	12.8	107	11.2	92	13	119	7.6	
Ireland	296	10.8	354	9.6	396	9.3	419	10	340	8.2	
Bulgaria	32	12.5	32	9.4	29	17.2	42	2.4	46	8.7	
Romania	20	25	56	30.4	75	24	90	26.7	74	9.5	↓
Spain	624	11.7	612	13.7	701	12.4	957	9.6	796	10.6	
Iceland	25	8	19	0	27	14.8	31	9.7	44	11.4	N/A
Poland	195	19.5	271	16.6	241	14.1	285	10.9	268	13.4	↓#
Croatia	126	7.9	154	14.9	126	15.9	141	11.3	152	13.8	
France	1068	17.4	1046	18	614	17.6	1045	20.4	1264	16.1	
Malta	20	25	9		19	26.3	37	13.5	25	20	N/A
Cyprus	7		10	40	11	45.5	14	7.1	2		N/A
Greece	-	-	-	-	-	-	-	-	-	-	N/A

* ↑ and ↓ indicate significant increasing and decreasing trends, respectively.

** Due to changes over time in the applied breakpoints trend analyses have not been carried out.

N/A: Not applicable as data were not reported for all years, a significant change in data source occurred during the period or number of isolates was below 20 in any year during the period.

The symbol # indicates a significant trend in the overall data, which was not observed when only data from laboratories consistently reporting for all five years were included.

Less than 10 isolates reported, no percentage calculated

Table ENCAE1 *Enterococcus faecalis*. Total number of invasive isolates tested (N) and percentage with high-level resistance to gentamicin, EU/EEA countries, 2015-2019

Country	2015		2016		2017		2018		2019		Trend 2015-2019*
	N	%R	N	%R	N	%R	N	%R	N	%R	
Cyprus	58	8.6	39	20.5	70	8.6	87	12.6	37	0	
Luxembourg	56	14.3	48	12.5	82	22	45	6.7	82	4.9	↓
Greece	460	13.3	540	15.9	621	12.2	668	12	128	7.8	
Denmark	63	25.4	56	19.6	56	7.1	171	12.3	47	8.5	↓
Sweden	579	12.6	722	13.4	945	13.3	627	12.8	1225	10	↓#
Iceland	21	14.3	24	16.7	33	18.2	30	16.7	35	11.4	
France	1097	12.2	1057	15	795	12.7	1568	9.8	1346	12	↓#
Norway	163	9.8	221	15.8	216	14.4	216	13.4	182	12.1	
Estonia	26	26.9	56	32.1	71	19.7	87	25.3	93	12.9	↓
Belgium	249	13.3	328	19.8	304	16.4	390	12.3	363	16.8	
Germany	1295	30.7	2341	25.2	2930	25.3	2273	22.9	1561	18	↓
Netherlands	519	22.7	661	25.3	708	23.6	757	22.5	604	20	
Portugal	872	33.3	851	33.8	931	25.8	778	26.6	881	22.2	↓
Slovenia	133	32.3	152	43.4	167	33.5	161	20.5	138	22.5	↓
Austria	501	33.7	447	33.3	474	33.1	417	28.3	285	22.8	↓
Ireland	261	28	265	29.4	302	30.8	292	23.6	243	23	
Croatia	203	35.5	179	33	171	33.3	143	33.6	125	24	
EU/EEA (population-weighted mean)	10887	31.9	12910	31.8	13930	29.7	15343	27.1	13368	26.6	↓
Malta	29	27.6	33	39.4	29	34.5	31	22.6	30	26.7	
Czechia	544	38.8	515	37.1	526	34	594	33.7	527	31.5	↓
Slovakia	234	49.1	213	45.1	213	25.8	215	40	201	32.8	↓
Hungary	730	45.5	786	42.2	769	41.5	750	38	816	33.7	↓
Spain	936	40	952	37.5	873	36.9	1002	34.8	1007	34.1	↓
Italy	1249	47.8	1441	45.3	1630	45.9	2927	39.9	2211	35.2	↓
United Kingdom	0		0		0		0		19**	36.8	N/A
Bulgaria	100	42	98	46.9	133	43.6	150	39.3	150	37.3	
Poland	388	46.4	666	43.1	660	41.2	645	41.6	706	40.2	
Romania	0		87	56.3	89	44.9	168	37.5	155	40.6	N/A
Lithuania	63	44.4	45	35.6	60	36.7	65	27.7	78	41	
Latvia	58	36.2	87	46	72	45.8	86	32.6	93	44.1	

* ↑ and ↓ indicate significant increasing and decreasing trends, respectively.

** Data from England not included.

N/A: Not applicable as data were not reported for all years, a significant change in data source occurred during the period or number of isolates was below 20 in any year during the period.

The symbol # indicates a significant trend in the overall data, which was not observed when only data from laboratories consistently reporting for all five years were included.

Less than 10 isolates reported, no percentage calculated

Table ENCAI1 *Enterococcus faecium*. Total number of invasive isolates tested (N) and percentage with resistance to vancomycin, EU/EEA countries, 2015-2019

Country	2015		2016		2017		2018		2019		Trend 2015-2019*
	N	%R	N	%R	N	%R	N	%R	N	%R	
Iceland	20	0	16	0	17	0	16	0	13	0	N/A
Finland	298	0.3	294	0	301	0.7	289	1.7	291	0	
Malta	6		12	8.3	13	0	15	26.7	13	0	N/A
Belgium	163	0.6	289	1.7	417	5.5	436	1.8	343	0.6	
France	849	0.8	808	0.6	986	0.8	987	0.6	1062	0.7	
Netherlands	756	1.9	866	1	881	1.4	1006	1.3	786	0.9	
Sweden	408	0	546	0.4	530	0	428	1.4	693	1	↑
Norway	185	0	213	1.9	202	4.5	171	2.3	196	1	
Spain	571	2.5	628	2.1	570	1.8	764	2.5	729	1.2	
Luxembourg	23	0	31	0	34	0	28	0	37	2.7	
Slovenia	124	4.8	111	0	149	0.7	134	0	137	2.9	
Austria	483	3.1	533	4.3	570	3.2	524	2.1	537	3.2	
Estonia	27	0	64	0	52	5.8	64	6.3	74	4.1	
Portugal	459	20.3	411	7.5	461	7.2	436	4.4	410	9	↓
Denmark	690	3.2	679	7.5	785	7	779	12.5	734	9.8	↑
Bulgaria	41	14.6	44	18.2	84	19	91	9.9	99	12.1	
EU/EEA (population-weighted mean)	9336	10.5	12511	12.3	14213	14.9	15992	17.3	16432	18.3	↑
Czechia	322	9.6	258	7.8	264	13.3	358	20.7	349	19.8	↑
Italy	756	11.2	941	13.4	1049	14.6	2273	18.9	2839	21.3	↑
United Kingdom	218	17	1803	17	2202	25.8	2615	24.7	2428	22.2	↑
Croatia	93	25.8	104	22.1	89	19.1	71	25.4	74	25.7	
Germany	1347	10.5	2043	11.9	2642	16.5	2458	23.7	2797	26.3	↑
Slovakia	143	14.7	125	26.4	122	32	161	32.3	137	29.2	↑
Romania	72	25	77	39	64	34.4	77	40.3	140	35.7	
Hungary	240	16.7	272	22.4	315	28.3	301	39.5	304	35.9	↑
Ireland	404	45.8	422	44.1	442	38.2	418	40.2	443	38.4	↓
Latvia	34	17.6	56	28.6	39	25.6	48	35.4	58	39.7	↑
Lithuania	52	17.3	61	21.3	80	36.3	99	31.3	128	39.8	↑
Poland	215	17.7	405	26.2	400	31.5	374	35.8	432	44	↑
Greece	315	19.7	358	27.9	412	30.8	527	28.1	117	47	↑
Cyprus	28	28.6	41	46.3	41	43.9	44	59.1	32	50	↑

* ↑ and ↓ indicate significant increasing and decreasing trends, respectively.

N/A: Not applicable as data were not reported for all years, a significant change in data source occurred during the period or number of isolates was below 20 in any year during the period.

The symbol # indicates a significant trend in the overall data, which was not observed when only data from laboratories consistently reporting for all five years were included.

Less than 10 isolates reported, no percentage calculated