

Web annex

DANMAP 2014

DANMAP 2014 - Use of antimicrobial agents and occurrence
of antimicrobial resistance in bacteria from food animals,
food and humans in Denmark



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Web annex tables 2014

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ATCvet code	QJ01AA	QJ01BA	QJ01CE	QJ01CA QJ01CR	QJ01DC QJ01DD	QJ01E	QJ01FA	QJ01FF	QA07AA	QA07AA10	QJ01MA	QJ01RA	QJ01XX	Total
Therapeutic group	Tetracyclines	Amphenicols	Penicillins, β -lactamase sensitive	Aminopenicillins ^(b)	Cephalosporins ^(c)	Sulfonamides and trimethoprim	Macrolides	Lincosamides / spectinomycin ^(d)	Aminoglycosides (local GI)	Colistin (local GI)	Fluoroquinolones	Penicillin-streptomycin combinations	Pleuromutlins	
Year	breeding animals/piglets (1000's DADD for 200 kg)													
2005	1129	20	2344	1080	132	1367	744	563	166	35	4	661	727	8972
2006	1222	18	2371	1079	149	1435	802	538	151	35	7	647	828	9281
2007	1639	20	2589	1209	244	1571	1322	611	99	47	6	662	1138	11158
2008	1582	20	2647	1219	300	1638	1240	554	37	57	0	631	1689	11614
2009	1664	52	2858	1430	219	2040	1350	528	47	85	0	685	1558	12517
2010	1489	73	2788	1487	114	2101	1309	442	53	102	0	693	1142	11796
2011	1054	101	2400	1247	3	1760	1027	316	52	84	7	603	516	9170
2012	1135	89	2407	1196	1	1672	1187	287	67	86	9	601	497	9234
2013	1257	142	2601	1177	5	1808	1395	295	66	89	15	569	667	10086
2013	1257	142	2602	1177	5	1814	1397	296	66	89	15	569	666	10095
2014	1245	134	2581	1152	4	1697	1354	310	58	131	6	570	433	9675
Year	Weaner pigs (1000's DADD for 19 kg)													
2005	38984	151	3362	9616	211	4894	37489	14369	15485	3148	4	2833	19605	150150
2006	45657	76	3197	7941	230	3713	36439	12488	15350	3320	9	2773	18628	149822
2007	59265	106	3531	7857	321	3327	42812	12733	8341	4178	0	2715	16446	161632
2008	62276	220	3271	7717	316	3612	40782	13029	2235	5307	0	2720	23051	164535
2009	72028	135	3635	9416	282	3694	46723	14008	2328	5415	0	2983	29439	190086
2010	66630	144	3750	8900	143	3079	44421	12994	1702	6361	0	3158	30555	181837
2011	56380	136	3556	7573	4	2392	34773	10645	1788	5152	0	2898	21674	146971
2012	64882	131	3517	7985	19	2797	40458	12499	1665	5604	5	2950	22171	164683
2013	66094	166	3789	9119	27	4660	40655	12324	2274	5386	0	2951	25362	172806
2013	66092	166	3789	9122	27	4915	42426	12295	2273	5391	0	2951	25355	174802
2014	60297	212	3962	9780	32	4688	38635	11265	2147	8918	0	3191	23976	167103
Year	Finisher pigs (1000's DADD for 70 kg)													
2005	11062	50	5348	1918	44	177	8318	3013	169	14	1	263	8034	38412
2006	11933	47	5501	1633	35	114	7242	2514	152	20	1	212	7162	36565
2007	13323	28	5655	1543	38	123	7402	2276	78	15	0	162	5782	36424
2008	12596	24	5388	1108	38	109	7141	1879	4	31	0	113	8796	37228
2009	13257	22	5873	1189	27	88	8452	1952	9	21	0	94	10328	41312
2010	12890	15	6454	1230	16	85	8524	1945	29	20	0	156	11196	42560
2011	10751	59	5785	884	2	100	6202	1759	5	11	0	163	8509	34229
2012	11193	7	5494	990	1	130	6797	1686	3	13	0	192	8422	34928
2013	11955	14	5682	1012	1	227	6139	1540	4	7	0	143	10021	36746
2013	11938	14	5678	1010	1	240	6477	1538	4	7	0	143	10016	37066
2014	10638	13	5696	823	1	172	6273	1422	2	43	0	106	9128	34317
Year	Age group not given (1000's DADD for 50 kg)													
2004	724	10	398	209	6	110	797	297	121	21	2	50	635	3379
2005	657	6	402	199	7	131	534	230	60	23	0	61	478	2787
2006	832	2	364	227	8	127	530	199	103	25	0	49	480	2946
2007	451	1	182	73	8	60	263	132	34	19	0	19	260	1502
2008	273	1	105	68	7	40	167	64	6	25	0	6	193	955
2009	161	0	78	56	7	30	146	47	1	17	0	7	124	676
2010	61	1	25	25	2	9	80	25	2	5	0	7	56	298
2011	5	0	0	2	0	2	7	1	0	0	0	0	5	22
2012	5	0	0	2	0	2	6	1	0	0	0	0	2	19
2013	3	0	3	3	0	1	0	0	0	0	0	0	0	10
2013	3	0	3	3	0	1	0	0	0	0	0	0	0	10
2014	2	0	1	2	0	0	0	0	0	2	0	0	0	7

Note: DADD for pigs is defined as the standard dose necessary for treating a pig of average weight in the age group (breeding animals = 200 kg, weaners = 19 kg and finishers = 70 kg). Where the age group was not specified a weight of 50 kg was assumed.

a) Data includes sales from pharmacies and feed mills. Consumption in veterinary practice comprises less than 1% of the total consumption in pigs and are not included before 2012, except for the use of fluoroquinolones. Local intrauterine and intramammary use is not included, and comprised less than 0.1% of the tonnage used in sows. Topical treatment is not included.

b) Includes a small proportion (< 1%) of combinations with aminopenicillin and clavulanic acid.

c) 3rd and 4th generation cephalosporins.

d) Lincomycin and lincomycin/spectinomycin combinations.

Table A5.1. Consumption of antimicrobial agents for systemic use in humans (kg active substance), Denmark

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ATC group ^(a)	Therapeutic group	Year									
		2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
J01AA	Tetracyclines	1748	1835	1855	1884	2039	2161	2193	2217	2253	2024
J01CA	Penicillins with extended spectrum	5561	5722	6188	6061	6076	6317	6205	6010	6001	6068
J01CE	Beta-lactamase sensitive penicillins	22520	22760	24003	22466	21744	22301	22671	20318	20223	19272
J01CF	Beta-lactamase resistant penicillins	4565	4842	5037	5183	5250	5418	5290	5687	6126	6444
J01CR	Comb. of penicillins, including beta-lactamase inhibitors	534	724	1012	1348	1836	2597	3274	5410	6322	7352
J01D	Cephalosporins and related substances ^(b)	1582	1778	2285	2530	2740	2696	2374	1983	2328	2060
J01EA	Trimethoprim and derivatives	359	382	402	402	399	417	416	435	442	466
J01EB	Short-acting sulfonamides	2987	2865	2565	2273	2200	2158	1998	1861	1838	1737
J01EE	Comb. of sulfonamides and trimethoprim, including derivatives	208	208	148	183	193	252	326	362	357	383
J01FA	Macrolides	3775	3542	3434	3164	2966	3038	2942	2129	2446	2329
J01FF	Lincosamides ^(b)	52	66	78	94	113	124	138	145	239	236
J01G	Aminoglycosides	31	27	27	25	23	24	24	31	30	23
J01MA	Fluoroquinolones ^(b)	866	979	1162	1351	1371	1457	1458	1414	1238	1197
J01XA	Glycopeptides	51	56	61	64	86	89	102	108	111	97
J01XC	Steroid antibacterials (fusidic acid)	62	65	67	64	62	65	56	48	41	38
J01XD	Imidazoles	206	198	202	241	255	258	261	269	270	287
J01XE	Nitrofurans derivatives (nitrofurantoin)	180	185	190	192	201	208	209	205	202	200
J01XX05	Methenamine ^(b)	1107	1076	1060	1087	1047	1078	1057	1040	993	1009
J01XX08+09	Linezolid, daptomycin	10	14	12	14	14	13	18	19	20	2
P01AB01	Nitroimidazole derivatives	1020	1089	1135	1200	1343	1387	1396	1393	1383	1374
A07AA09	Intestinal anti-infectives (vancomycin)	190	216	220	238	259	256	256	291	243	221
J01	Antibacterial agents for systemic use (total) ^(c)	47614	48629	51143	50064	50128	52314	52664	51375	53106	52819

Note: Includes data from both primary health care and hospital care and has been recalculated from original data expressed as DDDs. For monitoring in human primary health care and hospital care, the recommended way of expressing consumption is DDDs per 1000 inhabitant-days and DDDs per 100 occupied bed-days / DDDs per 100 admissions.

a) From the 2014 edition of the ATC classification system.

b) Since 2005, the kg active substance was estimated taking into account the DDD for each route of administration, e.g. cefuroxime parenteral DDD=3 g and cefuroxime oral DDD=0.5 g.

c) Does not include polymyxins.

Table A5.2. Consumption of antimicrobial agents for systemic use in primary health care (No. treated patients/1000 inhabitants/year), Denmark

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ATC group ^(a)	Therapeutic group	Year									
		2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
J01AA	Tetracyclines	12.0	12.3	12.5	12.7	13.0	13.4	13.7	13.5	13.9	12.2
J01CA	Penicillins with extended spectrum	73.0	75.8	82.1	81.3	81.1	85.1	84.2	77.3	76.11	75.3
J01CE	Beta-lactamase sensitive penicillins	170.2	171.3	177.1	164.4	158.8	162.9	164.4	145.5	142.2	134.8
J01CF	Beta-lactamase resistant penicillins	27.8	29.4	29.7	29.9	29.9	30.0	30.4	28.5	29.1	29.2
J01CR	Combinations of penicillins, including beta-lactamase inhibitors	1.5	2.3	3.6	5.0	8.0	11.7	15.0	17.3	19.7	20.5
J01D	Cephalosporins and related substances	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
J01EA	Trimethoprim and derivatives	5.4	5.6	5.9	5.9	5.8	6.0	6.2	6.6	6.9	7.4
J01EB	Short-acting sulfonamides	32.7	33.0	29.7	26.3	25.4	25.0	23.2	21.6	21.1	19.1
J01EE	derivatives	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
J01FA	Macrolides	70.7	67.0	71.4	66.9	64.5	72.7	78.8	64.7	56.2	51.4
J01FF	Lincosamides	0.4	0.5	0.6	0.8	1.0	1.3	1.4	1.4	1.5	1.6
J01GB	Aminoglycosides	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
J01MA	Fluoroquinolones	12.2	13.1	15.2	17.1	16.9	18.5	18.1	17.3	16.1	15.3
J01XA	Glycopeptides	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
J01XB	Polymyxins	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.04
J01XC	Steroid antibacterials (fusidic acid)	0.3	0.4	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2
J01XE	Nitrofurantoin derivatives (nitrofurantoin)	6.7	7.0	6.5	6.8	7.0	6.9	7.1	7.0	7.0	6.7
J01XX05	Methenamine	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.3
J01XX08	Linezolid	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
A07AA09	Vancomycin	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0
P01AB01	Nitroimidazole derivatives	13.2	13.8	14.4	15.3	16.3	16.7	16.9	16.9	16.5	16.3
J01 ^(b)	Antibacterial agents for systemic use (total)	308.0	310.3	320.4	308.2	303.1	315.5	321.8	293.1	286.3	275.4

a) From the 2014 edition of the Anatomical Therapeutic Chemical (ATC) classification system.

b) This includes only J01 and not P01 or AA07 compounds. The total no. of patients treated with an antibiotic is lower than the sum of all antibiotic classes. This is because the Danish Medicines Agency only counts the first treatment for each patient, each year.

Table A5.3. Number of DDDs and packages per treated patient in primary health care, Denmark

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ATC group ^(a)	Therapeutic group	Indicator	Year									
			2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
J01AA	Tetracyclines	DDD / patient	39.0	40.9	43.0	44.4	45.2	45.9	44.0	47.6	51.6	49.9
		DDD / package	19.6	21.0	22.0	22.7	22.7	22.7	22.6	23.1	25.2	23.8
		Packages / patient	2.0	1.9	2.0	2.0	2.0	2.0	1.9	2.1	2.1	2.1
J01CA	Penicillins with extended spectrum	DDD / patient	13.9	14.2	14.4	14.7	14.8	14.9	14.8	16.1	16.7	17.2
		DDD / package	8.5	8.9	9.0	9.2	9.2	9.0	9.2	9.7	10.0	10.1
		Packages / patient	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.7	1.7	1.7
J01CE	Beta-lactamase sensitive penicillins	DDD / patient	11.3	11.5	11.7	11.8	11.8	11.8	11.8	11.8	12.0	11.9
		DDD / package	7.7	8.0	8.2	8.2	8.4	8.4	8.4	8.4	8.5	8.5
		Packages / patient	1.5	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
J01CF	Beta-lactamase resistant penicillins	DDD / patient	12.7	13.0	13.4	13.7	13.9	14.2	13.8	15.5	16.4	17.1
		DDD / package	8.0	8.6	8.7	9.0	9.1	9.3	9.6	9.7	9.4	9.7
		Packages / patient	1.6	1.5	1.5	1.5	1.5	1.5	1.4	1.6	1.7	1.8
J01CR	Combinations of penicillins, incl. beta-lactamase inhibitors	DDD / patient	16.8	19.3	19.1	19.9	20.4	21.1	21.9	22.3	22.6	23.2
		DDD / package	9.3	10.7	11.7	12.4	13.3	13.7	14.1	14.3	14.3	14.3
		Packages / patient	2.0	1.8	1.6	1.6	1.5	1.5	1.6	1.6	1.6	1.6
J01D	Cephalosporins and related substances	DDD / patient	21.7	20.7	21.9	23.8	22.7	24.7	21.6	25.4	24.0	24.2
		DDD / package	6.2	5.8	6.1	5.8	5.7	5.8	5.8	7.0	6.7	7.2
		Packages / patient	3.5	3.5	3.6	4.1	4.0	4.3	3.7	3.6	3.6	3.4
J01EA	Trimethoprim and derivatives	DDD / patient	30.2	30.6	30.5	30.2	30.7	30.7	29.9	29.0	28.1	27.3
		DDD / package	15.3	15.9	15.7	14.5	16.1	16.4	16.1	15.9	15.6	15.3
		Packages / patient	2.0	1.9	1.9	2.1	1.9	1.9	1.9	1.8	1.8	1.8
J01EB	Short-acting sulfonamides	DDD / patient	3.9	3.9	3.9	3.8	3.8	3.8	3.8	3.8	3.8	4.0
		DDD / package	2.7	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.7	2.7
		Packages / patient	1.5	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.5
J01FA	Macrolides	DDD / patient	12.4	12.6	12.4	12.5	12.5	12.2	11.5	12.4	12.6	12.8
		DDD / package	8.0	8.3	8.1	8.1	8.1	8.1	7.9	8.0	8.0	7.9
		Packages / patient	1.6	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.6	1.6
J01FF	Lincosamides	DDD / patient	13.4	13.8	13.3	12.8	12.6	11.4	11.5	11.5	12.2	11.5
		DDD / package	4.9	4.8	4.9	5.0	5.0	5.2	5.3	5.4	5.5	5.4
		Packages / patient	2.8	2.9	2.7	2.5	2.5	2.2	2.2	2.1	2.2	2.2
J01GB	Aminoglycosides	DDD / patient	172.2	135.6	128.0	152.7	157.6	151.5	113.2	197.8	157.6	163.2
		DDD / package	51.7	27.1	26.0	32.2	37.8	43.4	38.7	28.6	33.0	44.2
		Packages / patient	3.3	5.0	4.9	4.9	4.2	3.5	2.9	6.9	4.8	3.7
J01MA	Fluoroquinolones	DDD / patient	9.6	10.3	10.6	11.0	11.2	11.2	11.5	11.7	11.8	11.9
		DDD / package	6.5	6.9	7.0	7.5	7.6	7.6	7.7	7.8	7.8	7.9
		Packages / patient	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
J01XB	Polymyxins	DDD / patient	196.7	205.6	219.3	202.8	202.8	199.4	175.1	171.3	173.0	174.8
		DDD / package	3.9	5.5	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
		Packages / patient	50.0	37.5	21.9	20.3	20.3	19.9	17.5	17.1	17.3	17.6
J01XC	Steroid antibacterials (fusidic acid)	DDD / patient	16.0	15.1	17.1	18.5	18.7	18.8	18.3	16.8	17.3	16.8
		DDD / package	7.6	7.6	8.0	7.3	6.8	7.7	8.0	7.4	8.1	7.9
		Packages / patient	2.1	2.0	2.1	2.5	2.8	2.4	2.3	2.3	2.1	2.1
J01XE	Nitrofurantoin derivatives (nitrofurantoin)	DDD / patient	24.3	24.1	26.3	25.4	25.4	26.8	25.9	26.0	25.5	26.2
		DDD / package	13.3	13.5	14.4	14.2	14.1	15.0	13.8	14.6	14.5	14.9
		Packages / patient	1.8	1.8	1.8	1.8	1.8	1.8	1.9	1.8	1.8	1.8
J01XX05	Methenamine	DDD / patient	222.9	233.1	237.5	239.9	227.2	234.1	242.4	242.6	239.9	255.3
		DDD / package	44.6	49.0	50.1	50.0	50.0	50.0	50.0	48.9	49.5	50.0
		Packages / patient	5	4.8	4.7	4.8	4.5	4.7	4.8	5.0	4.8	5.1
A07AA09	Vancomycin	DDD / patient	10.6	13.6	15.6	15.1	10.8	10.6	8.3	7.5	7.2	6.0
		DDD / package	3.1	3.3	3.4	3.3	3.4	3.0	2.5	2.3	2.4	2.4
		Packages / patient	3.4	4.1	4.6	4.6	3.1	3.5	3.3	3.2	3.0	2.5
P01AB01	Nitroimidazole derivatives	DDD / patient	5.7	5.7	5.7	5.7	5.8	5.9	6.0	6.1	6.1	6.3
		DDD / package	4.2	4.2	4.2	4.3	4.4	4.0	4.5	4.6	4.6	4.4
		Packages / patient	1.4	1.4	1.4	1.3	1.3	1.5	1.3	1.3	1.3	1.5
J01	Antibacterial agents for systemic use (total) ^b	DDD / patient	17.5	17.9	17.3	18.9	19.2	19.6	19.4	20.6	21.3	21.5
		DDD / package	8.3	8.7	8.9	9.1	9.3	9.3	9.3	9.7	9.9	9.9
		Packages / patient	2.1	2.0	1.9	2.1	2.1	2.1	2.1	2.1	2.1	2.2

a) From the 2014 edition of the Anatomical Therapeutic Chemical (ATC) classification system.

b) includes only antimicrobials listed as J01 in the Anatomical Therapeutic Chemical (ATC) classification system.

Table A5.4. Consumption of antimicrobial agents for systemic use in hospital care (DDD/1000 inhabitant-days), Denmark

DANMAP 2014

ATC group ^{a)}	Therapeutic group	Year									
		2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
J01AA	Tetracyclines	0.01	0.01	0.02	0.02	0.03	0.03	0.02	0.04	0.03	0.04
J01CA	Penicillins with extended spectrum	0.35	0.35	0.35	0.35	0.35	0.32	0.29	0.33	0.32	0.34
J01CE	Beta-lactamase sensitive penicillins	0.33	0.29	0.28	0.25	0.23	0.21	0.19	0.22	0.22	0.22
J01CF	Beta-lactamase resistant penicillins	0.18	0.18	0.18	0.17	0.17	0.17	0.15	0.19	0.20	0.20
J01CR	lactamase inhibitors	0.03	0.05	0.08	0.10	0.13	0.15	0.17	0.25	0.29	0.33
J01DB	First-generation cephalosporins	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
J01DC	Second-generation cephalosporins	0.22	0.23	0.31	0.33	0.37	0.35	0.33	0.30	0.27	0.24
J01DD	Third-generation cephalosporins	0.02	0.02	0.03	0.03	0.03	0.03	0.03	0.02	0.02	0.02
J01DF	Monobactams	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
J01DH	Carbapenems	0.03	0.03	0.05	0.07	0.07	0.08	0.09	0.08	0.09	0.09
J01EA	Trimethoprim and derivatives	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
J01EB	Short-acting sulfonamides	0.03	0.02	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00
J01EE	trimethoprim, incl. derivatives	0.05	0.05	0.04	0.05	0.05	0.06	0.08	0.07	0.09	0.10
J01FA	Macrolides	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.07	0.08
J01FF	Lincosamides	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
J01GB	Aminoglycosides	0.05	0.05	0.05	0.04	0.04	0.04	0.04	0.05	0.05	0.03
J01MA	Fluoroquinolones	0.16	0.18	0.21	0.24	0.24	0.22	0.19	0.21	0.21	0.21
J01XA	Glycopeptides	0.01	0.01	0.02	0.02	0.02	0.02	0.03	0.03	0.03	0.02
J01XB	Polymyxins	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
J01XC	Steroid antibacterials (fusidic acid)	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.01	0.00
J01XD	Imidazol derivatives	0.07	0.07	0.07	0.06	0.05	0.08	0.08	0.09	0.09	0.09
J01XE	Nitrofuran derivatives (nitrofurantoin)	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
J01XX	Other antibacterials	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
P01AB01	Nitroimidazole derivatives (metronidazole)	0.05	0.05	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.05
A07AA09	Intestinal anti-infectives (vancomycin)	0.05	0.05	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.05
J01	Antibacterial agents for systemic use (total)	1.76	1.81	1.92	2.01	2.07	2.04	1.97	2.13	2.15	2.18

a) From the 2014 edition of the Anatomical Therapeutic Chemical (ATC) classification system.

Table A5.5. Activity in somatic hospitals, Denmark

DANMAP 2014

Region	No. bed-days somatic hospitals ^(a)	No. admissions somatic hospitals ^(a)
The Capital Region of Denmark	1,557,265	483,761
The Sealand Region	612,957	234,275
Region of Southern Denmark	833,101	256,001
Central Denmark Region	845,255	281,641
North Denmark Region	414,943	116,980
Denmark ^(b)	4,263,251	1,372,658

Source: Statens Serum Institut (www.ssi.dk).

a) Excluding private hospitals, psychiatric hospitals, specialized clinics, rehabilitation centres and hospices.

b) Compared to 2013 no. bed-days have decreased by 1.3% and no. admissions have increased by 2.1%.

Table A6.1 Distribution of MICs and resistance (%) in *Salmonella* (all serovars) from pigs (n=173), Denmark

Antimicrobial agent	% Resistant	95% Confidence interval	Distribution (%) of MICs																								
			0.015	0.03	0.06	0.125	0.25	0.5	1	2	4	8	16	32	64	128	256	512	1024	2048	>2048						
Tetracycline	49.1	[41.5-56.8]														49.1	1.7			1.2						48.0	
Tigecycline	1.7	[0.4-5.0]												69.9	26.0	2.3	1.7										
Chloramphenicol	4.6	[2.0-8.9]															90.2	5.2	1.7	0.6	0.6	1.7					
Ampicillin	33.5	[26.5-41.1]												49.7	16.8											33.5	
Cefotaxime	0	[0-2.1]												100													
Ceftazidime	0	[0-2.1]												100													
Meropenem	0	[0-2.1]	91.3	8.7																							
Trimethoprim	13.3	[8.6-19.3]												83.2	3.5											13.3	
Sulfonamide	41.0	[33.6-48.8]															18.5	32.4	6.4	1.7					41.0		
Azithromycin	1.2	[0.1-4.1]												0.6	49.1	48.0	1.2	0.6	0.6								
Gentamicin	0.6	[0.01-3.2]												86.1	13.3											0.6	
Ciprofloxacin	0	[0-2.1]	60.1	37.0	2.9																						
Nalidixic acid	0	[0-2.1]															96.0	4.0									
Colistin	1.7	[0.4-5.0]												50.9	47.4	1.2	0.6										

Vertical solid lines indicate EUCAST epidemiological cut-off values. EUCAST clinical breakpoints are indicated as vertical dotted lines if different from the corresponding epidemiological cut-off values. See table 9.1 for further details.

White fields represent the range of dilutions tested. MIC values equal to or lower than the lowest concentration tested are presented as the lowest concentration. MIC values greater than the highest concentration in the range are presented as one dilution step above the range.

Table A6.2. Distribution of MICs and resistance (%) in *Salmonella* (all serovars) from pork (Danish n=60), Denmark

Antimicrobial agent	% Resistant	95% Confidence interval	Distribution (%) of MICs																						
			0.015	0.03	0.06	0.125	0.25	0.5	1	2	4	8	16	32	64	128	256	512	1024	2048	>2048				
Tetracycline	41.7	[29.1-55.1]									58.3			3.3	38.3										
Chloramphenicol	6.7	[1.8-16.2]									1.7	15.0	76.7		1.7				5.0						
Florfenicol	3.3	[0.4-11.5]									3.3	63.3	28.3	1.7	1.7				1.7						
Ampicillin	30.0	[18.8-43.2]								61.7	8.3							30.0							
Amoxicillin/clavulanic acid a)	30.0	[18.8-43.2]									70.0		20.0	10.0											
Cefotaxime	0	[0-6.0]			90.0	8.3	1.7																		
Ceftiofur	0	[0-6.0]						41.7	58.3																
Trimethoprim	10.0	[3.8-20.5]								90.0								10.0							
Sulfonamide	38.3	[26.1-51.8]																58.3	3.3				38.3		
Streptomycin	36.7	[24.6-50.1]												31.7	31.7	3.3	1.7	1.7	30.0						
Gentamicin	1.7	[0.04-8.9]						88.3	10.0					1.7											
Neomycin	6.7	[1.8-16.2]									90.0	3.3		1.7	1.7	1.7	1.7								
Apramycin	1.7	[0.04-8.9]										95.0	3.3		1.7										
Ciprofloxacin	0	[0-6.0]	11.7	85.0	3.3																				
Nalidixic acid	0	[0-6.0]												91.7	8.3										
Colistin	1.7	[0.04-8.9]								60.0	38.3		1.7												
Spectinomycin	8.3	[2.8-18.4]														13.3	76.7	1.7	1.7	1.7	5.0				

Vertical solid lines indicate EUCAST epidemiological cut-off values except for apramycin, spectinomycin and sulfonamide. EUCAST clinical breakpoints are indicated as vertical dotted lines if different from the corresponding epidemiological cut-off values. See table 9.1 for further details.

White fields represent the range of dilutions tested. MIC values equal to or lower than the lowest concentration tested are presented as the lowest concentration. MIC values greater than the highest concentration in the range are presented as one dilution step above the range.

Table A6.3. Distribution of MICs and resistance (%) in *Salmonella* Typhimurium from pigs (n=70), Denmark

Antimicrobial agent	% Resistant	95% Confidence interval	Distribution (%) of MICs																					
			0.015	0.03	0.06	0.125	0.25	0.5	1	2	4	8	16	32	64	128	256	512	1024	2048	>2048			
Tetracycline	65.7	[53.4-76.7]							31.4	2.9		2.9		62.9										
Tigecycline	2.9	[0.3-9.9]					62.9	31.4	2.9	2.9														
Chloramphenicol	7.1	[2.4-15.9]										88.6	4.3	1.4	1.4				4.3					
Ampicillin	65.7	[53.4-76.7]								24.3	10.0								65.7					
Cefotaxime	0	[0-5.1]					100																	
Ceftazidime	0	[0-5.1]						100																
Meropenem	0	[0-5.1]	90.0	10.0																				
Trimethoprim	11.4	[5.1-21.3]					87.1	1.4											11.4					
Sulfonamide	74.3	[62.4-84.0]											14.3	8.6	1.4	1.4								74.3
Azithromycin	2.9	[0.3-9.9]										65.7	30.0	1.4	1.4	1.4								
Gentamicin	1.4	[0.04-7.7]							91.4	7.1					1.4									
Ciprofloxacin	0	[0-5.1]	34.3	58.6	7.1																			
Nalidixic acid	0	[0-5.1]										90.0	10.0											
Colistin	0	[0-5.1]									50.0	50.0												

Vertical solid lines indicate EUCAST epidemiological cut-off values. EUCAST clinical breakpoints are indicated as vertical dotted lines if different from the corresponding epidemiological cut-off values. See table 9.1 for further details.

White fields represent the range of dilutions tested. MIC values equal to or lower than the lowest concentration tested are presented as the lowest concentration. MIC values greater than the highest concentration in the range are presented as one dilution step above the range.

Table A6.5. Distribution of MICs and resistance (%) in *Salmonella* Typhimurium from human cases domestically acquired (n=252); associated with travel abroad (n=64) and of unknown origin (n=107), Denmark

Antimicrobial agent	Human cases	% Resistant	95% Confidence interval	Distribution (%) of MICs																
				0.015	0.03	0.06	0.125	0.25	0.5	1	2	4	8	16	32	64	128	256	512	1024
Tetracycline	Domestically acquired	58.7	[52.4-64.9]									32.9	7.9	0.4				58.7		
	Travel abroad reported	53.1	[40.2-65.7]									40.6	6.3					53.1		
	Unknown origin	54.2	[44.3-63.9]									39.3	6.5					54.2		
Tigecycline	Domestically acquired	4.0	[1.9-7.2]					15.5	73.0	7.5		3.6	0.4							
	Travel abroad reported	7.8	[2.6-17.3]					12.5	76.6	3.1		6.3	1.6							
	Unknown origin	3.7	[1.0-9.3]					23.4	63.6	9.3		3.7								
Chloramphenicol	Domestically acquired	4.4	[2.2-7.7]											91.3	4.4		0.4	4.0		
	Travel abroad reported	10.9	[4.5-21.2]											85.9	3.1		1.6	9.4		
	Unknown origin	7.5	[3.3-14.2]											85.0	7.5	0.9	0.9	5.6		
Ampicillin	Domestically acquired	54.4	[48.0-60.6]							16.7	28.2	0.8						54.4		
	Travel abroad reported	54.7	[41.7-67.2]							10.9	34.4							54.7		
	Unknown origin	51.4	[41.5-61.2]							15.9	29.9	2.8						51.4		
Cefotaxime	Domestically acquired	1.2	[0.2-3.4]					98.0	0.8		0.8		0.4							
	Travel abroad reported	3.1	[0.4-10.8]					93.8	3.1				3.1							
	Unknown origin	0.9	[0.02-5.1]					97.2	1.9				0.9							
Ceftazidime	Domestically acquired	0.4	[0.01-2.2]						96.8	2.8				0.4						
	Travel abroad reported	4.7	[1.0-13.1]						92.2	3.1				1.6	3.1					
	Unknown origin	0	[0-3.4]						94.4	3.7	1.9									
Meropenem	Domestically acquired	0	[0-1.5]		81.7	15.9	2.4													
	Travel abroad reported	0	[0-5.6]		73.4	21.9	4.7													
	Unknown origin	0	[0-3.4]		90.7	7.5	1.9													
Trimethoprim	Domestically acquired	5.6	[3.1-9.1]					83.7	10.7								5.6			
	Travel abroad reported	10.9	[4.5-21.2]					75.0	10.9	3.1							10.9			
	Unknown origin	6.5	[2.7-13.0]					79.4	11.2	1.9	0.9						6.5			
Sulfonamide	Domestically acquired	56.3	[50.0-62.6]											0.4	2.4	4.0	17.9	13.9	5.2	56.3
	Travel abroad reported	53.1	[40.2-65.7]												1.6	4.7	15.6	18.8	6.3	53.1
	Unknown origin	51.4	[41.5-61.2]											0.9	7.5	19.6	16.8	3.7	51.4	
Azithromycin	Domestically acquired	0.8	[0.1-2.8]										26.2	70.6	2.4		0.8			
	Travel abroad reported	3.1	[0.4-10.8]										26.6	70.3		3.1				
	Unknown origin	0	[0-3.4]									0.9	42.1	57.0						
Gentamicin	Domestically acquired	1.2	[0.2-3.4]					57.5	38.1	3.2		0.4				0.8				
	Travel abroad reported	4.7	[1.0-13.1]					59.4	28.1	7.8		1.6				3.1				
	Unknown origin	0.9	[0.02-5.1]					75.7	22.4	0.9				0.9						
Ciprofloxacin	Domestically acquired	3.6	[1.6-6.7]	3.6	88.5	4.4	0.4	2.8					0.4							
	Travel abroad reported	17.2	[8.9-28.7]	7.8	73.4	1.6	1.6	7.8	4.7	3.1										
	Unknown origin	6.5	[2.7-13.0]	4.7	87.9	0.9		3.7	1.9		0.9									
Nalidixic acid	Domestically acquired	2.4	[0.9-5.1]										75.0	22.2	0.4		2.4			
	Travel abroad reported	10.9	[4.5-21.2]										68.8	12.5	7.8	1.6	9.4			
	Unknown origin	5.6	[2.1-11.8]										76.6	17.8	0.9	4.7				
Colistin	Domestically acquired	2.8	[1.1-5.6]							23.0	74.2		2.4	0.4						
	Travel abroad reported	6.2	[1.7-15.2]							9.4	84.4		1.6	1.6	3.1					
	Unknown origin	2.8	[0.6-8.0]							38.3	58.9		1.9	0.9						

Vertical solid lines indicate EUCAST epidemiological cut-off values. EUCAST clinical breakpoints are indicated as vertical dotted lines if different from the corresponding epidemiological cut-off values. See table 9.1 for further details.

White fields represent the range of dilutions tested. MIC values equal to or lower than the lowest concentration tested are presented as the lowest concentration. MIC values greater than the highest concentration in the range are presented as one dilution step above the range.

Table A6.6. Distribution of MICs and resistance (%) in *Campylobacter jejuni* from broilers (n=165) and cattle (n=110), Denmark

Antimicrobial agent	Animal species	% Resistant	95% Confidence interval	Distribution (%) of MICs																		
				0.0038	0.0075	0.015	0.03	0.06	0.125	0.25	0.5	1	2	4	8	16	32	64	128	256	>256	
Tetracycline	Broilers	12.1	[7.6-18.1]								80.6	7.3								1.2	10.9	
	Cattle	3.6	[1.0-9.0]								91.8	4.5								0.9	2.7	
Erythromycin	Broilers	0.6	[0.02-3.3]									95.8	3.0	0.6								0.6
	Cattle	0.9	[0.02-5.0]									27.3	61.8	10.0		0.9						
Streptomycin	Broilers	4.8	[2.1-9.3]									3.0	38.2	49.1	4.8						4.8	
	Cattle	0.9	[0.02-5.0]									1.8	8.2	57.3	30.9	0.9						0.9
Gentamicin	Broilers	0	[0-2.2]									8.5	50.3	35.8	5.5							
	Cattle	0	[0-3.3]									9.1	40.9	50.0								
Ciprofloxacin	Broilers	17.6	[12.1-24.3]									75.8	6.7			1.8	4.8	6.7	4.2			
	Cattle	21.8	[14.5-30.7]									64.5	11.8	1.8			0.9	16.4	4.5			
Nalidixic acid	Broilers	17.6	[12.1-24.3]										0.6	13.9	56.4	10.3	1.2				2.4	15.2
	Cattle	23.6	[16.1-32.7]											1.8	48.2	21.8	4.5				0.9	0.9

Vertical solid lines indicate EUCAST epidemiological cut-off values. EUCAST clinical breakpoints are indicated as vertical dotted lines if different from the corresponding epidemiological cut-off values. See table 9.1 for further details

White fields represent the range of dilutions tested. MIC values equal to or lower than the lowest concentration tested are presented as the lowest concentration. MIC values greater than the highest concentration in the range are presented as one dilution step above the range.

Table A6.7. Distribution of MICs and resistance (%) in *Campylobacter jejuni* from broiler meat (Danish n=26; imported n=45), Denmark

Antimicrobial agent	Human cases	% Resistant	95% Confidence interval	Distribution (%) of MICs																
				0.0038	0.0075	0.015	0.03	0.06	0.125	0.25	0.5	1	2	4	8	16	32	64	128	256
Tetracycline	Danish	11.5	[2.4-30.2]																	11.5
	Imported	64.4	[48.8-78.1]							2.2	33.3							4.4		60.0
Erythromycin	Danish	0	[0-13.2]											96.2		3.8				
	Imported	2.2	[0.06-11.8]											93.3	2.2	2.2				2.2
Streptomycin	Danish	0	[0-13.2]											38.5	50.0	11.5				
	Imported	6.7	[1.4-18.3]							2.2	4.4	35.6	44.4	6.7				6.7		
Gentamicin	Danish	0	[0-13.2]							7.7	53.8	38.5								
	Imported	0	[0-7.9]							8.9	64.4	26.7								
Ciprofloxacin	Danish	15.4	[4.4-34.9]						73.1	7.7	3.8				7.7	3.8		3.8		
	Imported	82.2	[67.9-92.0]						15.6	2.2					28.9	31.1		22.2		
Nalidixic acid	Danish	15.4	[4.4-34.9]											3.8	69.2	11.5				15.4
	Imported	75.6	[60.5-87.1]											4.4	4.4	13.3	2.2		8.9	66.7

Vertical solid lines indicate EUCAST epidemiological cut-off values. EUCAST clinical breakpoints are indicated as vertical dotted lines if different from the corresponding epidemiological cut-off values. See table 9.1 for further details.

White fields represent the range of dilutions tested. MIC values equal to or lower than the lowest concentration tested are presented as the lowest concentration. MIC values greater than the highest concentration in the range are presented as one dilution step above the range.

Table 6.8. Distribution of MICs and resistance (%) in *Campylobacter jejuni* from human cases reported as domestic sporadic (n=80), associated with travel abroad (n=47) and of unknown origin (n=110), Denmark

Antimicrobial agent	Human cases	% Resistant	95% Confidence interval	Distribution (%) of MICs																		
				0.0038	0.0075	0.015	0.03	0.06	0.125	0.25	0.5	1	2	4	8	16	32	64	128	256	>256	
Tetracycline	Domestic sporadic	21.2	[12.9-31.8]									72.5	6.3	1.3						2.5	17.5	
	Travel abroad reported	66.0	[50.7-79.1]									27.7	6.4							2.1	6.4	57.4
	Unknown origin	17.3	[10.7-25.7]									77.3	5.5	0.9				0.9	0.9	2.7	11.8	
Erythromycin	Domestic sporadic	5.0	[1.4-12.3]											87.5	7.5		2.5				2.5	
	Travel abroad reported	2.1	[0.05-11.3]											80.9	14.9	2.1					2.1	
	Unknown origin	2.7	[0.6-7.8]											90.0	7.3		0.9				1.8	
Streptomycin	Domestic sporadic	7.5	[2.8-15.6]								8.8	57.5	23.8	2.5			2.5	5.0				
	Travel abroad reported	8.5	[2.4-20.4]								6.4	61.7	21.3	2.1			2.1	6.4				
	Unknown origin	4.5	[1.5-10.3]								14.5	55.5	22.7	2.7				4.5				
Gentamicin	Domestic sporadic	1.2	[0.03-6.8]							57.5	36.3	2.5	1.3	1.3		1.3						
	Travel abroad reported	6.4	[1.3-17.5]							57.4	34.0	2.1					2.1	4.3				
	Unknown origin	2.7	[0.6-7.8]							57.3	35.5	2.7		1.8	1.8	0.9						
Ciprofloxacin	Domestic sporadic	35.0	[24.7-46.5]							56.3	6.3	2.5		1.3	1.3	25.0	2.5	5.0				
	Travel abroad reported	80.9	[66.7-90.9]							17.0		2.1			6.4	34.0	12.8	27.7				
	Unknown origin	40.0	[30.8-49.8]							54.5	4.5	0.9		0.9	1.8	1.8	20.0	11.8	3.6			
Nalidixic acid	Domestic sporadic	35.0	[24.7-46.5]											1.3	1.3	43.8	18.8				35.0	
	Travel abroad reported	80.9	[66.7-90.9]												2.1	10.6	4.3	2.1			80.9	
	Unknown origin	40.0	[30.8-49.8]											0.9	0.9	49.1	9.1				40.0	

Vertical solid lines indicate EUCAST epidemiological cut-off values. EUCAST clinical breakpoints are indicated as vertical dotted lines if different from the corresponding epidemiological cut-off values. See table 9.1 for further details

White fields represent the range of dilutions tested. MIC values equal to or lower than the lowest concentration tested are presented as the lowest concentration. MIC values greater than the highest concentration in the range are presented as one dilution step above the range.

Table A7.1. Distribution of MICs and resistance (%) in *Enterococcus faecalis* from broilers (n=100) and pigs (n=142), Denmark

DANMAP 2014

Antimicrobial agent	Animal species	% Resistant	95% Confidence interval	Distribution (%) of MICs																				
				0.03	0.06	0.125	0.25	0.5	1	2	4	8	16	32	64	128	256	512	1024	2048	>2048			
Tetracycline	Broilers	49.0	[38.9-59.2]						51.0				1.0	13.0	20.0	15.0								
	Pigs	83.1	[75.9-88.9]						16.9				2.8	3.5	29.6	46.5	0.7							
Tigecycline	Broilers	1.0	[0.03-5.4]			2.0	64.0	33.0	1.0															
	Pigs	0	[0-2.6]			1.4	50.0	48.6																
Chloramphenicol	Broilers	2.0	[0.2-7.0]									3.0	94.0	1.0		2.0								
	Pigs	23.9	[17.2-31.8]									2.8	67.6	4.9	0.7	7.7	16.2							
Ampicillin	Broilers	0	[0-3.6]					16.0	75.0	9.0														
	Pigs	0	[0-2.6]					7.7	85.9	4.9	1.4													
Erythromycin	Broilers	27.0	[18.6-36.8]						60.0	12.0	1.0	5.0	6.0								16.0			
	Pigs	49.3	[40.8-57.8]						44.4	6.3					0.7	1.4					47.2			
Quinupristin/dalfopristin	Broilers	98.0	[93.0-99.8]									2.0	83.0	14.0	1.0									
	Pigs	97.2	[92.9-99.2]									2.8	59.2	35.9	1.4	0.7								
Gentamicin	Broilers	0	[0-3.6]										74.0	26.0										
	Pigs	8.5	[4.4-14.3]										28.9	60.6	2.1	0.7		0.7			3.5	3.5		
Ciprofloxacin	Broilers	0	[0-3.6]			2.0	28.0	67.0	3.0															
	Pigs	1.4	[0.2-5.0]			0.7	12.0	80.3	5.6					1.4										
Vancomycin	Broilers	0	[0-3.6]						25.0	55.0	20.0													
	Pigs	0	[0-2.6]						47.2	45.1	7.7													
Teicoplanin	Broilers	0	[0-3.6]					100																
	Pigs	0	[0-2.6]					100																
Linezolid	Broilers	0	[0-3.6]						11.0	89.0														
	Pigs	0	[0-2.6]						10.6	88.7	0.7													
Daptomycin	Broilers	0	[0-3.6]					1.0	26.0	61.0	12.0													
	Pigs	2.1	[0.4-6.0]						10.6	69.7	17.6	2.1												

Vertical solid lines indicate EUCAST epidemiological cut-off values except for ciprofloxacin, kanamycin and salinomycin. EUCAST clinical breakpoints are indicated as vertical dotted lines if different from the corresponding epidemiological cut-off values. See table 9.1 for further details.

White fields represent the range of dilutions tested. MIC values equal to or lower than the lowest concentration tested are presented as the lowest concentration. MIC values greater than the highest concentration in the range are presented as one dilution step above the range.

Table A7.2. Distribution of MICs and resistance (%) in *Enterococcus faecalis* from broiler meat (Danish n=48; imported n=74), beef (Danish n=57; imported n=42), pork (Danish n=109; imported n=105), Denmark

DANMAP 2014

Antimicrobial agent	Animal species	Food type	% Resistant	95% Confidence interval	Distribution (%) of MICs																								
					0.03	0.06	0.125	0.25	0.5	1	2	4	8	16	32	64	128	256	512	1024	2048	>2048							
Tetracycline	Broiler meat	Danish	35.4	[22.2-50.5]							62.5	2.1				4.2	10.4	20.8											
		Imported	51.4	[39.4-63.1]							48.6			1.4		12.2	13.5	24.3											
	Beef	Danish	14.0	[6.3-25.8]							82.5	3.5						12.3	1.8										
		Imported	31.0	[17.6-47.1]							69.0								19.0	11.9									
	Pork	Danish	11.9	[6.5-19.5]							86.2	1.8						7.3	4.6										
		Imported	53.3	[43.3-63.1]							46.7					1.0	4.8	28.6	19.0										
	Tigecycline	Broiler meat	Danish	0	[0-7.4]	4.2	12.5	64.6	18.8																				
			Imported	0	[0-4.9]	2.7	16.2	70.3	10.8																				
Beef		Danish	0	[0-6.3]																									
		Imported	0	[0-8.4]																									
Pork		Danish	0	[0-3.3]	11.9	30.3	50.5	7.3																					
		Imported	0	[0-3.5]	10.5	35.2	41.0	13.3																					
Chloramphenicol		Broiler meat	Danish	6.2	[1.3-17.2]										33.3	60.4		6.3											
			Imported	1.4	[0.03-7.3]											20.3	77.0	1.4	1.4										
	Beef	Danish	0	[0-6.3]											31.6	68.4													
		Imported	9.5	[2.7-22.6]											23.8	66.7		7.1	2.4										
	Pork	Danish	3.7	[1.0-9.1]											37.6	57.8	0.9	1.8	1.8										
		Imported	2.9	[0.6-8.1]											35.2	61.9		1.9	1.0										
	Ampicillin	Broiler meat	Danish	0	[0-7.4]					12.5	81.3	6.3																	
			Imported	0	[0-4.9]					10.8	85.1	4.1																	
Beef		Danish	0	[0-6.3]					15.8	75.4	8.8																		
		Imported	0	[0-8.4]					23.8	69.0	7.1																		
Pork		Danish	0	[0-3.3]					17.4	76.1	6.4																		
		Imported	0	[0-3.5]					22.9	73.3	2.9	1.0																	
Erythromycin		Broiler meat	Danish	18.8	[8.9-32.6]							70.8	10.4													18.8			
			Imported	37.8	[26.8-49.9]								35.1	24.3	2.7												37.8		
	Beef	Danish	1.8	[0.04-9.4]								64.9	29.8	3.5												1.8			
		Imported	11.9	[4.0-25.6]								71.4	16.7													11.9			
	Pork	Danish	8.3	[3.8-15.1]								62.4	28.4	0.9												8.3			
		Imported	4.8	[1.6-10.8]								82.9	12.4													4.8			
	Gentamicin	Broiler meat	Danish	0	[0-7.4]												45.8	54.2											
			Imported	0	[0-4.9]													36.5	63.5										
Beef		Danish	1.8	[0.04-9.4]													38.6	59.6										1.8	
		Imported	4.8	[0.6-16.2]													61.9	33.3										4.8	
Pork		Danish	1.8	[0.2-6.5]													59.6	37.6	0.9									1.8	
		Imported	1.9	[0.2-6.7]													78.1	20.0										1.9	
Ciprofloxacin		Broiler meat	Danish	2.1	[0.05-11.1]					2.1	20.8	70.8	4.2				2.1												
			Imported	1.4	[0.03-7.3]					1.4	16.2	71.6	9.5				1.4												
	Beef	Danish	0	[0-6.3]							19.3	75.4	5.3																
		Imported	0	[0-8.4]							28.6	71.4																	
	Pork	Danish	0	[0-3.3]							2.8	23.9	71.6	1.8															
		Imported	0	[0-3.5]					1.0	1.9	41.0	54.3	1.9																
	Vancomycin	Broiler meat	Danish	0	[0-7.4]							62.5	31.3	6.3															
			Imported	0	[0-4.9]								56.8	39.2	4.1														
Beef		Danish	0	[0-6.3]								66.7	31.6	1.8															
		Imported	0	[0-8.4]								52.4	42.9	4.8															
Pork		Danish	0	[0-3.3]								59.6	34.9	5.5															
		Imported	0	[0-3.5]								60.0	20.0	20.0															
Teicoplanin		Broiler meat	Danish	0	[0-7.4]					100																			
			Imported	0	[0-4.9]					100																			
	Beef	Danish	0	[0-6.3]					100																				
		Imported	0	[0-8.4]					95.2	4.8																			
	Pork	Danish	0	[0-3.3]					99.1	0.9																			
		Imported	0	[0-3.5]					100																				
	Linezolid	Broiler meat	Danish	0	[0-7.4]							20.8	79.2																
			Imported	0	[0-4.9]								27.0	71.6	1.4														
Beef		Danish	0	[0-6.3]								15.8	84.2																
		Imported	0	[0-8.4]								14.3	85.7																
Pork		Danish	0	[0-3.3]								22.9	77.1																
		Imported	0	[0-3.5]							1.0	22.9	76.2																
Daptomycin		Broiler meat	Danish	0	[0-7.4]							2.1	33.3	64.6															
			Imported	0	[0-4.9]								13.5	29.7	55.4	1.4													
	Beef	Danish	0	[0-6.3]								7.0	42.1	49.1	1.8														
		Imported	0	[0-8.4]								2.4	42.9	54.8															
	Pork	Danish	0	[0-3.3]								3.7	11.0	45.0	40.4														
		Imported	0	[0-3.5]								5.7	48.6	45.7															

Vertical solid lines indicate EUCAST epidemiological cut-off values except for ciprofloxacin, kanamycin and salinomycin. EUCAST clinical breakpoints are indicated as vertical dotted lines if different from the corresponding epidemiological cut-off values. See table 9.1 for further details.

White fields represent the range of dilutions tested. MIC values equal to or lower than the lowest concentration tested are presented as the lowest concentration. MIC values greater than the highest concentration in the range are presented as one dilution step above the range.

Table A7.3. Distribution of MICs and resistance (%) in *Enterococcus faecium* from broiler meat (Danish n=96; imported n=81), beef (Danish n=35; imported n=21) and pork (Danish n=23), Denmark

DANMAP 2014

Antimicrobial agent	Food type	Origin	% Resistant	95% Confidence interval	Distribution (%) of MICs																						
					0.03	0.06	0.125	0.25	0.5	1	2	4	8	16	32	64	128	256	512	1024	2048	>2048					
Tetracycline	Broiler meat	Danish	10.4	[5.1-18.3]																	89.6		1.0	6.3	3.1		
		Imported	42.0	[31.1-53.5]																		58.0		2.5	2.5	13.6	23.5
	Beef	Danish	5.7	[0.7-19.2]																		94.3			2.9	2.9	
		Imported	9.5	[1.2-30.4]																		90.5				4.8	4.8
Tigecycline	Broiler meat	Danish	0	[0-3.8]																							
		Imported	0	[0-4.5]																		21.9	45.8	31.3	1.0		
	Beef	Danish	0	[0-10.0]																		11.1	49.4	39.5			
		Imported	0	[0-16.1]																		2.9	65.7	31.4			
Pork	Danish	0	[0-14.8]																		30.4	43.5	26.1				
	Imported	0	[0-14.8]																								
Chloramphenicol	Broiler meat	Danish	0	[0-3.8]																			57.3	42.7			
		Imported	0	[0-4.5]																			27.2	60.5	9.9	2.5	
	Beef	Danish	0	[0-10.0]																				31.4	68.6		
		Imported	0	[0-16.1]																				38.1	57.1	4.8	
Pork	Danish	0	[0-14.8]																				78.3	21.7			
	Imported	0	[0-14.8]																								
Ampicillin	Broiler meat	Danish	3.1	[0.6-8.9]																		21.9	63.5	8.3	3.1	2.1	
		Imported	16.0	[8.8-25.9]																		13.6	50.6	12.3	7.4	4.9	
	Beef	Danish	0	[0-10.0]																							
		Imported	0	[0-16.1]																		25.7	40.0	34.3			
Pork	Danish	4.3	[0.1-21.9]																		28.6	52.4	19.0				
	Imported	0	[0.1-21.9]																		26.1	56.5	8.7	4.3	4.3		
Erythromycin	Broiler meat	Danish	9.4	[4.4-17.1]																		26.0	51.0	13.5	5.2	1.0	
		Imported	50.6	[39.3-61.9]																		28.4	16.0	4.9	6.2	4.9	
	Beef	Danish	0	[0-10.0]																		45.7	48.6	5.7			
		Imported	4.8	[0.1-23.8]																		66.7	19.0	9.5	4.8		
Pork	Danish	0	[0-14.8]																		39.1	34.8	26.1				
	Imported	0	[0-14.8]																								
Quinupristin/dalfopristin	Broiler meat	Danish	2.1	[0.3-7.3]																		31.3	28.1	15.6	22.9	2.1	
		Imported	3.7	[0.8-10.4]																		16.0	16.0	7.4	56.8	2.5	
	Beef	Danish	0	[0-10.0]																		34.3	31.4	2.9	31.4		
		Imported	0	[0-16.1]																		23.8	19.0	4.8	52.4		
Pork	Danish	0	[0-14.8]																		4.3	26.1	30.4	39.1			
	Imported	0	[0-14.8]																								
Gentamicin	Broiler meat	Danish	0	[0-3.8]																			81.3	14.6	4.2		
		Imported	3.7	[0.8-10.4]																			61.7	33.3	1.2		
	Beef	Danish	0	[0-10.0]																				71.4	25.7	2.9	
		Imported	0	[0-16.1]																				81.0	19.0		
Pork	Danish	0	[0-14.8]																				82.6	13.0	4.3		
	Imported	0	[0-14.8]																								
Ciprofloxacin	Broiler meat	Danish	0	[0-3.8]																							
		Imported	4.9	[1.4-12.2]																							
	Beef	Danish	2.9	[0.07-14.9]																							
		Imported	4.8	[0.1-23.8]																							
Pork	Danish	0	[0-14.8]																		8.7	21.7	30.4	21.7	17.4		
	Imported	0	[0-14.8]																								
Vancomycin	Broiler meat	Danish	0	[0-3.8]																			41.7	55.2	3.1		
		Imported	0	[0-4.5]																			81.5	16.0	2.5		
	Beef	Danish	0	[0-10.0]																				94.3	5.7		
		Imported	0	[0-16.1]																				90.5	9.5		
Pork	Danish	0	[0-14.8]																				95.7	4.3			
	Imported	0	[0-14.8]																								
Teicoplanin	Broiler meat	Danish	0	[0-3.8]																			99.0	1.0			
		Imported	0	[0-4.5]																			98.8	1.2			
	Beef	Danish	0	[0-10.0]																				100			
		Imported	0	[0-16.1]																				100			
Pork	Danish	0	[0-14.8]																				95.7	4.3			
	Imported	0	[0-14.8]																								
Linezolid	Broiler meat	Danish	0	[0-3.8]																			1.0	5.2	92.7	1.0	
		Imported	0	[0-4.5]																				12.3	86.4	1.2	
	Beef	Danish	0	[0-10.0]																				8.6	88.6	2.9	
		Imported	0	[0-16.1]																				4.8	95.2		
Pork	Danish	0	[0-14.8]																					21.7	78.3		
	Imported	0	[0-14.8]																								
Daptomycin	Broiler meat	Danish	0	[0-3.8]																			2.1	1.0	4.2	49.0	43.8
		Imported	2.5	[0.3-8.6]																				2.5	8.6	29.6	56.8
	Beef	Danish	0	[0-10.0]																					5.7	40.0	54.3
		Imported	0	[0-16.1]																					9.5	38.1	52.4
Pork	Danish	0	[0-14.8]																					8.7	17.4	26.1	47.8
	Imported	0	[0-14.8]																								

Vertical solid lines indicate EUCAST epidemiological cut-off values. EUCAST clinical breakpoints are indicated as vertical dotted lines if different from the corresponding epidemiological cut-off values. See table 9.1 for further details.

White fields represent the range of dilutions tested. MIC values equal to or lower than the lowest concentration tested are presented as the lowest concentration. MIC values greater than the highest concentration in the range are presented as one dilution step above the range.

Table A7.4. Distribution of MICs and resistance (%) in *Escherichia coli* from broilers (n=191), cattle (n=136) and pigs (n=209), Denmark

DANMAP 2014

Antimicrobial agent	Animal species	% Resistant	95% Confidence interval	Distribution (%) of MICs																			
				0.015	0.03	0.06	0.125	0.25	0.5	1	2	4	8	16	32	64	128	256	512	1024	2048	>2048	
Tetracycline	Broilers	5.8	[2.9-10.1]									94.2			2.6	2.6	0.5						
	Cattle	11.8	[6.9-18.4]									85.3	2.2	0.7		0.7	6.6	4.4					
	Pigs	36.8	[30.3-43.8]									62.2	1.0		0.5	1.0	18.7	16.7					
Tigecycline	Broilers	0	[0-1.9]					99.5	0.5														
	Cattle	0	[0-2.7]					97.1	2.9														
	Pigs	0	[0-1.7]					94.3	5.7														
Chloramphenicol	Broilers	0	[0-1.9]											100									
	Cattle	5.1	[2.1-10.3]											94.1	0.7		0.7	3.7	0.7				
	Pigs	1.9	[0.5-4.8]											97.1	1.0	1.0		0.5	0.5				
Ampicillin	Broilers	14.1	[9.5-19.9]							4.2	48.2	33.0	0.5					14.1					
	Cattle	8.1	[4.1-14.0]							2.9	33.1	52.2	3.7				0.7	7.4					
	Pigs	32.5	[26.2-39.3]							7.2	40.7	18.2	1.4			0.5		32.1					
Cefotaxime	Broilers	0	[0-1.9]					100															
	Cattle	0	[0-2.7]					100															
	Pigs	0	[0-1.7]					100															
Ceftazidime	Broilers	0	[0-1.9]					100															
	Cattle	0	[0-2.7]					100															
	Pigs	0.5	[0.01-2.6]					99.5	0.5														
Meropenem	Broilers	0	[0-1.9]		99.0	1.0																	
	Cattle	0	[0-2.7]		100																		
	Pigs	0	[0-1.7]		100																		
Trimethoprim	Broilers	7.3	[4.1-12.0]					88.0	4.7								7.3						
	Cattle	2.2	[0.5-6.3]					86.0	11.8								2.2						
	Pigs	23.9	[18.3-30.3]					67.0	9.1								23.9						
Sulfonamide	Broilers	13.1	[8.7-18.7]											82.7	4.2							13.1	
	Cattle	11.8	[6.9-18.4]											66.9	19.1	2.2						11.8	
	Pigs	34.4	[28.0-41.3]											53.6	8.1	3.3	0.5					34.4	
Gentamicin	Broilers	3.1	[1.2-6.7]					51.3	44.5	1.0				1.0	2.1								
	Cattle	0	[0-2.7]					39.0	54.4	6.6													
	Pigs	1.0	[0.1-3.4]					49.3	45.9	3.8				0.5	0.5								
Ciprofloxacin	Broilers	12.0	[7.8-17.5]	83.8	4.2		4.7	5.8	1.0			0.5											
	Cattle	0	[0-2.7]	88.2	11.0	0.7																	
	Pigs	0.5	[0.01-2.6]	93.3	5.7	0.5		0.5															
Nalidixic acid	Broilers	11.0	[6.9-16.3]										87.4	1.6		1.6	4.7	3.7	1.0				
	Cattle	0	[0-2.7]										100										
	Pigs	0.5	[0.01-2.6]										99.5					0.5					
Colistin	Broilers	0	[0-1.9]							97.4	2.6												
	Cattle	0	[0-2.7]							98.5	1.5												
	Pigs	0	[0-1.7]							99.0	1.0												

Vertical solid lines indicate EUCAST epidemiological cut-off values. EUCAST clinical breakpoints are indicated as vertical dotted lines if different from the corresponding epidemiological cut-off values. See table 9.1 for further details.

White fields represent the range of dilutions tested. MIC values equal to or lower than the lowest concentration MIC tested are presented as the lowest concentration. MIC values greater than the highest concentration in the range are presented as one dilution step above the range.

Table A8.1. Distribution of MICs and resistance (%) in *Staphylococcus aureus* bacteraemia (n=381), Denmark

DANMAP 2014

Antimicrobial agent	% Resistant	Distribution (%) of MICs																				
		0.03	0.06	0.125	0.25	0.5	1	2	4	8	16	32										
Penicillin	76.6	15.2	7.1	1.0	76.6																	
Cefoxitin	2.9								97.1	2.9												
Erythromycin	8.4				3.9	85.8	1.8		0.3	8.1												
Clindamycin (inducible resistance included)	8.4			56.4	40.4	0.5		2.6														
Fusidic acid	15.5			16.5	52.5	13.6	1.8	1.8	2.6	3.7	6.0	1.3										
Tetracycline	5.3					61.7	32.8	0.3	0.3	5.0												
Norfloxacin	5.8							66.4	26.5	1.3	0.5	5.2										
Rifampicin	0.3		98.4	1.3				0.3														
Linezolid	0.0							1.0	52.8	46.2												
Kanamycin	2.1																			97.9	2.1	
Trimethoprim/sulfamethoxazole	1.0						96.1	1.6	1.0	0.3	1.0											
Ceftaroline	0.3			3.4	70.6	21.8	3.9	0.3														
Ceftobiprole	NA			0.8	24.1	67.5	6.6	1.0														
Daptomycin	1.9						73.0	26.0	1.0													
Gentamicin	2.9				13.4	64.3	19.4	2.1	0.8													
Moxifloxacin	3.7				95.3	0.5	0.5	0.8	2.9													
Mupirocin	0.5			3.9	54.1	40.7	0.8		0.5													
Teicoplanin	0.0							96.6	3.4													
Tigecycline	0.3		2.9	58.8	37.3	0.8	0.3															
Vancomycin	0.0					2.4	90.3	7.3														

Notes: The cut-off value for daptomycin represents reduced susceptibility. The cut-off value for mupirocin represents intermediate resistance.

Table A8.2. Distribution of MICs and resistance (%) in MRSA (n=1932), Denmark

DANMAP 2014

Antimicrobial agent	% Resistant	Distribution (%) of MICs										
		0.03	0.06	0.125	0.25	0.5	1	2	4	8	16	32
Erythromycin	35				4.5	59.1	1.6		0.5	34.1		
Cefoxitin	100								0	100		
Clindamycin (inducible resistance included)	33			47.9	30.3	1.3	0.2	20.3				
Fusidic acid	14			25.6	47.3	11.5	1.3	0.7	1.5	8.6	2.3	1.1
Tetracycline	33					47.9	18.4	0.2	0.3	33.2		
Norfloxacin	27						58.3	13.6	0.8	1.0	26.3	
Rifampicin	0.6		98.9	0.5		0.1	0.1	0.5				
Linezolid	0.1						2.3	58.8	38.8	0.1		
Kanamycin	26										73.9	26.1
Trimethoprim/sulfamethoxazole	3					76.1	7.0	9.1	4.8	3.0		
Ceftaroline	1				0.8	60.4	37.7	1.1				
Ceftobiprole	NA				0.2	23.3	72.0	4.2	0.3			
Daptomycin	2					66.7	31.5	1.7	0.1			
Gentamicin	10				10.9	59.9	18.7	0.8	9.6			
Moxifloxacin	22				76.2	0.5	1.7	14.0	7.6			
Mupirocin	0.4			8.4	59.8	31.1	0.3		0.4			
Teicoplanin	0.05						97.7	2.2	0.05			
Tigecycline	0.3		0.7	32.9	63.5	2.6	0.2	0.1				
Vancomycin	0					4.5	87.7	7.8				

Notes: The cut-off value for daptomycin represents reduced susceptibility. The cut-off value for mupirocin represents intermediate resistance