

Antibiotika-forbrug i landbruget og resistente infektioner hos mennesker

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L&F

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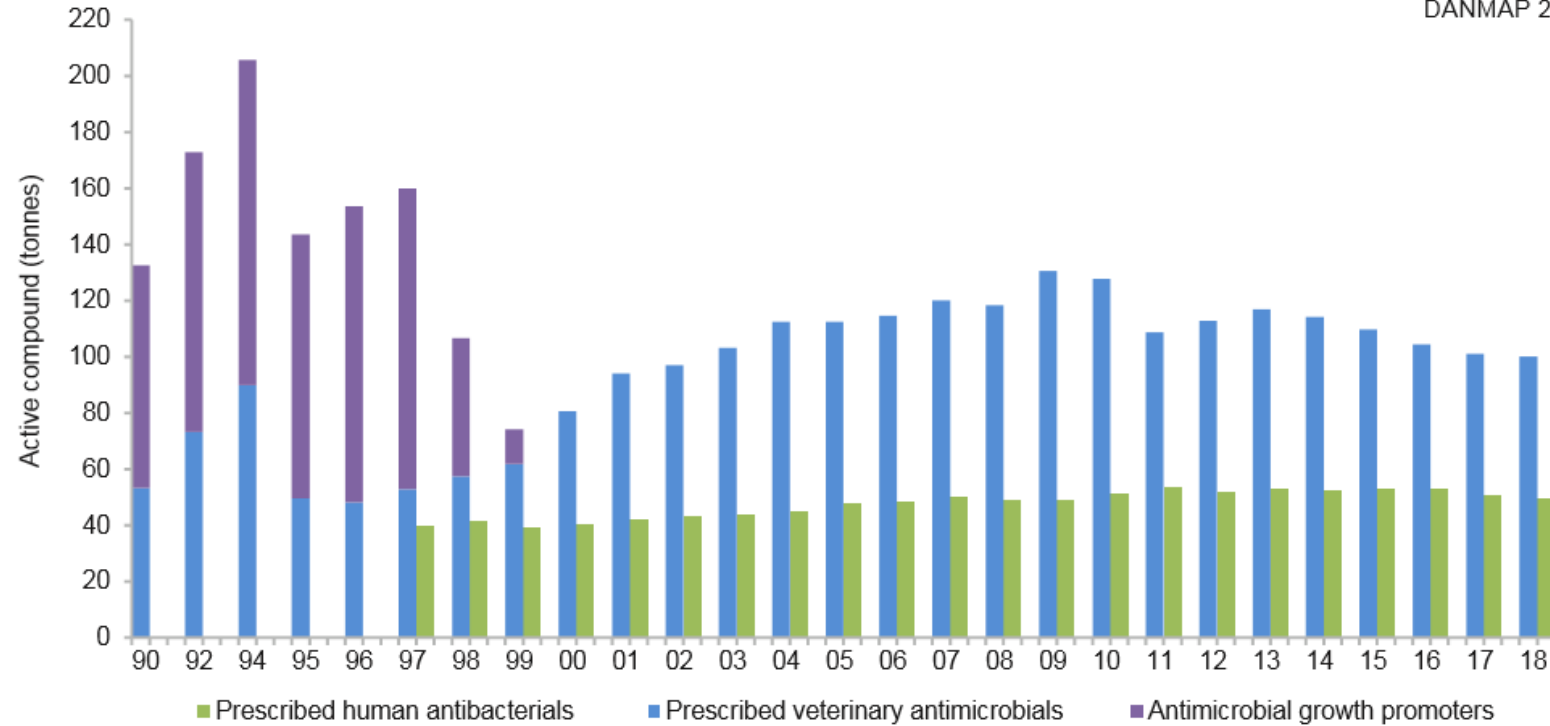


Antibiotika-forbrug

Antibiotikaforbrug i landbruget – det lange stræk

Figure 4.1 Prescribed antimicrobial agents for humans and all animal species, tonnes active compound, Denmark

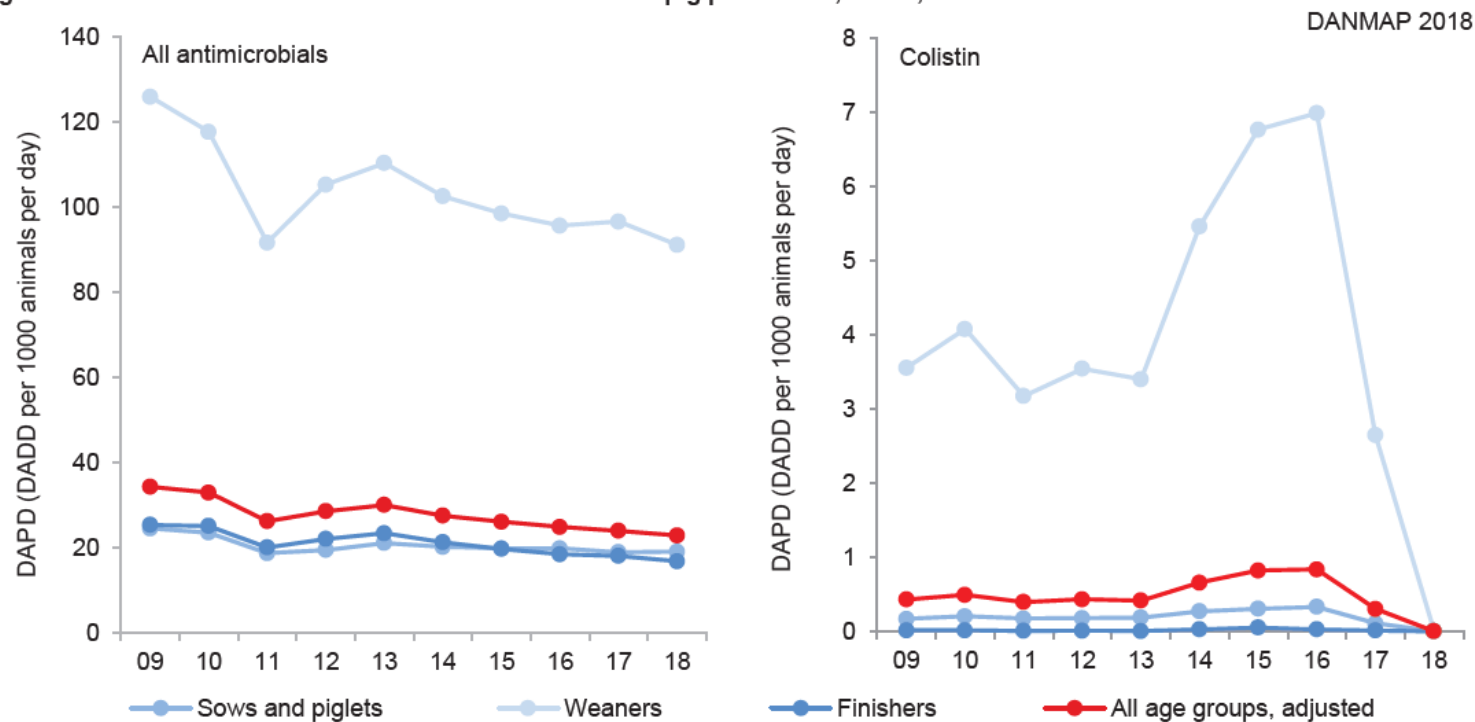
DANMAP 2018



Sources: Human therapeutics: The Danish Medicines Agency. Antimicrobials for animals: Data are based on reports from the pharmaceutical industry of total annual sales (until 2001), from the Federation of Danish pig producers and slaughterhouses (1994-1995), from the Danish Medicines Agency and Danish Plant Directorate (1996–2000) and since 2001 from VetStat. For DANMAP 2018, consumption data for 2004-2018 were extracted from VetStat on 3rd March 2019 and includes all antimicrobial agents registered for use in animals

Antibiotika-forbruget i svineproduktionen

Figure 4.3 Total antimicrobial use and use of colistin in the pig production, DAPD, Denmark



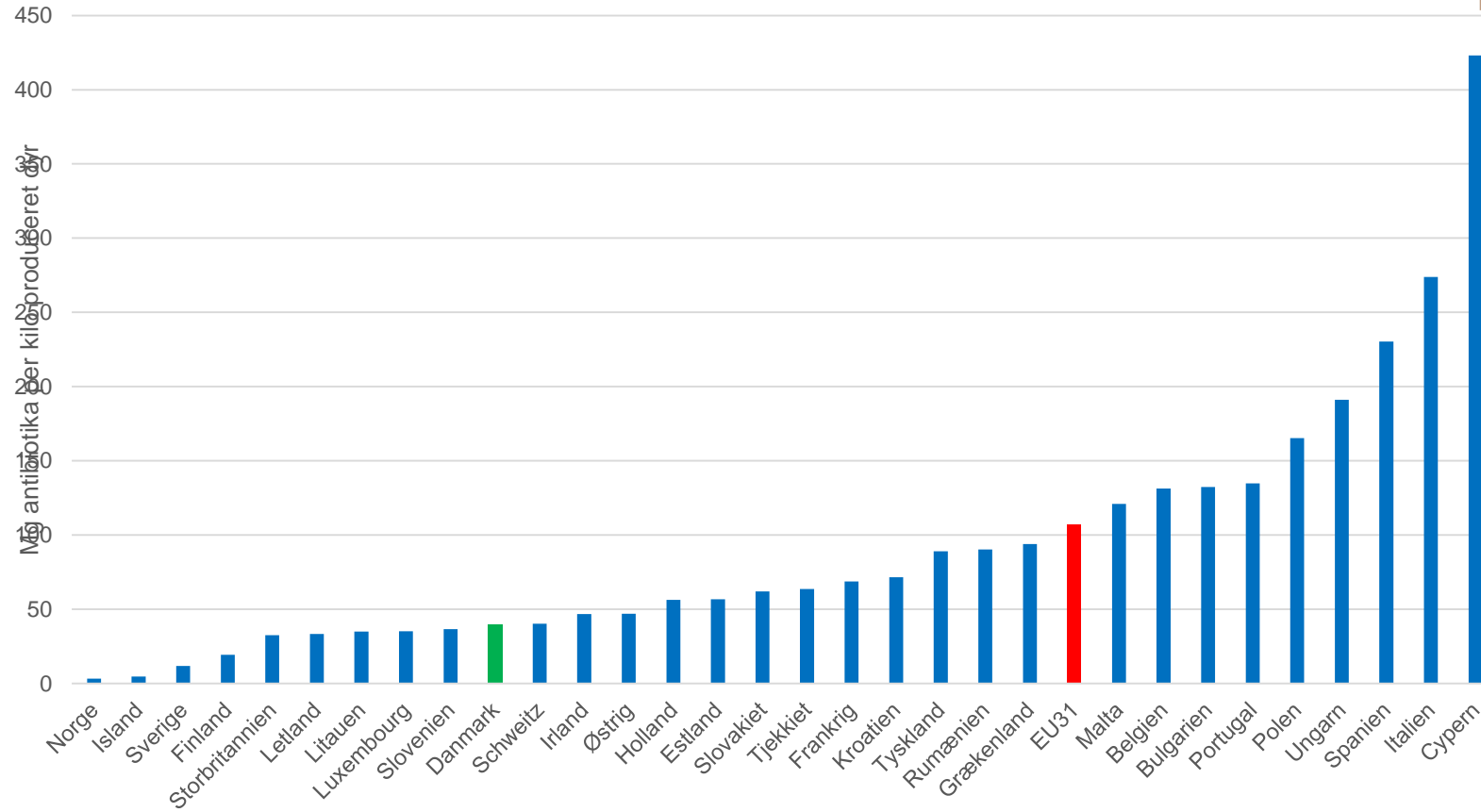
Note: Sows and piglets includes treatment in boars. DAPDs are calculated as the number of standard doses for one kg animal divided by the estimated live biomass in the age group of the total population (in tonnes). DAPDs for "all age groups" are adjusted for export of pigs at 30 kg (see text)

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ESVAC 2017 – antibiotic use in EU

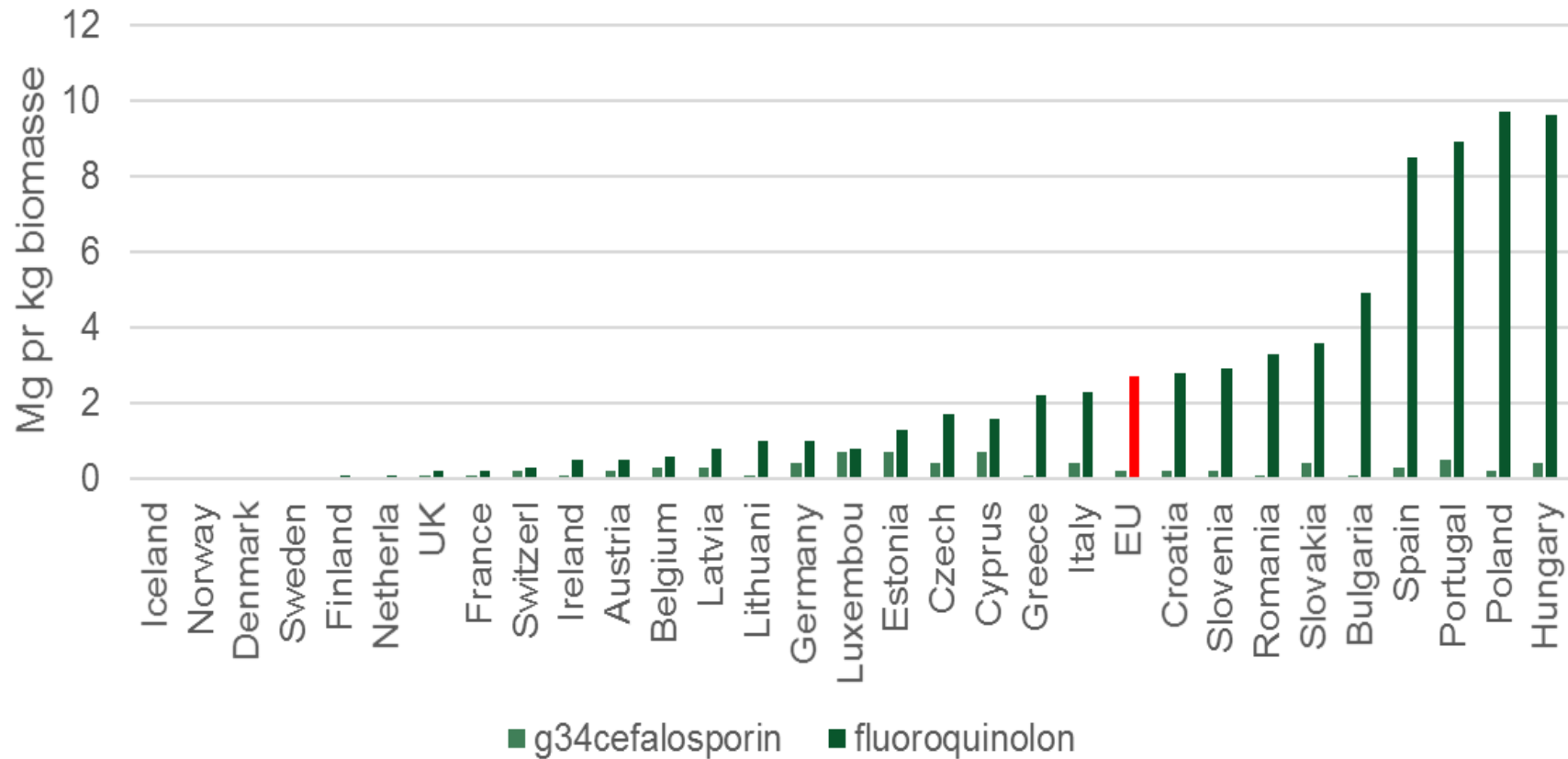
mg/PCU gris	2016
Danmark	44,1
Holland	43,6
Frankrig	104,4
UK	183,0
Tyskland	58,8



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ESVAC 2017 – 3rd and 4th gen cephalosporins and fluoroquinolones



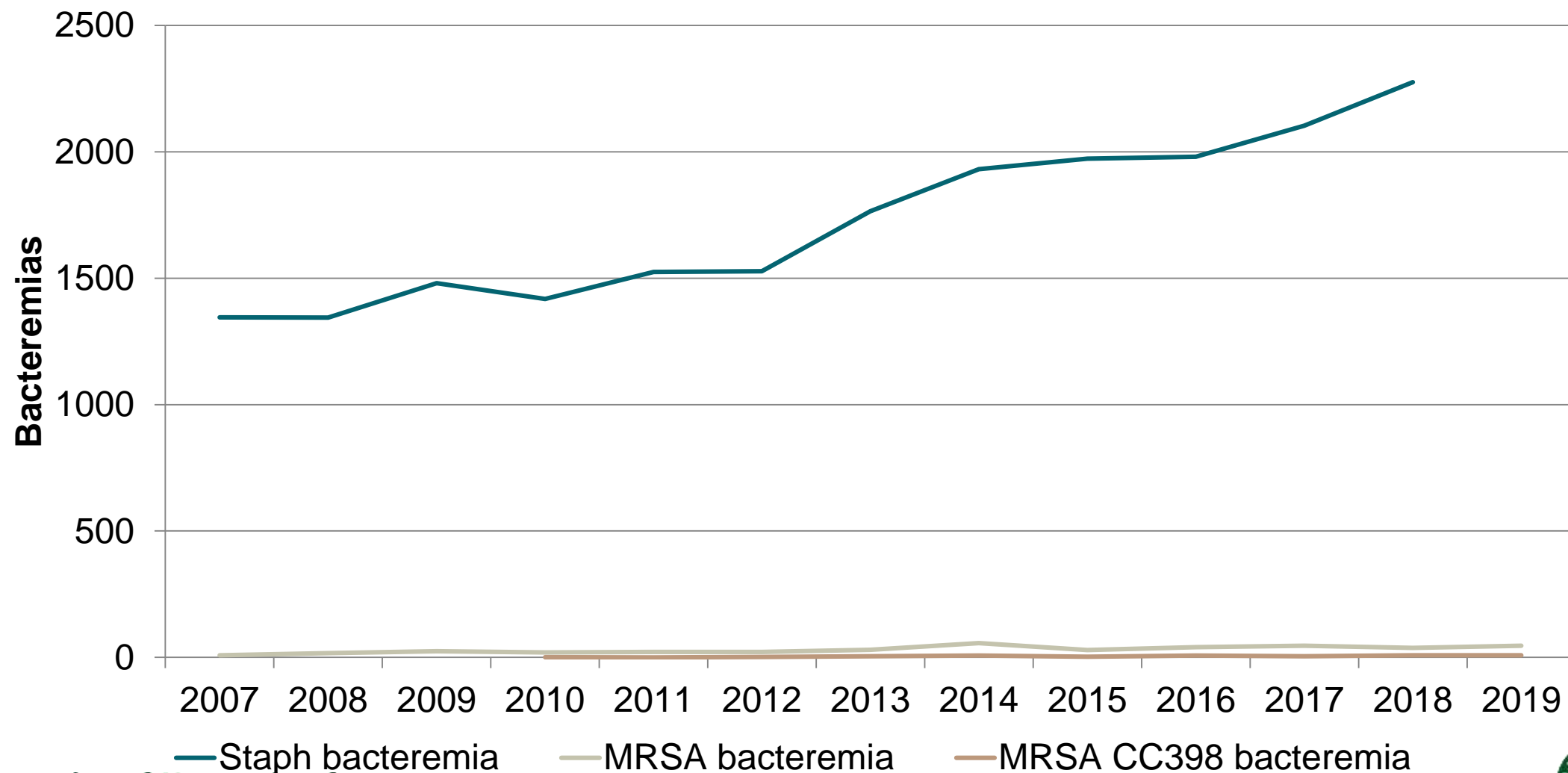
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Resistens og veterinært forbrug



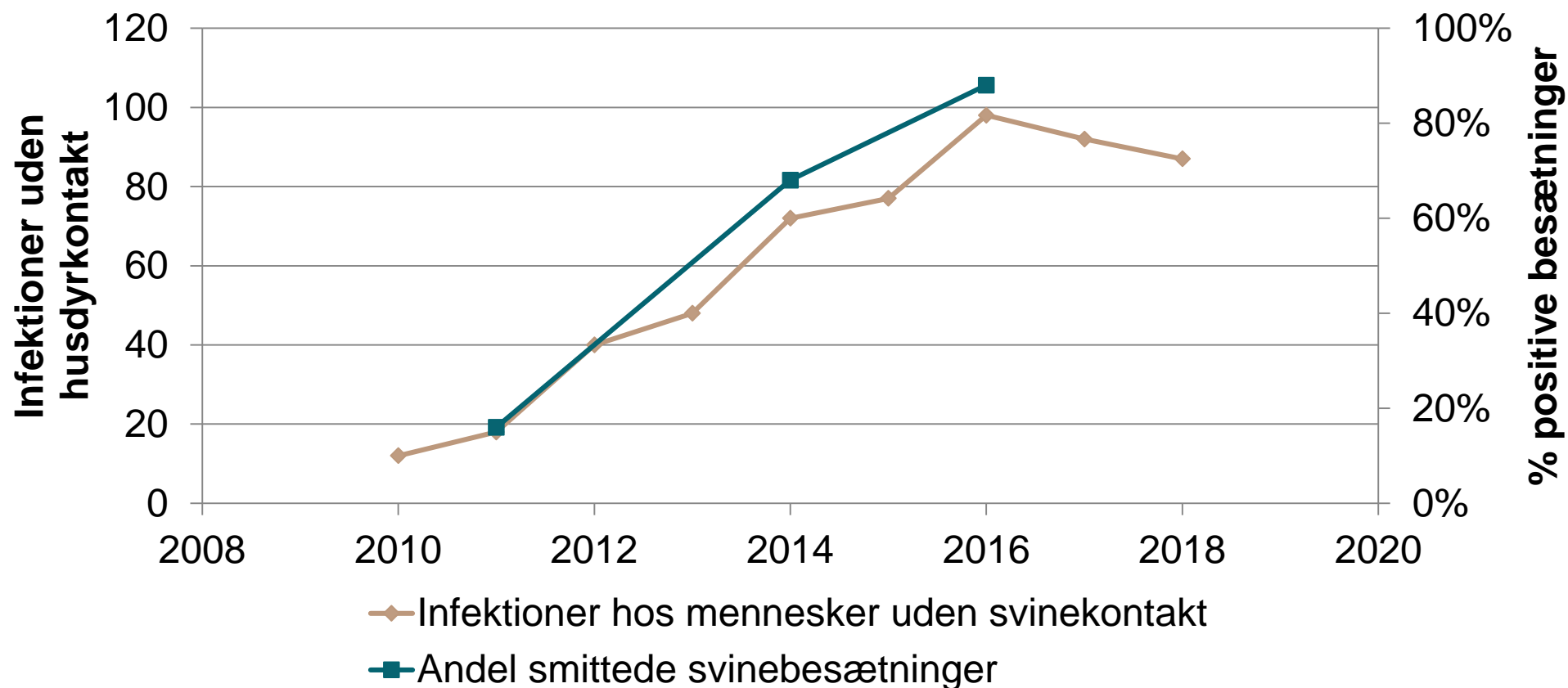
Blodforgiftninger med stafylokokker i Danmark



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Andel MRSA-positive besætninger og infektioner hos personer uden husdyrkontakt



Resistens-problemer hos mennesker i EU

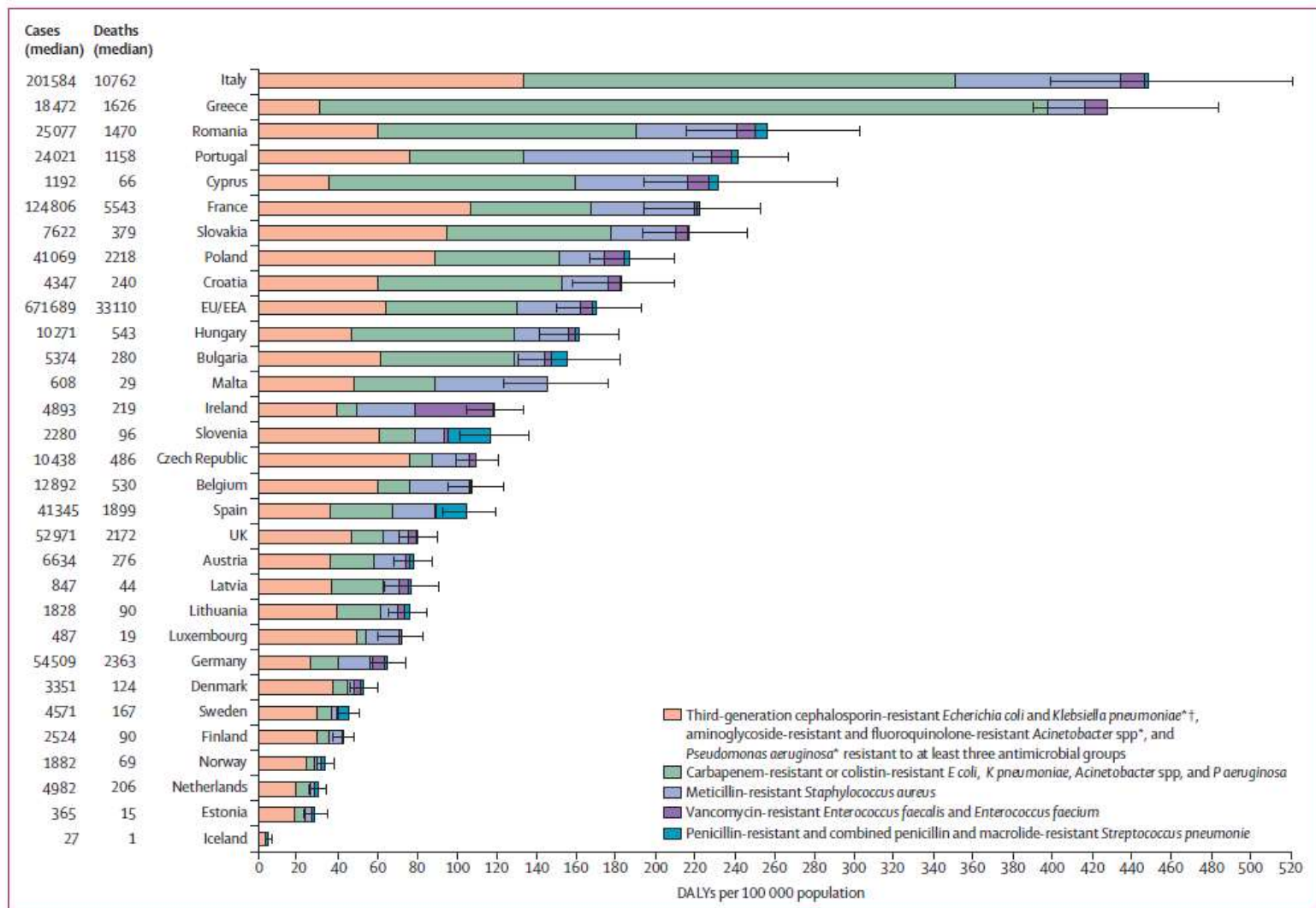
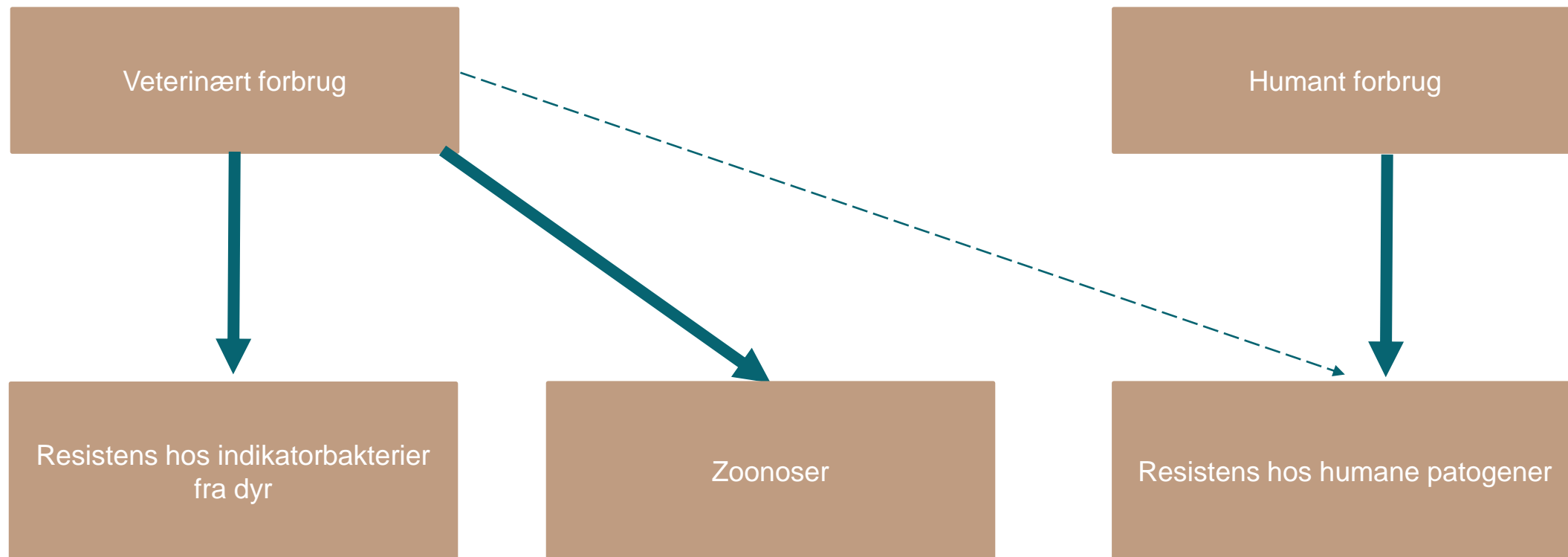


Figure 3: Burden of infections with antibiotic-resistant bacteria in DALYs, EU and European Economic Area, 2015

Error bars are 95% uncertainty intervals. Greece did not report data on *S pneumoniae* isolates to the European Antimicrobial Resistance Surveillance Network in 2015. DALY rates are age-standardised to limit the effect of demographic differences across countries; numbers of cases and deaths are not age-standardised. DALYs—disability-adjusted life-years. *Excludes those resistant to carbapenem or colistin. †In 2015, most of the third-generation cephalosporin-resistant *E. coli* (88.6%) and *K pneumoniae* (85.3%) isolates reported to the European Antimicrobial Resistance Surveillance Network produced an extended-spectrum β -lactamase.⁹

Sammenhænge og manglende sammenhænge



Zoonoser DK

Table 6.2 Resistance (%) in *Salmonella* Typhimurium isolates from pigs, pork and human cases, Denmark DANMAP 2018

Antimicrobial agent	Pigs		Human		Total
	Danish	Pork	Domestically acquired	Travel abroad reported	
	%	Danish %	%	%	%
Ampicillin	75	78	67	69	64
Azithromycin	0	5	<1	0	<1
Cefotaxime	0	0	<1	3	<1
Ceftazidime	0	0	<1	2	<1
Chloramphenicol	7	20	8	23	10
Ciprofloxacin	0	0	4	25	8
Colistin	0	0	1	2	2
Gentamicin	4	3	1	6	2
Meropenem	0	0	0	0	0
Nalidixic acid	0	0	2	11	4
Sulfonamide	82	80	66	63	62
Tetracycline	75	65	70	72	71
Tigecycline ^{a)}	0	3	1	3	2
Trimethoprim	4	33	10	22	10
Fully sensitive (%)	11	13	22	8	22
Number of isolates	28	40	146	65	305

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Serious infections (bacteriemia)

Pathogens 2015	Serious infections/ Deaths
Staph. aureus	1876/452
Coli	4561
Klebsiella	935
Pseudomonas	437
Strep. Pneum.	747
Enterococcus	690
Sum	9246 (app 2000 deaths)

Resistant infections (bacteremia)

Pathogens 2015	Serious infections/ Deaths	Resistant/ deaths
Staph. Aureus(MRSA)	1876/452	30/7
Coli(ESBL)	4561	342
Klebsiella(ESBL)	935	50
Pseudomonas(Carba)	437	20
Strep. Pneum.(penicillin)	747	35
Enterococcus(vanco)	690	22
Sum	9246 (app 2000 deaths)	489 (130- 170 deaths)

Contribution from farming

Pathogens 2015	Serious infections/ Deaths	Resistant/ deaths	From animals
Staph. Aureus(MRSA)	1876/452	30/7	3/1
Coli(ESBL)	4561	342	Meget lidt
Klebsiella(ESBL)	935	50	Endnu mindre
Pseudomonas(Carba)	437	20	0
Strep. Pneum.(penicillin)	747	35	0
Enterococcus(vanco)	690	22	Meget lidt
Sum	9246 (app 2000 deaths)	489 (130-170 deaths)	

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Opsummering

- Antibiotika-forbruget til husdyr/svin i Danmark har været faldende, både sammenlignet med for 25 år siden og for 10 år siden
- 3. og 4. gen cefalosporiner, fluoroquinoloner og colistin bruges ikke
- Zoonotiske bakterier af dansk oprindelse sjældent resistente overfor de vigtigste antibiotika
- LA-MRSA udgør op til 0,5 % af Stafylokok-bakteriæmierne – niveauet synes stabilt
- For øvrige humane resistens-problemer er andelen, der kan tilskrives forbrug af antibiotika i dansk husdyrproduktion meget lav