DANMAP 2012

Web annex

Statens Serum Institut
National Veterinary Institute, Technical University of Denmark
National Food Institute, Technical University of Denmark

Web annex tables

Table A4.1. Estimated standing live animal biomass (mill kg), Denmark

DANMAP 2012

Year	Broilers		Layers	Turkeys	Cattle		Pigs			Farmed fish	
	Production	Rrearing	Incl rearing		<1 year	>1 year	Breeding and piglets	Weaner pigs	Finisher pigs	Freshwater	Marine
2003	13.5	6.4	7.2	3.7	-	-	295	71	343	-	-
2004	13.4	6.4	6.7	5.7	-	-	295	75	347	-	-
2005	12.4	5.9	6.7	3.9	-	-	290	77	350	-	-
2006	11.0	5.2	6.5	2.4	-	-	291	77	345	-	-
2007	11.1	5.1	6.7	3.1	-	-	296	79	357	-	-
2008	11.0	4.9	6.9	2.3	113	613	276	79	341	-	-
2009	10.9	4.9	7.0	1.9	115	617	280	80	318	22	5
2010	11.5	5.3	8.6	2.6	117	620	275	82	330	21	5
2011	11.4	5.2	9.1	1.7	116	616	268	85	332	20	6
2012	10.0	4.9	n.a	2.2	115	613	262	83	307	-	-

Note: The standing live biomass is the estimated average biomass of the population on any given day. Standing live biomass * 365 days = number of biomas-days in the year (the denominator in the DAPD)

Table A4.2. Consumption of antimicrobial agents[a] for systemic use in pigs given as defined animal daily doses (DADDs), Denmark

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ATCvet code	QJ01AA	QJ01BA	QJ01CE	QJ01CA QJ01CR	QJ01DC QJ01DD	QJ01E	QJ01FA	QJ01FF	QA07AA	QA07AA10	QJ01MA	QJ01RA	QJ01XX	
Therapeutic group	Tetracyclines	Amphenicols	Penicillin's, β–lactamase sensitive	Aminopenicillins[b]	Cephalosporins[c]	Sulfonamides and trimethoprim	Macrolides	Lincosamides / spectinomycin[d]	Aminoglycosides (local GI)	Colistin (local GI)	Fluoroquinolones	Penicillin-streptomycin combinations	Pleuromutilins	**Total**
Year	**breeding animals/piglets (1000's DADD for 200 kg)**													
2003	1194	17	2039	1021	99	1116	715	565	232	35	21	703	820	**8579**
2004	1202	18	2256	1105	113	1270	745	576	214	35	3	669	898	**9102**
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**
Year	**Weaner pigs (1000's DADD for 19 kg)**													
2003	30156	177	2380	8501	201	3305	31047	14740	17370	3450	14	1746	14239	**127326**
2004	35158	223	3271	11046	207	4357	39291	16697	16790	3572	6	2428	18083	**151130**
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**
Year	**Finisher pigs (1000's DADD for 70 kg)**													
2003	9584	43	3749	1435	40	127	8292	3021	137	20	5	302	5478	**32231**
2004	10459	62	4644	2035	43	169	8287	3172	88	15	3	272	6714	**35964**
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**
Year	**Age group not given (1000's DADD for 50 kg)**													
2003	626	8	350	221	6	149	680	268	106	28	0	70	434	**2948**
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**

Note: DADD for pigs is defined as the standard dose necessary for treating a pig of average weight in the age group i.e. 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 A4.3. Consumption of antimicrobial agents for systemic use in poultry given as defined animal daily doses (DADD), Denmark

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ATCvet group	Aminoglycosides QA07AA	Tetracyclines QJ01A	Amoxicillin QJ01CA	Penicillins, β-lactamase sensitive QJ01CE	Sulfonamides[a] QJ01E /QP51AG	Macrolides QJ01FA	Fluoroquinolones QJ01MA	Pleuromutilins QJ01X	Others[c] QA07 /QJ01	**Total**
Year					**Broilers (1000's DADD)**					
2003	0	70	1,618	0	8	0	130	0	0	**1,826**
2004	93	121	4,620	0	40	29	650	75	49	**5,676**
2005	0	32	3,992	0	58	3	701	0	99	**4,885**
2006	0	0	3,344	0	40	0	620	0	0	**4,004**
2007	0	0	1,714	0	168	288	130	0	36	**2,335**
2008	0	445	4,069	0	83	133	20	0	79	**4,829**
2009	0	5,200	6,958	439	75	558	20	0	80	**13,329**
2010	0	5,469	13,173	1,158	135	520	0	0	20	**20,475**
2011	0	5,733	18,158	1,561	0	363	0	0	0	**25,816**
2012	0	802	7,219	70	0	199	0	0	0	**8,290**
Year					**Rearing for broiler production (1000's DADD)**					
2003	0	0	908	0	1	0	80	0	0	**989**
2004	0	0	6,448	0	0	0	490	0	0	**6,938**
2005	0	0	3,335	0	0	0	400	0	0	**3,735**
2006	0	0	6,211	0	15	0	114	0	0	**6,340**
2007	0	0	2,649	0	43	22	190	0	0	**2,904**
2008	0	415	6,883	0	100	321	0	0	10	**7,729**
2009	0	2,067	7,704	2,219	80	288	440	0	289	**13,088**
2010	0	2,267	3,137	947	44	33	0	0	0	**6,428**
2011	0	167	747	456	0	0	0	0	0	**1,370**
2012	0	0	722	544	26	0	0	0	0	**1,292**
Year					**Layers and layer rearing (1000's DADD)**					
2003	0	540	5,114	0	358	0	360	0	0	**6,371**
2004	0	194	796	0	210	0	30	0	218	**1,448**
2005	0	8	672	0	243	0	0	2	30	**955**
2006	0	28	373	0	140	11	0	0	0	**552**
2007	0	0	1,145	0	96	0	0	0	150	**1,391**
2008	0	12	2,552	0	100	0	0	0	70	**2,734**
2009	0	714	1,469	0	15	2	0	0	488	**2,689**
2010	0	133	1,481	0	8	170	0	275	400	**2,467**
2011	0	42	436	35	53	49	0	100	80	**794**
2012	0	354	510	123	60	11	0	155	0	**1,213**
Year					**Turkeys (1000's DADD)**					
2003	0	0	4,552	0	13	0	0	0	0	**4,564**
2004	187	0	4,853	0	76	7	1,560	0	0	**6,683**
2005	140	60	8,924	0	68	0	780	0	0	**9,972**
2006	93	150	15,131	0	45	0	1,160	0	0	**16,580**
2007	487	1,142	6,758	263	0	2,536	2,430	0	777	**14,395**
2008	0	5,981	1,033	0	4	808	190	0	530	**8,546**
2009	0	11,916	4,543	491	0	2,528	0	0	535	**20,013**
2010	0	7,145	299	0	86	1,915	0	0	252	**9,697**
2011	0	8,145	386	667	63	1,440	0	0	38	**10,738**
2012	0	8,478	1,942	947	0	3,167	0	0	1,667	**16,201**

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Table A4.3 (Continued). Consumption of antimicrobial agents for systemic use in poultry given as defined animal daily doses (DADD), Denmark

DANMAP 2012

ATCvet group	Aminoglycosides QA07AA	Tetracyclines QJ01A	Amoxicillin QJ01CA	Penicillins, β-lactamase sensitive QJ01CE	Sulfonamides[a] QJ01E /QP51AG	Macrolides QJ01FA	Fluoroquinolones QJ01MA	Pleuromutilins QJ01X	Others[c] QA07 /QJ01	**Total**
Year	**Ducks and geese (1000's DADD)**									
2003	0	154	259	0	0	0	0	0	0	**413**
2004	0	14	398	0	13	11	2	150	0	**589**
2005	0	0	523	0	0	12	2	0	0	**538**
2006	0	0	1,120	0	0	0	0	0	0	**1,120**
2007	0	0	100	0	0	0	0	0	2	**102**
2008	0	36	199	0	1	0	0	0	0	**236**
2009	0	24	0	0	10	199	0	0	0	**234**
2010	0	14	0	0	3	0	0	0	0	**17**
2011	0	12	0	0	1	0	0	0	0	**13**
2012	0	12	12	18	2	0	0	0	0	**44**
Year	**Game birds (1000's DADD)**									
2003	140	128	928	0	316	272	10	1	0	**1,795**
2004	233	148	1,007	0	460	113	17	30	0	**2,009**
2005	150	98	1,940	0	403	176	12	0	14	**2,794**
2006	103	86	1,860	0	258	37	0	11	38	**2,393**
2007	47	146	1,364	0	443	15	0	40	36	**2,091**
2008	16	112	1,416	0	541	37	0	0	72	**2,194**
2009	0	272	895	18	664	45	0	10	171	**2,075**
2010	3	267	1,078	0	522	44	25	10	160	**2,110**
2011	16	503	902	175	516	85	25	0	94	**2,317**
2012	22	427	530	18	209	73	0	10	164	**1,453**
Year	**Production type unknown[c] (1000's DADD)**									
2003	280	91	4,291	0	363	185	5	531	0	**5,745**
2004	420	106	3,645	0	480	90	2	131	4	**4,879**
2005	0	82	2,972	0	191	3	5	91	46	**3,389**
2006	47	144	3,048	0	182	4	0	110	0	**3,535**
2007	0	140	1,318	0	518	117	7	34	60	**2,194**
2008	0	371	859	0	340	147	2	3	39	**1,762**
2009	2	795	485	0	182	22	5	11	56	**1,557**
2010	0	149	557	0	85	11	2	12	13	**830**
2011	0	85	224	53	98	54	2	3	4	**523**
2012	10	287	249	88	90	286	5	2	22	**1,038**

Note: DADD for poultry is defined as the standard dose necessary for treating 1 kg body-weight

a) Includes sulfaclozin (a coccidiostat/antibacterial) and sulfonamide/trimethoprim combinations. Sulfamethoxazole has also been used but is not included in the table

b) Includes QA07AA10 (colistin), QJ01FF (lincosamides, including combinations with spectinomycin), QJ01B (amphenicols) and QJ01R (penicillin/streptomycin combinations)

c) Includes prescription with erraneous farm id or farms with more than one poultry species; for 2009 –2011 this was mainly pigeons and game birds

Table A5.1. Consumption of antimicrobial agents for systemic use in hospital care (DDD/1000 inhabitant-days), Denmark

DANMAP 2012

ATC group[(a)]	Therapeutic group	Year									
		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
J01AA	Tetracyclines	0.01	0.01	0.01	0.01	0.02	0.02	0.03	0.03	0.02	0.04
J01CA	Penicillins with extended spectrum	0.33	0.32	0.35	0.35	0.35	0.35	0.35	0.32	0.29	0.33
J01CE	Beta-lactamase sensitive penicillins	0.34	0.33	0.33	0.29	0.28	0.25	0.23	0.21	0.19	0.22
J01CF	Beta-lactamase resistant penicillins	0.18	0.19	0.18	0.18	0.18	0.17	0.17	0.17	0.15	0.19
J01CR	Combinations of penicillins, incl. beta-lactamase inhibitors	0.01	0.02	0.03	0.05	0.08	0.1	0.13	0.15	0.17	0.25
J01DB	First-generation cephalosporins	0	0	0	0	0	0	0	0	0	0
J01DC	Second-generation cephalosporins	0.17	0.19	0.22	0.23	0.31	0.33	0.37	0.35	0.33	0.3
J01DD	Third-generation cephalosporins	0.02	0.02	0.02	0.02	0.03	0.03	0.03	0.03	0.03	0.02
J01DF	Monobactams	0	0	0	0	0	0	0	0	0	0
J01DH	Carbapenems	0.02	0.02	0.03	0.03	0.05	0.07	0.07	0.08	0.09	0.08
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	0.03	0.03	0.02	0.01	0.01	0.01	0.01	0.01	0
J01EE	Combinations of sulfonamides and trimethoprim, incl. derivatives	0.04	0.05	0.05	0.05	0.04	0.05	0.05	0.06	0.08	0.07
J01FA	Macrolides	0.09	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	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	0.05	0.05	0.04	0.04	0.04	0.04	0.05
J01MA	Fluoroquinolones	0.11	0.13	0.16	0.18	0.21	0.24	0.24	0.22	0.19	0.21
J01XA	Glycopeptides	0.01	0.01	0.01	0.01	0.02	0.02	0.02	0.02	0.03	0.03
J01XB	Polymyxins	0	0	0	0	0	0	0	0	0	0
J01XC	Steroid antibacterials (fusidic acid)	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0
J01XD	Imidazol derivatives	0.06	0.07	0.07	0.07	0.07	0.06	0.05	0.08	0.08	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	0	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
J01	Antibacterial agents for systemic use (total)	1.51	1.56	1.67	1.7	1.81	1.87	1.91	1.91	1.83	2.01

a) From the 2012 edition of the Anatomical Therapeutic Chemical (ATC) classification system

Table A5.2. Consumption of antimicrobial agents for systemic use in humans (kg active compound), Denmark

DANMAP 2012

ATC group[a]	Therapeutic group	Year									
		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
J01AA	Tetracyclines	1542	1636	1748	1835	1855	1884	2039	2161	2193	2217
J01B	Amphenicols	0	0	0	0	0	0	0	0	0	0
J01CA	Penicillins with extended spectrum	5295	5346	5561	5722	6188	6061	6076	6317	6205	6010
J01CE	Beta-lactamase sensitive penicillins	21630	22230	22520	22760	24003	22466	21744	22301	22671	20318
J01CF	Beta-lactamase resistant penicillins	4075	4377	4565	4842	5037	5183	5250	5418	5290	5687
J01CR	Comb. of penicillins, including beta-lactamase inhibitors	336	480	534	724	1012	1348	1836	2597	3274	5410
J01D	Cephalosporins and related substances[b]	830	894	1582	1778	2285	2530	2740	2696	2374	1983
J01EA	Trimethoprim and derivatives	307	334	359	382	402	402	399	417	416	435
J01EB	Short-acting sulfonamides	3064	3067	2987	2865	2565	2273	2200	2158	1998	1861
J01EE	Comb. of sulfonamides and trimethoprim, including derivatives	273	185	208	208	148	183	193	252	326	362
J01FA	Macrolides	3876	3743	3775	3542	3434	3164	2966	3038	2942	2129
J01FF	Lincosamides[b]	45	53	52	66	78	94	113	124	138	145
J01G	Aminoglycosides	28	31	31	27	27	25	23	24	24	31
J01MA	Fluoroquinolones[b]	611	722	866	979	1162	1351	1371	1457	1458	1414
J01XA	Glycopeptides	43	46	51	56	61	64	86	89	102	108
J01XC	Steroid antibacterials (fusidic acid)	58	52	62	65	67	64	62	65	56	48
J01XD	Imidazoles	191	195	206	198	202	241	255	258	261	269
J01XE	Nitrofuran derivatives (nitrofurantoin)	166	171	180	185	190	192	201	208	209	205
J01XX05	Methenamine[b]	1590	1473	1107	1076	1060	1087	1047	1078	1057	1040
J01XX08+09	Linezolid, daptomycin	4	5	10	14	12	14	14	13	18	19
J01	Antibacterial agents for systemic use (total)[c]	43964	45040	46404	47324	49788	48629	48614	50673	51012	49671

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 (see Tables 5.3, 5.5 and 5.6)

a) From the 2012 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. From 2001 to 2004, it was estimated with a DDD corresponding to an average for the various routes, e.g. for cefuroxime: 1.75 g

c) Does not include polymyxins

Table A5.3.Consumption of antimicrobial agents for systemic use in primary health care (No. treated patients/1000 inhabitants/year), Denmark

DANMAP 2012

ATC group[a]	Therapeutic group	Year									
		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
J01AA	Tetracyclines	11.4	11.6	12	12.3	12.5	12.7	13	13.4	13.7	13.5
J01CA	Penicillins with extended spectrum	68.8	70.6	73	75.8	82.1	81.3	81.1	85.1	84.2	77.3
J01CE	Beta-lactamase sensitive penicillins	172.6	171.2	170.2	171.3	177.1	164.4	158.8	162.9	164.4	145.5
J01CF	Beta-lactamase resistant penicillins	26.4	27.1	27.8	29.4	29.7	29.9	29.9	30	30.4	28.5
J01CR	Combinations of penicillins, including beta-lactamase inhibitors	1.1	1.3	1.5	2.3	3.6	5	8	11.7	15	17.3
J01D	Cephalosporins and related substances	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
J01EA	Trimethoprim and derivatives	4.6	5	5.4	5.6	5.9	5.9	5.8	6	6.2	6.6
J01EB	Short-acting sulfonamides	33.1	33.3	32.7	33	29.7	26.3	25.4	25	23.2	21.6
J01EE	Combinations of sulfonamides and trimethoprim, including derivatives	0.6	0	0	0	0	0	0	0	0	0
J01FA	Macrolides	64.1	65.9	70.7	67	71.4	66.9	64.5	72.7	78.8	64.7
J01FF	Lincosamides	0.3	0.4	0.4	0.5	0.6	0.8	1	1.3	1.4	1.4
J01GB	Aminoglycosides	0	0	0	0	0	0	0	0	0	0
J01MA	Fluoroquinolones	8.9	10.8	12.2	13.1	15.2	17.1	16.9	18.5	18.1	17.3
J01XA	Glycopeptides	0	0	0	0	0	0	0	0	0	0
J01XB	Polymyxins	0	0	0	0	0	0	0	0	0.1	0.1
J01XC	Steroid antibacterials (fusidic acid)	0.3	0.3	0.3	0.4	0.3	0.3	0.3	0.3	0.3	0.2
J01XE	Nitrofuran derivatives (nitrofurantoin)	6.2	6.4	6.7	7	6.5	6.8	7	6.9	7.1	7
J01XX05	Methenamine	0.5	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4
J01XX08	Linezolid	0	0	0	0	0	0	0	0	0	0
J01[b]	Antibacterial agents for systemic use (total)	301.4	302.6	308	310.3	320.4	308.2	303.1	315.5	321.8	293.1

a) From the 2012 edition of the Anatomical Therapeutic Chemical (ATC) classification system

b) Total no. of patients treated with an antibiotic is lower than the sum of all antibiotic classes. This is because the National Register of Medical products Statistics only counts the first treatment for each patient, each year

Table A5.4. Number of DDDs and packages per treated patient in primary health care, Denmark

DANMAP 2012

ATC group[(a)]	Therapeutic group	Indicator	Year									
			2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
J01AA	Tetracyclines	DDDs / patient	34.4	36.9	39	40.9	43	44.4	45.2	45.9	44	47.6
		DDDs / package	18.1	19	19.6	21	22	22.7	22.7	22.7	22.6	23.1
		Packages / patient	1.9	1.9	2	1.9	2	2	2	2	1.9	2.1
J01CA	Penicillins with extended spectrum	DDDs / patient	13.4	13.6	13.9	14.2	14.4	14.7	14.8	14.9	14.8	16.1
		DDDs / package	8.2	8.4	8.5	8.9	9	9.2	9.2	9	9.2	9.7
		Packages / patient	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.7
J01CE	Beta-lactamase sensitive penicillins	DDDs / patient	10.7	11.1	11.3	11.5	11.7	11.8	11.8	11.8	11.8	11.8
		DDDs / package	7.3	7.5	7.7	8	8.2	8.2	8.4	8.4	8.4	8.4
		Packages / patient	1.5	1.5	1.5	1.4	1.4	1.4	1.4	1.4	1.4	1.4
J01CF	Beta-lactamase resistant penicillins	DDDs / patient	11.8	12.4	12.7	13	13.4	13.7	13.9	14.2	13.8	15.5
		DDDs / package	7.4	7.8	8	8.6	8.7	9	9.1	9.3	9.6	9.7
		Packages / patient	1.6	1.6	1.6	1.5	1.5	1.5	1.5	1.5	1.4	1.6
J01CR	Combinations of penicillins, incl. beta-lactamase inhibitors	DDDs / patient	16.6	17.2	16.8	19.3	19.1	19.9	20.4	21.1	21.9	22.3
		DDDs / package	9.1	9.1	9.3	10.7	11.7	12.4	13.3	13.7	14.1	14.3
		Packages / patient	1.8	2	2	1.8	1.6	1.6	1.5	1.5	1.6	1.6
J01D	Cephalosporins and related substances	DDDs / patient	18.3	18.6	21.7	20.7	21.9	23.8	22.7	24.7	21.6	25.4
		DDDs / package	5.6	6.1	6.2	5.8	6.1	5.8	5.7	5.8	5.8	7
		Packages / patient	3.3	3	3.5	3.5	3.6	4.1	4	4.3	3.7	3.6
J01EA	Trimethoprim and derivatives	DDDs / patient	30	29.9	30.2	30.6	30.5	30.2	30.7	30.7	29.9	29
		DDDs / package	14.9	14.8	15.3	15.9	15.7	14.5	16.1	16.4	16.1	15.9
		Packages / patient	2	2	2	1.9	1.9	2.1	1.9	1.9	1.9	1.8
J01EB	Short-acting sulfonamides	DDDs / patient	4	3.9	3.9	3.9	3.9	3.8	3.8	3.8	3.8	3.8
		DDDs / package	2.7	2.7	2.7	2.8	2.8	2.8	2.8	2.8	2.8	2.8
		Packages / patient	1.4	1.5	1.5	1.4	1.4	1.4	1.4	1.4	1.4	1.4
J01FA	Macrolides	DDDs / patient	12.1	12.4	12.4	12.6	12.4	12.5	12.5	12.2	11.5	12.4
		DDDs / package	7.8	7.9	8	8.3	8.1	8.1	8.1	8.1	7.9	8
		Packages / patient	1.6	1.6	1.6	1.5	1.5	1.5	1.5	1.5	1.5	1.5
J01FF	Lincosamides	DDDs / patient	11.1	13.9	13.4	13.8	13.3	12.8	12.6	11.4	11.5	11.5
		DDDs / package	6.1	7.6	4.9	4.8	4.9	5	5	5.2	5.3	5.4
		Packages / patient	1.8	1.8	2.8	2.9	2.7	2.5	2.5	2.2	2.2	2.1
J01GB	Aminoglycosides	DDDs / patient	121.7	156.5	172.2	135.6	128	152.7	157.6	151.5	113.2	197.8
		DDDs / package	36.5	47	51.7	27.1	26	32.2	37.8	43.4	38.7	28.6
		Packages / patient	3.3	3.3	3.3	5	4.9	4.9	4.2	3.5	2.9	6.9
J01MA	Fluoroquinolones	DDDs / patient	10.3	9.5	9.6	10.3	10.6	11	11.2	11.2	11.5	11.7
		DDDs / package	6.6	6.4	6.5	6.9	7	7.5	7.6	7.6	7.7	7.8
		Packages / patient	1.6	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
J01XB	Polymyxins	DDDs / patient	243.3	192.3	196.7	205.6	219.3	202.8	202.8	199.4	175.1	171.3
		DDDs / package	3.7	3.7	3.9	5.5	10	10	10	10	10	10
		Packages / patient	66.7	52.5	50	37.5	21.9	20.3	20.3	19.9	17.5	17.1
J01XC	Steroid antibacterials (fusidic acid)	DDDs / patient	11.1	14.4	16	15.1	17.1	18.5	18.7	18.8	18.3	16.8
		DDDs / package	5.2	7.2	7.6	7.6	8	7.3	6.8	7.7	8	7.4
		Packages / patient	2.1	2	2.1	2	2.1	2.5	2.8	2.4	2.3	2.3
J01XE	Nitrofuran derivatives (nitrofurantoin)	DDDs / patient	24.8	24.3	24.3	24.1	26.3	25.4	25.4	26.8	25.9	26
		DDDs / package	13.6	13.3	13.3	13.5	14.4	14.2	14.1	15	13.8	14.6
		Packages / patient	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.9	1.8
J01XX05	Methenamine	DDDs / patient	220.4	221.6	222.9	233.1	237.5	239.9	227.2	234.1	242.4	242.6
		DDDs / package	44.9	45.2	44.6	49	50.1	50	50	50	50	48.9
		Packages / patient	4.9	4.9	5	4.8	4.7	4.8	4.5	4.7	4.8	5
J01	Antibacterial agents for systemic use (total)	DDDs / patient	16.4	17	17.5	17.9	17.3	18.9	19.2	19.6	19.4	20.6
		DDDs / package	7.9	8.1	8.3	8.7	8.9	9.1	9.3	9.3	9.3	9.7
		Packages / patient	2.1	2.1	2.1	2	1.9	2.1	2.1	2.1	2.1	2.1

a) From the 2012 edition of the Anatomical Therapeutic Chemical (ATC) classification system

Table A5.5. Activity in somatic hospitals, Denmark

DANMAP 2012

Region	No. bed-days somatic hospitals[a]	No. admissions somatic hospitals[a]
The Capital Region of Denmark	1,570,308	462,157
The Sealand Region	636,795	221,339
Region of Southern Denmark	850,261	255,730
Central Denmark Region	784,102	260,116
North Denmark Region	453,086	117,229
Denmark[b]	4,294,552	1,316,571

Source: The National Board of Health (www.sst.dk)

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

b) Compared to 2011 no. bed-days have increased by 4.7% and no. admissions have decreased by 0.2%

Table A6.1. Distribution of MICs and resistance (%) in Salmonella spp. *from pigs (n=374), Denmark*

DANMAP 2012

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	40.6	[35.6-45.8]								59.4				1.6	39.0						
Chloramphenicol	4.5	[2.7-7.2]								0.3	11.5	79.9	3.7		0.8	3.7					
Florfenicol	3.2	[1.7-5.5]								1.3	63.6	30.2	1.6	1.9		1.3					
Ampicillin	30.7	[26.1-35.7]							51.3	17.1	0.3	0.5			30.7						
Ceftiofur	0	[0-1.0]						32.6	66.3	1.1											
Cefotaxime	0	[0-1.0]				92.5	7.5														
Trimethoprim	8.8	[6.2-12.2]							91.2						8.8						
Sulfonamide	36.4	[31.5-41.5]													61.2	2.4				36.4	
Streptomycin	37.2	[32.3-42.3]										30.5	32.4	5.1	2.9	3.7	25.4				
Gentamicin	2.9	[1.5-5.2]						87.4	9.1	0.5			1.1	1.9							
Neomycin	2.1	[0.9-4.2]								94.4	3.5	0.5			1.6						
Apramycin	2.1	[0.9-4.2]									95.2	2.7			2.1						
Ciprofloxacin	0	[0-1.0]	13.9	83.4	2.7																
Nalidixic acid	0	[0-1.0]									91.4	8.0	0.5								
Colistin	1.1	[0.3-2.7]							69.3	29.7	1.1										
Spectinomycin	11.0	[8.0-14.6]											2.9	75.9	10.2	1.9	1.9	7.2			

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 10.2 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 spp. *from Danish pork (n=120), Denmark*

DANMAP 2012

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	33.3	[25.0-42.5]								64.2	2.5			0.8	32.5						
Chloramphenicol	2.5	[0.5-7.1]								0.8	18.3	75.8	2.5		0.8	1.7					
Florfenicol	1.7	[0.2-5.9]								6.7	66.7	25.0		0.8		0.8					
Ampicillin	28.3	[20.5-37.3]							50.8	20.0	0.8				28.3						
Cefotaxime	0	[0-3.0]				90.8	9.2														
Ceftiofur	0	[0-3.0]						36.7	60.8	2.5											
Trimethoprim	6.7	[2.9-12.7]							92.5	0.8					6.7						
Sulfonamide	35.0	[26.5-44.2]													61.7	3.3				35.0	
Streptomycin	34.2	[25.8-43.4]										40.0	25.8	2.5		2.5	29.2				
Gentamicin	0.8	[0.02-4.6]						94.2	5.0					0.8							
Neomycin	1.7	[0.2-5.9]								97.5	0.8				1.7						
Apramycin	0	[0-3.0]									96.7	3.3									
Ciprofloxacin	0	[0-3.0]	17.5	76.7	5.8																
Nalidixic acid	0	[0-3.0]									90.8	8.3	0.8								
Colistin	1.7	[0.2-5.9]							61.7	36.7	1.7										
Spectinomycin	8.3	[4.1-14.8]											0.8	82.5	8.3	0.8	1.7	5.8			

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 10.2 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=144), Denmark*

DANMAP 2012

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	65.3	[56.9-73.0]								34.7				4.2	61.1						
Chloramphenicol	9.0	[4.9-14.9]									10.4	77.1	3.5			9.0					
Florfenicol	7.6	[3.9-13.3]								0.7	77.1	12.5	2.1	4.9		2.8					
Ampicillin	65.3	[56.9-73.0]							25.0	9.0	0.7				65.3						
Ceftiofur	0	[0-2.5]						45.8	51.4	2.8											
Cefotaxime	0	[0-2.5]				93.8	6.3														
Trimethoprim	5.6	[2.4-10.7]							94.4						5.6						
Sulfonamide	67.4	[59.1-74.9]													32.6					67.4	
Streptomycin	67.4	[59.1-74.9]										20.1	12.5	1.4	5.6	3.5	56.9				
Gentamicin	4.9	[2.0-9.8]						82.6	12.5				2.1	2.8							
Neomycin	2.8	[0.8-7.0]								93.8	3.5	0.7			2.1						
Apramycin	4.9	[2.0-9.8]									93.1	2.1			4.9						
Ciprofloxacin	0	[0-2.5]	3.5	90.3	6.3																
Nalidixic acid	0	[0-2.5]									81.9	16.7	1.4								
Colistin	0	[0-2.5]							77.1	22.9											
Spectinomycin	13.2	[8.1-19.8]												67.4	19.4		0.7	12.5			

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 10.2 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 A6.4. Distribution of MICs and resistance (%) in Salmonella Typhimurium *from Danish pork (n=41), Denmark*

DANMAP 2012

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	51.2	[35.1-67.1]								46.3	2.4				51.2						
Chloramphenicol	2.4	[0.06-12.9]									22.0	73.2	2.4			2.4					
Florfenicol	2.4	[0.06-12.9]								7.3	78.0	12.2				2.4					
Ampicillin	56.1	[39.7-71.5]							26.8	14.6	2.4				56.1						
Cefotaxime	0	[0-8.6]				85.4	14.6														
Ceftiofur	0	[0-8.6]						48.8	46.3	4.9											
Trimethoprim	4.9	[0.6-16.5]							92.7	2.4					4.9						
Sulfonamide	61.0	[44.5-75.8]													39.0					61.0	
Streptomycin	58.5	[42.1-73.7]										26.8	14.6				58.5				
Gentamicin	0	[0-8.6]						97.6	2.4												
Neomycin	0	[0-8.6]								100											
Apramycin	0	[0-8.6]									95.1	4.9									
Ciprofloxacin	0	[0-8.6]	4.9	90.2	4.9																
Nalidixic acid	0	[0-8.6]									90.2	7.3	2.4								
Colistin	0	[0-8.6]							58.5	41.5											
Spectinomycin	2.4	[0.06-12.9]												78.0	19.5			2.4			

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 10.2 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 reported as domestic sporadic (n=177), domestic outbreak related (n=48), associated with travel abroad (n=59) and of unknown origin (n=127), Denmark*

DANMAP 2012

Antimicrobial agent	Origin	% 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	>1024
Tetracycline	Domestic sporadic	54.2	[46.6-61.7]								42.9	2.8			54.2						
	Domestic outbreak	91.7	[80.0-97.7]								8.3				91.7						
	Travel abroad reported	72.9	[59.7-83.6]								22.0	5.1			72.9						
	Unknown origin	63.8	[54.8-72.1]								35.4	0.8			63.8						
Chloramphenicol	Domestic sporadic	9.0	[5.3-14.3]									4.0	80.2	6.8		9.0					
	Domestic outbreak	0	[0-7.4]										95.8	4.2							
	Travel abroad reported	20.3	[11.0-32.8]									5.1	72.9	1.7		20.3					
	Unknown origin	11.0	[6.2-17.8]									5.5	81.9	1.6		11.0					
Florfenicol	Domestic sporadic	4.0	[1.6-8.0]								0.6	67.8	24.3	3.4	0.6	3.4					
	Domestic outbreak	0	[0-7.4]									79.2	20.8								
	Travel abroad reported	18.6	[9.7-30.9]								1.7	71.2	8.5		10.2	8.5					
	Unknown origin	5.5	[2.2-11.0]								1.6	68.5	22.8	1.6	2.4	3.1					
Ampicillin	Domestic sporadic	57.6	[50.0-65.0]							26.0	13.0	3.4			57.6						
	Domestic outbreak	91.7	[80.0-97.7]							6.3	2.1				91.7						
	Travel abroad reported	71.2	[57.9-82.2]							11.9	16.9				71.2						
	Unknown origin	60.6	[51.6-69.2]							23.6	13.4	2.4			60.6						
Cefotaxime	Domestic sporadic	1.1	[0.1-4.0]				87.6	9.0	2.3			1.1									
	Domestic outbreak	0	[0-7.4]				95.8	4.2													
	Travel abroad reported	8.5	[2.8-18.7]				88.1	3.4		1.7	1.7	5.1									
	Unknown origin	2.4	[0.5-6.7]				93.7	3.9				2.4									
Ceftiofur	Domestic sporadic	1.1	[0.1-4.0]						64.4	29.9	4.5		1.1								
	Domestic outbreak	0	[0-7.4]						77.1	22.9											
	Travel abroad reported	5.1	[1.1-14.1]						59.3	35.6			5.1								
	Unknown origin	2.4	[0.5-6.7]						58.3	37.8	1.6		2.4								
Trimethoprim	Domestic sporadic	5.6	[2.7-10.1]							91.5	2.8				5.6						
	Domestic outbreak	0	[0-7.4]							95.8	4.2										
	Travel abroad reported	11.9	[4.9-22.9]							88.1					11.9						
	Unknown origin	9.4	[5.0-15.9]							90.6					9.4						
Sulfonamide	Domestic sporadic	65.0	[57.5-72.0]													32.2	2.8			65.0	
	Domestic outbreak	91.7	[80.0-97.7]													8.3				91.7	
	Travel abroad reported	71.2	[57.9-82.2]													27.1	1.7			71.2	
	Unknown origin	63.8	[54.8-72.1]													33.1	3.1			63.8	
Streptomycin	Domestic sporadic	62.1	[54.6-69.3]										20.3	17.5	4.0	2.3	55.9				
	Domestic outbreak	93.8	[82.8-98.7]											6.3	2.1		91.7				
	Travel abroad reported	71.2	[57.9-82.2]										11.9	16.9	5.1	5.1	61.0				
	Unknown origin	59.8	[50.8-68.4]										16.5	23.6	3.1	3.9	52.8				
Gentamicin	Domestic sporadic	2.3	[0.6-5.7]						79.1	16.9	1.7			2.3							
	Domestic outbreak	0	[0-7.4]						89.6	8.3	2.1										
	Travel abroad reported	6.8	[1.9-16.5]						76.3	16.9				6.8							
	Unknown origin	2.4	[0.5-6.7]						82.7	11.8	3.1			2.4							
Neomycin	Domestic sporadic	1.7	[0.4-4.9]								95.5	2.8			1.7						
	Domestic outbreak	0	[0-7.4]								97.9	2.1									
	Travel abroad reported	1.7	[0.04-9.1]								86.4	11.9			1.7						
	Unknown origin	2.4	[0.5-6.7]								94.5	3.1			2.4						
Apramycin	Domestic sporadic	1.1	[0.1-4.0]									94.4	4.5		1.1						
	Domestic outbreak	0	[0-7.4]									93.8	6.3								
	Travel abroad reported	0	[0-6.1]									84.7	13.6	1.7							
	Unknown origin	0	[0-2.9]									94.5	5.5								
Ciprofloxacin	Domestic sporadic	2.3	[0.6-5.7]			79.7	18.1	0.6	0.6	1.1											
	Domestic outbreak	0	[0-7.4]			97.9	2.1														
	Travel abroad reported	23.7	[13.6-36.6]	1.7		69.5	5.1	3.4	5.1	10.2	5.1										
	Unknown origin	6.3	[2.8-12.0]	0.8		83.5	9.4		3.9	2.4											
Nalidixic acid	Domestic sporadic	1.1	[0.1-4.0]									48.0	43.5	7.3	0.6	0.6					
	Domestic outbreak	0	[0-7.4]									72.9	27.1								
	Travel abroad reported	13.6	[6.0-25.0]									47.5	33.9	5.1	1.7	11.9					
	Unknown origin	4.7	[1.8-10.0]									56.7	37.0	1.6		4.7					
Colistin	Domestic sporadic	1.1	[0.1-4.0]							72.3	26.6	1.1									
	Domestic outbreak	0	[0-7.4]							97.9	2.1										
	Travel abroad reported	1.7	[0.04-9.1]							64.4	33.9		1.7								
	Unknown origin	0.8	[0.02-4.3]							72.4	26.8		0.8								
Spectinomycin	Domestic sporadic	7.9	[4.4-12.9]											4.0	85.3	2.8		7.9			
	Domestic outbreak	0	[0-7.4]											2.1	85.4	12.5					
	Travel abroad reported	16.9	[8.4-29.0]											1.7	78.0	3.4		16.9			
	Unknown origin	11.0	[6.2-17.8]											2.4	81.9	4.7		11.0			

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 10.2 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=41) and cattle (n=89), Denmark*

DANMAP 2012

Antimicrobial agent	Animal species	% Resistant	95% Confidence interval	Distribution (%) of MICs												
				0.06	0.125	0.25	0.5	1	2	4	8	16	32	64	128	>128
Tetracycline	Broilers	14.6	[5.6-29.2]			53.7	29.3	2.4					14.6			
	Cattle	1.1	[0.03-6.1]			51.7	46.1	1.1	1.1							
Chloramphenicol	Broilers	0	[0-8.6]						2.4	85.4	9.8	2.4				
	Cattle	0	[0-4.1]						22.5	75.3	2.2					
Erythromycin	Broilers	0	[0-8.6]				4.9	22.0	61.0	12.2						
	Cattle	1.1	[0.03-6.1]				2.2	36.0	50.6	10.1	1.1					
Streptomycin	Broilers	0	[0-8.6]					92.7	7.3							
	Cattle	0	[0-4.1]					69.7	30.3							
Gentamicin	Broilers	0	[0-8.6]			46.3	53.7									
	Cattle	0	[0-4.1]		9.0	58.4	32.6									
Ciprofloxacin	Broilers	14.6	[5.6-29.2]	9.8	48.8	26.8					14.6					
	Cattle	15.7	[8.9-25.0]	11.2	65.2	7.9		1.1			14.6					
Nalidixic acid	Broilers	14.6	[5.6-29.2]							53.7	29.3	2.4			14.6	
	Cattle	15.7	[8.9-25.0]						7.9	55.1	20.2	1.1			15.7	

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 10.2 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=66; imported n=26), Denmark*

DANMAP 2012

Antimicrobial agent	Origin	% Resistant	95% Confidence interval	Distribution (%) of MICs												
				0.06	0.125	0.25	0.5	1	2	4	8	16	32	64	128	>128
Tetracycline	Danish	15.2	[7.5-26.1]			50.0	28.8	6.1				1.5	13.6			
	Imported	57.7	[36.9-76.6]			26.9	3.8	11.5	3.8				53.8			
Chloramphenicol	Danish	0	[0-5.4]						22.7	68.2	7.6	1.5				
	Imported	0	[0-13.2]						23.1	34.6	26.9	15.4				
Erythromycin	Danish	0	[0-5.4]				6.1	24.2	51.5	18.2						
	Imported	3.8	[0.1-19.6]				3.8	23.1	57.7	11.5				3.8		
Streptomycin	Danish	0	[0-5.4]					77.3	22.7							
	Imported	0	[0-13.2]					100								
Gentamicin	Danish	0	[0-5.4]		9.1	68.2	22.7									
	Imported	0	[0-13.2]		26.9	57.7	15.4									
Ciprofloxacin	Danish	28.8	[18.3-41.3]	6.1	42.4	21.2	1.5				28.8					
	Imported	46.2	[26.6-66.6]	3.8	26.9	7.7	15.4				46.2					
Nalidixic acid	Danish	28.8	[18.3-41.3]						1.5	47.0	22.7				28.8	
	Imported	46.2	[26.6-66.6]							19.2	23.1	11.5			46.2	

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 10.2 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 A6.8. Distribution of MICs and resistance (%) in Campylobacter jejuni *from human cases reported as domestic sporadic (n=80) and associated with travel abroad (n=46), Denmark*

DANMAP 2012

Antimicrobial agent	Origin	% Resistant	95% Confidence interval	Distribution (%) of MICs												
				0.06	0.125	0.25	0.5	1	2	4	8	16	32	64	128	>128
Tetracycline	Domestically acquired	20.0	[11.9-30.4]			67.5	10.0	2.5				1.3	18.8			
	Travel abroad reported	52.2	[36.9-67.1]			34.8	8.7	4.3	2.2				50.0			
Chloramphenicol	Domestically acquired	0	[0-4.5]						77.5	20.0	2.5					
	Travel abroad reported	0	[0-7.7]						54.3	26.1	8.7	10.9				
Erythromycin	Domestically acquired	1.2	[0.03-6.8]				55.0	33.8	10.0					1.3		
	Travel abroad reported	2.2	[0.06-11.5]				45.7	23.9	26.1	2.2				2.2		
Streptomycin	Domestically acquired	5.0	[1.4-12.3]					92.5	2.5			1.3	3.8			
	Travel abroad reported	8.7	[2.4-20.8]					91.3			2.2	2.2	4.3			
Gentamicin	Domestically acquired	2.5	[0.3-8.7]		50.0	40.0	7.5			1.3		1.3				
	Travel abroad reported	4.3	[0.5-14.8]		52.2	39.1	4.3			2.2			2.2			
Ciprofloxacin	Domestically acquired	35.0	[24.7-46.5]	30.0	32.5	1.3	1.3		1.3	1.3	32.5					
	Travel abroad reported	80.4	[66.1-90.6]	4.3	15.2					4.3	76.1					
Nalidixic acid	Domestically acquired	36.2	[25.8-47.8]						13.8	47.5	2.5			1.3	35.0	
	Travel abroad reported	80.4	[66.1-90.6]						2.2	15.2	2.2			2.2	78.3	

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 10.2 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 A6.9. Distribution of MICs and resistance (%) in Campylobacter coli *from pigs (n=103), Denmark*

DANMAP 2012

Antimicrobial agent	% Resistant	95% Confidence interval	Distribution (%) of MICs											
			0.06	0.125	0.25	0.5	1	2	4	8	16	32	64	>64
Tetracycline	14.6	[8.4-22.9]			17.5	34.0	27.2	6.8	2.9	1.9	9.7			
Chloramphenicol	1.0	[0.02-5.3]						2.9	40.8	43.7	11.7	1.0		
Erythromycin	6.8	[2.8-13.5]				9.7	18.4	34.0	26.2	4.9		6.8		
Streptomycin	56.3	[46.2-66.1]					15.5	25.2	2.9	1.0	55.3			
Gentamicin	0	[0-3.5]		8.7	28.2	55.3	7.8							
Ciprofloxacin	11.7	[6.2-19.5]	18.4	38.8	28.2	2.9			11.7					
Nalidixic acid	16.5	[9.9-25.1]						1.0	24.3	46.6	11.7	4.9	11.7	

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 10.2 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 faecium *from broilers (n=107) and pigs (n=112), Denmark*

DANMAP 2012

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	4096	>4096
Tetracycline	Broilers	7.5	[3.3-14.2]							92.5				0.9		6.5							
	Pigs	62.5	[52.9-71.5]							37.5					1.8	60.7							
Tigecycline	Broilers	0	[0-3.4]		4.7	60.7	31.8	2.8															
	Pigs	0	[0-3.2]		13.4	67.9	15.2	3.6															
Chloramphenicol	Broilers	0	[0-3.4]								0.9	9.3	85.0	3.7	0.9								
	Pigs	0	[0-3.2]									4.5	87.5	3.6	4.5								
Ampicillin	Broilers	0.9	[0.02-5.1]								92.5	6.5	0.9										
	Pigs	12.5	[7.0-20.1]								36.6	50.9	8.9		1.8	1.8							
Penicillin	Broilers	1.9	[0.2-6.6]								34.6	43.0	15.0	5.6	1.9								
	Pigs	19.6	[12.7-28.2]								10.7	14.3	11.6	43.8	16.1	3.6							
Erythromycin	Broilers	14.0	[8.1-22.1]						14.0	29.0	27.1	15.9	8.4	1.9		3.7							
	Pigs	24.1	[16.5-33.1]						9.8	14.3	44.6	7.1				24.1							
Quinupristin/dalfopristin	Broilers	0.9	[0.02-5.1]						0.9	53.3	16.8	28.0		0.9									
	Pigs	11.6	[6.3-19.0]							17.0	5.4	66.1	11.6										
Streptomycin	Broilers	3.7	[1.0-9.3]													94.4	1.9			0.9	0.9	1.9	
	Pigs	42.0	[32.7-51.7]													55.4	2.7	0.9		3.6	12.5	25.0	
Gentamicin	Broilers	0	[0-3.4]											96.3	3.7								
	Pigs	1.8	[0.2-6.3]											95.5	2.7		0.9			0.9			
Kanamycin	Broilers	0	[0-3.4]														85.0	14.0		0.9			
	Pigs	21.4	[14.2-30.2]														38.4	38.4	1.8			21.4	
Ciprofloxacin	Broilers	0	[0-3.4]						1.9	20.6	50.5	25.2	1.9										
	Pigs	0	[0-3.2]						31.3	25.9	25.0	12.5	5.4										
Vancomycin	Broilers	0	[0-3.4]							60.7	12.1	27.1											
	Pigs	0	[0-3.2]							85.7	8.9	5.4											
Teicoplanin	Broilers	0	[0-3.4]					51.4	47.7	0.9													
	Pigs	0	[0-3.2]					67.0	31.3	1.8													
Linezolid	Broilers	0	[0-3.4]							2.8	72.0	25.2											
	Pigs	0	[0-3.2]							1.8	69.6	28.6											
Salinomycin	Broilers	71.0	[61.5-79.4]								5.6	23.4	71.0										
	Pigs	0	[0-3.2]								100												

Vertical solid lines indicate EUCAST epidemiological cut-off values except for ciprofloxacin, kanamycin, salinomycin and quinopristin/dalfopristin. EUCAST clinical breakpoints are indicated as vertical dotted lines if different from the corresponding epidemiological cut-off values. See table 10.2 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 faecium *from broiler meat (Danish n=128; imported n=82), beef (Danish n=15), pork (Danish n=32; imported n=22), Denmark*

DANMAP 2012

Antimicrobial agent	Food type	Origin	% 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	4096	>4096
Tetracycline	Broiler meat	Danish	7.0	[3.3-12.9]							93.0						7.0							
		Imported	40.2	[29.6-51.7]							57.3	2.4			1.2	3.7	35.4							
	Beef	Danish	6.7	[0.2-31.9]							93.3						6.7							
	Pork	Danish	3.1	[0.08-16.2]							96.9						3.1							
		Imported	13.6	[2.9-34.9]							86.4						13.6							
Tigecycline	Broiler meat	Danish	0	[0-2.8]		32.0	60.9	6.3	0.8															
		Imported	0	[0-4.4]		24.4	50.0	18.3	7.3															
	Beef	Danish	0	[0-21.8]		40.0	53.3	6.7																
	Pork	Danish	0	[0-10.9]		31.3	59.4	6.3	3.1															
		Imported	0	[0-15.4]		50.0	45.5	4.5																
Chloramphenicol	Broiler meat	Danish	0	[0-2.8]								1.6	10.9	83.6	2.3	1.6								
		Imported	0	[0-4.4]								1.2	6.1	78.0	8.5	6.1								
	Beef	Danish	0	[0-21.8]									13.3	86.7										
	Pork	Danish	0	[0-10.9]									12.5	84.4	3.1									
		Imported	0	[0-15.4]									45.5	54.5										
Ampicillin	Broiler meat	Danish	3.1	[0.9-7.8]								86.7	10.2	3.1										
		Imported	14.6	[7.8-24.2]								79.3	6.1	7.3		1.2	6.1							
	Beef	Danish	0	[0-21.8]								93.3	6.7											
	Pork	Danish	6.2	[0.8-20.8]								93.8		3.1		3.1								
		Imported	0	[0-15.4]								95.5	4.5											
Penicillin	Broiler meat	Danish	3.1	[0.9-7.8]								33.6	42.2	10.9	10.2	3.1								
		Imported	15.9	[8.7-25.6]								30.5	35.4	13.4	4.9	6.1	9.8							
	Beef	Danish	0	[0-21.8]								20.0	46.7	26.7	6.7									
	Pork	Danish	6.2	[0.8-20.8]								21.9	62.5	9.4		3.1	3.1							
		Imported	0	[0-15.4]								36.4	54.5	4.5	4.5									
Erythromycin	Broiler meat	Danish	7.8	[3.8-13.9]						24.2	28.9	28.1	10.9	4.7		0.8	2.3							
		Imported	61.0	[49.6-71.6]						7.3	14.6	14.6	2.4	2.4	2.4	1.2	54.9							
	Beef	Danish	13.3	[1.7-40.5]						26.7	13.3	46.7		6.7			6.7							
	Pork	Danish	3.1	[0.08-16.2]						6.3	21.9	18.8	50.0				3.1							
		Imported	0	[0-15.4]							27.3	54.5	18.2											
Quinupristin/dalfopristin	Broiler meat	Danish	0	[0-2.8]					1.6	3.1	54.7	15.6	25.0											
		Imported	15.9	[8.7-25.6]						2.4	18.3	15.9	47.6	14.6	1.2									
	Beef	Danish	0	[0-21.8]							46.7	13.3	40.0											
	Pork	Danish	0	[0-10.9]							53.1		46.9											
		Imported	0	[0-15.4]						9.1	22.7	4.5	63.6											
Streptomycin	Broiler meat	Danish	0	[0-2.8]													99.2	0.8						
		Imported	28.0	[18.7-39.1]													68.3	3.7			2.4	9.8	15.9	
	Beef	Danish	6.7	[0.2-31.9]													93.3						6.7	
	Pork	Danish	6.2	[0.8-20.8]													93.8					3.1	3.1	
		Imported	0	[0-15.4]													100							
Gentamicin	Broiler meat	Danish	0	[0-2.8]											98.4	1.6								
		Imported	1.2	[0.03-6.6]											97.6	1.2						1.2		
	Beef	Danish	0	[0-21.8]											86.7	13.3								
	Pork	Danish	0	[0-10.9]											87.5	12.5								
		Imported	0	[0-15.4]											100									
Kanamycin	Broiler meat	Danish	1.6	[0.2-5.5]														43.8	38.3	16.4		1.6		
		Imported	13.4	[6.9-22.7]														41.5	31.7	12.2	1.2		13.4	
	Beef	Danish	6.7	[0.2-31.9]														53.3	33.3	6.7			6.7	
	Pork	Danish	15.6	[5.3-32.8]														31.3	31.3	12.5	9.4	6.3	9.4	
		Imported	0	[0-15.4]														63.6	22.7	13.6				
Ciprofloxacin	Broiler meat	Danish	0	[0-2.8]						3.1	21.9	54.7	17.2	3.1										
		Imported	1.2	[0.03-6.8]						8.8	11.3	37.5	36.3	5.0			1.3							
	Beef	Danish	0	[0-21.8]							33.3	53.3	13.3											
	Pork	Danish	0	[0-10.9]						56.3	18.8	25.0												
		Imported	0	[0-15.4]						13.6	54.5	31.8												
Vancomycin	Broiler meat	Danish	0	[0-2.8]							63.3	20.3	16.4											
		Imported	0	[0-4.4]							80.5	9.8	9.8											
	Beef	Danish	0	[0-21.8]							80.0	13.3	6.7											
	Pork	Danish	0	[0-10.9]							96.9		3.1											
		Imported	0	[0-15.4]							100													
Teicoplanin	Broiler meat	Danish	0	[0-2.8]					48.4	50.0	1.6													
		Imported	0	[0-4.4]					45.1	53.7	1.2													
	Beef	Danish	0	[0-21.8]					6.7	66.7	26.7													
	Pork	Danish	0	[0-10.9]					3.1	59.4	37.5													
		Imported	0	[0-15.4]					4.5	59.1	36.4													
Linezolid	Broiler meat	Danish	0	[0-2.8]							1.6	78.1	20.3											
		Imported	0	[0-4.4]							3.7	86.6	9.8											
	Beef	Danish	0	[0-21.8]							6.7	66.7	26.7											
	Pork	Danish	0	[0-10.9]								50.0	50.0											
		Imported	0	[0-15.4]								86.4	13.6											
Salinomycin	Broiler meat	Danish	54.7	[45.7-63.5]								20.3	25.0	54.7										
		Imported	29.3	[19.7-40.4]								30.5	40.2	29.3										
	Beef	Danish	0	[0-21.8]								100												
	Pork	Danish	0	[0-10.9]								100												
		Imported	0	[0-15.4]								95.5	4.5											

Vertical solid lines indicate EUCAST epidemiological cut-off values except for ciprofloxacin, kanamycin, salinomycin and quinopristin/dalfopristin. EUCAST clinical breakpoints are indicated as vertical dotted lines if different from the corresponding epidemiological cut-off values. See table 10.2 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 faecalis *from broilers (n=100) and pigs (n=119), Denmark*

DANMAP 2012

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	4096	>4096
Tetracycline	Broilers	43.0	[33.1-53.3]							57.0					15.0	28.0							
	Pigs	86.6	[79.1-92.1]							13.4				0.8	5.0	80.7							
Tigecycline	Broilers	0	[0-3.6]			11.0	65.0	24.0															
	Pigs	0	[0-3.1]			13.4	69.7	16.8															
Chloramphenicol	Broilers	1.0	[0.03-5.4]									1.0	97.0	1.0		1.0							
	Pigs	21.0	[14.1-29.4]										73.1	5.9		3.4	17.6						
Ampicillin	Broilers	0	[0-3.6]								100												
	Pigs	0	[0-3.1]								100												
Penicillin	Broilers	0	[0-3.6]								16.0	82.0	2.0										
	Pigs	0	[0-3.1]								10.1	88.2	1.7										
Erythromycin	Broilers	20.0	[12.7-29.2]						55.0	10.0	15.0		1.0	1.0		18.0							
	Pigs	56.3	[46.9-65.4]						37.8	3.4	2.5					56.3							
Streptomycin	Broilers	3.0	[0.6-8.5]													56.0	41.0					3.0	
	Pigs	34.5	[26.0-43.7]													11.8	52.9	0.8		0.8		33.6	
Gentamicin	Broilers	0	[0-3.6]											96.0	4.0								
	Pigs	9.2	[4.7-15.9]											89.9	0.8				0.8	3.4	5.0		
Kanamycin	Broilers	2.0	[0.2-7.0]														97.0		1.0			2.0	
	Pigs	26.1	[18.4-34.9]														73.9					26.1	
Ciprofloxacin	Broilers	0	[0-3.6]						9.0	73.0	18.0												
	Pigs	0	[0-3.1]						11.8	74.8	13.4												
Vancomycin	Broilers	0	[0-3.6]							29.0	58.0	13.0											
	Pigs	0	[0-3.1]							28.6	58.0	13.4											
Teicoplanin	Broilers	0	[0-3.6]					94.0	6.0														
	Pigs	0	[0-3.1]					96.6	3.4														
Linezolid	Broilers	0	[0-3.6]							4.0	96.0												
	Pigs	0	[0-3.1]							5.9	92.4	1.7											
Salinomycin	Broilers	0	[0-3.6]								83.0	17.0											
	Pigs	0	[0-3.1]								100												

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 10.2 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 Enterococcus faecalis *from broiler meat (Danish n=75; imported n=93), beef (Danish n=38; imported n=43), pork (Danish n=104; imported n=108), Denmark*

DANMAP 2012

Antimicrobial agent	Food type	Origin	% 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	4096	>4096
Tetracycline	Broiler meat	Danish	46.7	[35.1-58.6]							53.3					20.0	26.7							
		Imported	68.8	[58.4-78.0]							31.2					19.4	49.5							
	Beef	Danish	13.2	[4.4-28.1]							86.8						13.2							
		Imported	32.6	[19.1-48.5]							67.4				2.3	2.3	27.9							
	Pork	Danish	10.6	[5.4-18.1]							89.4					1.0	9.6							
		Imported	46.3	[36.7-56.2]							53.7					4.6	41.7							
Tigecycline	Broiler meat	Danish	0	[0-4.8]		4.0	49.3	41.3	5.3															
		Imported	0	[0-3.9]		2.2	38.7	46.2	12.9															
	Beef	Danish	0	[0-9.3]		2.6	57.9	36.8	2.6															
		Imported	0	[0-8.2]	2.3	4.7	67.4	20.9	4.7															
	Pork	Danish	0	[0-3.5]	1.0	2.9	61.5	27.9	6.7															
		Imported	0	[0-3.4]	1.9	4.6	41.7	47.2	4.6															
Chloramphenico	Broiler meat	Danish	2.7	[0.3-9.3]									97.3				2.7							
		Imported	3.2	[0.7-9.1]								2.2	91.4	3.2			3.2							
	Beef	Danish	2.6	[0.07-13.8]									97.4				2.6							
		Imported	2.3	[0.06-12.3]								4.7	90.7			2.3	2.3							
	Pork	Danish	2.9	[0.6-8.2]								4.8	92.3				1.0	1.9						
		Imported	0.9	[0.02-5.1]								3.7	95.4				0.9							
Ampicillin	Broiler meat	Danish	0	[0-4.8]								100												
		Imported	0	[0-3.9]								100												
	Beef	Danish	0	[0-9.3]								100												
		Imported	0	[0-8.2]								100												
	Pork	Danish	0	[0-3.5]								100												
		Imported	0	[0-3.4]								100												
Penicillin	Broiler meat	Danish	0	[0-4.8]								4.0	94.7	1.3										
		Imported	0	[0-3.9]								6.5	92.5	1.1										
	Beef	Danish	0	[0-9.3]								5.3	94.7											
		Imported	0	[0-8.2]								18.6	81.4											
	Pork	Danish	0	[0-3.5]								13.5	85.6	1.0										
		Imported	0	[0-3.4]								29.6	69.4	0.9										
Erythromycin	Broiler meat	Danish	21.3	[12.7-32.3]						42.7	17.3	18.7		1.3	1.3		18.7							
		Imported	53.8	[43.1-64.2]						24.7	11.8	9.7		1.1	3.2	1.1	48.4							
	Beef	Danish	2.6	[0.07-13.8]						28.9	44.7	23.7					2.6							
		Imported	7.0	[1.5-19.1]						53.5	11.6	27.9					7.0							
	Pork	Danish	4.8	[1.6-10.9]						48.1	27.9	18.3	1.0				4.8							
		Imported	6.5	[2.6-12.9]						55.6	25.0	13.0					6.5							
Streptomycin	Broiler meat	Danish	8.0	[3.0-16.6]													26.7	62.7	2.7				8.0	
		Imported	33.3	[23.9-43.9]													19.4	46.2	1.1			2.2	31.2	
	Beef	Danish	5.3	[0.6-17.7]													23.7	68.4	2.6				5.3	
		Imported	9.3	[2.6-22.1]													55.8	34.9					9.3	
	Pork	Danish	3.8	[1.1-9.6]													49.0	46.2	1.0				3.8	
		Imported	4.6	[1.5-10.5]													56.5	38.9					4.6	
Gentamicin	Broiler meat	Danish	0	[0-4.8]											100									
		Imported	1.1	[0.03-5.8]											98.9							1.1		
	Beef	Danish	0	[0-9.3]											100									
		Imported	0	[0-8.2]											97.7	2.3								
	Pork	Danish	1.0	[0.02-5.2]											99.0							1.0		
		Imported	2.8	[0.6-7.9]											97.2						1.9	0.9		
Kanamycin	Broiler meat	Danish	2.7	[0.3-9.3]														97.3					2.7	
		Imported	29.0	[20.1-39.4]														71.0					29.0	
	Beef	Danish	2.6	[0.07-13.8]														97.4					2.6	
		Imported	4.7	[0.6-15.8]														95.3					4.7	
	Pork	Danish	2.9	[0.6-8.2]														97.1					2.9	
		Imported	4.6	[1.5-10.5]														95.4					4.6	
Ciprofloxacin	Broiler meat	Danish	0	[0-4.8]						18.7	62.7	18.7												
		Imported	2.2	[0.3-7.6]						5.4	73.1	19.4					2.2							
	Beef	Danish	0	[0-9.3]						5.3	73.7	21.1												
		Imported	0	[0-8.2]						4.7	65.1	30.2												
	Pork	Danish	0	[0-3.5]						9.6	78.8	11.5												
		Imported	0	[0-3.4]						14.8	68.5	15.7	0.9											
Vancomycin	Broiler meat	Danish	0	[0-4.8]							37.3	44.0	18.7											
		Imported	0	[0-3.9]							33.3	47.3	19.4											
	Beef	Danish	0	[0-9.3]							34.2	52.6	13.2											
		Imported	0	[0-8.2]							27.9	53.5	18.6											
	Pork	Danish	0	[0-3.5]							39.4	49.0	11.5											
		Imported	0	[0-3.4]							36.1	53.7	10.2											
Teicoplanin	Broiler meat	Danish	0	[0-4.8]					96.0	4.0														
		Imported	0	[0-3.9]					96.8	3.2														
	Beef	Danish	0	[0-9.3]					100															
		Imported	0	[0-8.2]					97.7	2.3														
	Pork	Danish	0	[0-3.5]					93.3	6.7														
		Imported	0	[0-3.4]					97.2	2.8														
Linezolid	Broiler meat	Danish	0	[0-4.8]							1.3	98.7												
		Imported	0	[0-3.9]							6.5	93.5												
	Beef	Danish	0	[0-9.3]							2.6	97.4												
		Imported	0	[0-8.2]								97.7	2.3											
	Pork	Danish	0	[0-3.5]								99.0	1.0											
		Imported	0	[0-3.4]							0.9	99.1												
Salinomycin	Broiler meat	Danish	1.3	[0.03-7.2]								80.0	18.7	1.3										
		Imported	1.1	[0.03-5.8]								77.4	21.5	1.1										
	Beef	Danish	0	[0-9.3]								100												
		Imported	0	[0-8.2]								100												
	Pork	Danish	0	[0-3.5]								100												
		Imported	0	[0-3.4]								99.1	0.9											

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 10.2 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 A7.5. Distribution of MICs and resistance (%) in indicator Escherichia coli *from broilers (n=115), cattle (n=98) and pigs (n=152), Denmark*

DANMAP 2012

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	7.8	[3.6-14.3]								90.4	1.7				7.8						
	Cattle	7.1	[2.9-14.2]								91.8	1.0				7.1						
	Pigs	35.5	[27.9-43.7]								62.5	2.0			0.7	34.9						
Chloramphenicol	Broilers	0	[0-3.2]								3.5	38.3	57.4	0.9								
	Cattle	2.0	[0.2-7.2]									37.8	58.2	2.0			2.0					
	Pigs	3.3	[1.1-7.5]								3.3	36.8	54.6	2.0	1.3	1.3	0.7					
Florfenicol	Broilers	0	[0-3.2]								4.3	50.4	45.2									
	Cattle	2.0	[0.2-7.2]								1.0	43.9	52.0	1.0			2.0					
	Pigs	0.7	[0.02-3.6]								3.9	46.1	46.1	3.3			0.7					
Ampicillin	Broilers	20.0	[13.1-28.5]							4.3	38.3	35.7	1.7			20.0						
	Cattle	5.1	[1.7-11.5]							2.0	34.7	56.1	2.0			5.1						
	Pigs	28.9	[21.9-36.8]							4.6	34.2	28.9	3.3			28.9						
Cefotaxime	Broilers	1.7	[0.2-6.1]				98.3						1.7									
	Cattle	0	[0-3.7]				99.0	1.0														
	Pigs	0.7	[0.02-3.6]				99.3				0.7											
Ceftiofur	Broilers	1.7	[0.2-6.1]						97.4	0.9			1.7									
	Cattle	0	[0-3.7]						100													
	Pigs	0.7	[0.02-3.6]						98.7	0.7		0.7										
Trimethoprim	Broilers	10.4	[5.5-17.5]							87.8	1.7					10.4						
	Cattle	2.0	[0.2-7.2]							98.0						2.0						
	Pigs	22.4	[16.0-29.8]							77.6						22.4						
Sulfonamide	Broilers	20.9	[13.9-29.4]													79.1					20.9	
	Cattle	6.1	[2.3-12.9]													93.9					6.1	
	Pigs	34.9	[27.3-43.0]													65.1					34.9	
Streptomycin	Broilers	11.3	[6.2-18.6]										85.2	3.5	0.9	7.0	0.9	2.6				
	Cattle	6.1	[2.3-12.9]										92.9	1.0		2.0		4.1				
	Pigs	42.1	[34.2-50.4]										48.7	9.2	4.6	5.3	13.2	19.1				
Gentamicin	Broilers	0	[0-3.2]						49.6	48.7	1.7											
	Cattle	0	[0-3.7]						57.1	39.8	3.1											
	Pigs	0.7	[0.02-3.6]						42.1	53.9	3.3			0.7								
Neomycin	Broilers	0.9	[0.02-4.7]								78.3	20.9				0.9						
	Cattle	0	[0-3.7]								95.9	4.1										
	Pigs	3.3	[1.1-7.5]								79.6	16.4	0.7		1.3	2.0						
Apramycin	Broilers	0	[0-3.2]									82.6	16.5	0.9								
	Cattle	0	[0-3.7]									75.5	23.5	1.0								
	Pigs	0	[0-2.4]									67.1	30.3	2.6								
Ciprofloxacin	Broilers	7.8	[3.6-14.3]	46.1	46.1		0.9	5.2		0.9		0.9										
	Cattle	0	[0-3.7]	70.4	29.6																	
	Pigs	0.7	[0.02-3.6]	63.2	36.2			0.7														
Nalidixic acid	Broilers	7.8	[3.6-14.3]									91.3	0.9			2.6	5.2					
	Cattle	0	[0-3.7]									99.0	1.0									
	Pigs	0.7	[0.02-3.6]									99.3					0.7					
Colistin	Broilers	0	[0-3.2]							98.3	1.7											
	Cattle	0	[0-3.7]							99.0	1.0											
	Pigs	0	[0-2.4]							100												
Spectinomycin	Broilers	4.3	[1.4-9.9]											86.1	9.6		4.3					
	Cattle	1.0	[0.03-5.6]											83.7	13.3	2.0		1.0				
	Pigs	14.5	[9.3-21.1]											59.9	17.1	8.6	3.3	5.3	5.9			

Vertical solid lines indicate EUCAST epidemiological cut-off values except for apramycin. EUCAST clinical breakpoints are indicated as vertical dotted lines if different from the corresponding epidemiological cut-off values. See table 10.2 for furth

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 A7.6. Distribution of MICs and resistance (%) in indicator Escherichia coli *from broiler meat (Danish n=197; imported n=166), beef (Danish n=46; imported n=52), pork (Danish n=73; imported n=53), Denmark*

DANMAP 2012

Antimicrobial agent	Food type	Origin	% 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	Broiler meat	Danish	11.7	[7.5-17.0]								84.8	3.6				11.7						
		Imported	51.2	[43.3-59.0]								47.6	1.2				51.2						
	Beef	Danish	6.5	[1.4-17.9]								93.5					6.5						
		Imported	9.6	[3.2-21.0]								86.5	1.9	1.9	1.9		7.7						
	Pork	Danish	27.4	[17.6-39.1]								72.6			1.4		26.0						
		Imported	56.6	[42.3-70.2]								41.5	1.9		3.8		52.8						
Chloramphenicol	Broiler meat	Danish	0.5	[0.01-2.8]								1.0	42.6	55.8			0.5						
		Imported	9.6	[5.6-15.2]								1.2	31.3	57.2	0.6	4.2	1.8	3.6					
	Beef	Danish	0	[0-7.7]									23.9	76.1									
		Imported	1.9	[0.05-10.3]									51.9	44.2	1.9		1.9						
	Pork	Danish	1.4	[0.03-7.4]									53.4	41.1	4.1		1.4						
		Imported	15.1	[6.7-27.6]								1.9	50.9	32.1		5.7	3.8	5.7					
Florfenicol	Broiler meat	Danish	0.5	[0.01-2.8]								5.6	59.9	34.0			0.5						
		Imported	1.2	[0.1-4.3]								2.4	57.2	35.5	3.6		1.2						
	Beef	Danish	0	[0-7.7]									45.7	54.3									
		Imported	1.9	[0.05-10.3]								3.8	51.9	42.3			1.9						
	Pork	Danish	0	[0-4.9]								8.2	49.3	42.5									
		Imported	1.9	[0.05-10.1]								11.3	49.1	35.8	1.9		1.9						
Ampicillin	Broiler meat	Danish	21.8	[16.3-28.3]							2.5	40.6	34.0	1.0			21.8						
		Imported	50.6	[42.7-58.4]							1.8	22.3	24.7	0.6			50.6						
	Beef	Danish	4.3	[0.5-14.8]							2.2	23.9	67.4	2.2			4.3						
		Imported	9.6	[3.2-21.0]							7.7	34.6	46.2	1.9			9.6						
	Pork	Danish	32.9	[22.3-44.9]							5.5	32.9	26.0	2.7		1.4	31.5						
		Imported	49.1	[35.1-63.2]								26.4	22.6	1.9	1.9	3.8	43.4						
Cefotaxime	Broiler meat	Danish	1.0	[0.1-3.6]				98.5	0.5					1.0									
		Imported	9.0	[5.1-14.5]				91.0			0.6	1.2	0.6	6.6									
	Beef	Danish	0	[0-7.7]				100															
		Imported	0	[0-6.8]				100															
	Pork	Danish	1.4	[0.03-7.4]				98.6						1.4									
		Imported	1.9	[0.05-10.1]				96.2	1.9					1.9									
Ceftiofur	Broiler meat	Danish	1.0	[0.1-3.6]						98.5	0.5			0.5	0.5								
		Imported	8.4	[4.7-13.7]						91.0	0.6	1.2		1.8	5.4								
	Beef	Danish	0	[0-7.7]						100													
		Imported	0	[0-6.8]						96.2	3.8												
	Pork	Danish	1.4	[0.03-7.4]						97.3	1.4				1.4								
		Imported	1.9	[0.05-10.1]						96.2	1.9				1.9								
Trimethoprim	Broiler meat	Danish	12.2	[8.0-17.6]							87.8						12.2						
		Imported	37.3	[30.0-45.2]							62.7						37.3						
	Beef	Danish	2.2	[0.06-11.5]							97.8						2.2						
		Imported	7.7	[2.1-18.5]							90.4	1.9					7.7						
	Pork	Danish	21.9	[13.1-33.1]							76.7	1.4					21.9						
		Imported	34.0	[21.5-48.3]							66.0					1.9	32.1						
Sulfonamide	Broiler meat	Danish	16.8	[11.8-22.7]													83.2			0.5		16.2	
		Imported	47.6	[39.8-55.5]													52.4					47.6	
	Beef	Danish	4.3	[0.5-14.8]													95.7					4.3	
		Imported	7.7	[2.1-18.5]													92.3					7.7	
	Pork	Danish	30.1	[19.9-42.0]													69.9					30.1	
		Imported	41.5	[28.1-55.9]													58.5					41.5	
Streptomycin	Broiler meat	Danish	8.1	[4.7-12.9]										84.8	7.1		1.5	4.1	2.5				
		Imported	31.3	[24.4-39.0]										59.0	9.6	3.6	3.6	3.6	20.5				
	Beef	Danish	4.3	[0.5-14.8]										87.0	8.7		2.2		2.2				
		Imported	7.7	[2.1-18.5]										88.5	3.8	1.9			5.8				
	Pork	Danish	35.6	[24.7-47.7]										56.2	8.2	4.1	8.2	8.2	15.1				
		Imported	45.3	[31.6-59.6]										47.2	7.5	3.8	13.2	11.3	17.0				
Gentamicin	Broiler meat	Danish	0	[0-1.9]						39.1	56.9	4.1											
		Imported	2.4	[0.7-6.1]						45.8	48.8	3.0			0.6	1.8							
	Beef	Danish	0	[0-7.7]						45.7	50.0	4.3											
		Imported	1.9	[0.05-10.3]						50.0	46.2	1.9				1.9							
	Pork	Danish	0	[0-4.9]						53.4	43.8	2.7											
		Imported	1.9	[0.05-10.1]						41.5	52.8	3.8				1.9							
Neomycin	Broiler meat	Danish	1.5	[0.3-4.4]								80.2	18.3		0.5		1.0						
		Imported	7.2	[3.8-12.3]								83.7	9.0		0.6	0.6	6.0						
	Beef	Danish	2.2	[0.06-11.5]								87.0	10.9				2.2						
		Imported	5.8	[1.2-15.9]								84.6	9.6			3.8	1.9						
	Pork	Danish	2.7	[0.3-9.5]								79.5	17.8				2.7						
		Imported	3.8	[0.5-13.0]								71.7	17.0	7.5		1.9	1.9						
Apramycin	Broiler meat	Danish	0	[0-1.9]									69.5	28.9	1.5								
		Imported	0.6	[0.02-3.3]									74.7	23.5	1.2		0.6						
	Beef	Danish	0	[0-7.7]									71.7	26.1	2.2								
		Imported	0	[0-6.8]									78.8	17.3	3.8								
	Pork	Danish	0	[0-4.9]									76.7	23.3									
		Imported	1.9	[0.05-10.1]									64.2	34.0			1.9						
Ciprofloxacin	Broiler meat	Danish	3.6	[1.4-7.2]	57.9	38.6			3.0					0.5									
		Imported	35.5	[28.3-43.3]	39.2	24.1	1.2	3.0	13.3	6.6	1.2	1.2	0.6	9.6									
	Beef	Danish	2.2	[0.06-11.5]	60.9	37.0								2.2									
		Imported	1.9	[0.05-10.3]	71.2	26.9								1.9									
	Pork	Danish	0	[0-4.9]	60.3	38.4	1.4																
		Imported	9.4	[3.1-20.7]	64.2	24.5	1.9	1.9	5.7					1.9									
Nalidixic acid	Broiler meat	Danish	3.6	[1.4-7.2]									96.4				1.0	2.5					
		Imported	35.5	[28.3-43.3]									64.5				3.6	31.9					
	Beef	Danish	2.2	[0.06-11.5]									95.7	2.2				2.2					
		Imported	1.9	[0.05-10.3]									98.1					1.9					
	Pork	Danish	0	[0-4.9]									95.9	4.1									
		Imported	5.7	[1.2-15.7]									92.5	1.9				5.7					
Colistin	Broiler meat	Danish	0.5	[0.01-2.8]							98.0	1.5		0.5									
		Imported	3.0	[1.0-6.9]							95.2	1.8		3.0									
	Beef	Danish	0	[0-7.7]							95.7	4.3											
		Imported	0	[0-6.8]							100												
	Pork	Danish	0	[0-4.9]							100												
		Imported	1.9	[0.05-10.1]							96.2	1.9	1.9										
Spectinomycin	Broiler meat	Danish	0.5	[0.01-2.8]											86.8	11.7	1.0		0.5				
		Imported	24.1	[17.8-31.3]											59.6	11.4	4.8	2.4	6.6	15.1			
	Beef	Danish	0	[0-7.7]											89.1	8.7	2.2						
		Imported	1.9	[0.05-10.3]											88.5	7.7	1.9			1.9			
	Pork	Danish	17.8	[9.8-28.5]											72.6	6.8	2.7	5.5	6.8	5.5			
		Imported	20.8	[10.8-34.1]											49.1	20.8	9.4	3.8	9.4	7.5			

Vertical solid lines indicate EUCAST epidemiological cut-off values except for apramycin. EUCAST clinical breakpoints are indicated as vertical dotted lines if different from the corresponding epidemiological cut-off values. See table 10.2 for furth

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 A9.1. Distribution of MICs and resistance (%) in Escherichia coli (O149) from diagnostic samples *from pigs (n=36), Denmark*

DANMAP 2012

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	77.8	[60.8-89.9]								19.4	2.8			16.7	61.1						
Chloramphenicol	11.1	[3.1-26.1]								11.1	75.0	2.8		5.6		5.6					
Florfenicol	2.8	[0.07-14.5]								30.6	58.3	8.3				2.8					
Ampicillin	41.7	[25.5-59.2]							11.1	41.7	5.6				41.7						
Cefotaxime	2.8	[0.07-14.5]				97.2						2.8									
Ceftiofur	2.8	[0.07-14.5]						97.2					2.8								
Trimethoprim	50.0	[32.9-67.1]							50.0						50.0						
Sulfonamide	75.0	[57.8-87.9]													25.0					75.0	
Streptomycin	72.2	[54.8-85.8]										19.4	8.3	2.8	19.4	25.0	25.0				
Gentamicin	5.6	[0.7-18.7]						91.7	2.8			2.8		2.8							
Neomycin	8.3	[1.8-22.5]								91.7				2.8	5.6						
Apramycin	5.6	[0.7-18.7]									91.7	2.8			5.6						
Ciprofloxacin	5.6	[0.7-18.7]	83.3	11.1			5.6														
Nalidixic acid	5.6	[0.7-18.7]									94.4					5.6					
Colistin	2.8	[0.07-14.5]							97.2				2.8								
Spectinomycin	44.4	[27.9-61.9]											27.8	8.3	19.4	11.1	2.8	30.6			

Vertical solid lines indicate EUCAST epidemiological cut-off values except for apramycin. EUCAST clinical breakpoints are indicated as vertical dotted lines if different from the corresponding epidemiological cut-off values. See table 10.2 for furth

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.