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TRENDS EN VOORKOMEN VAN ANTIBIOTICUM RESISTENTIE IN *SALMONELLA*, *CAMPYLOBACTER* EN *E. COLI* GEÏSOLEERD UIT VOEDING

AMCRA Webinar 22 juni 2020

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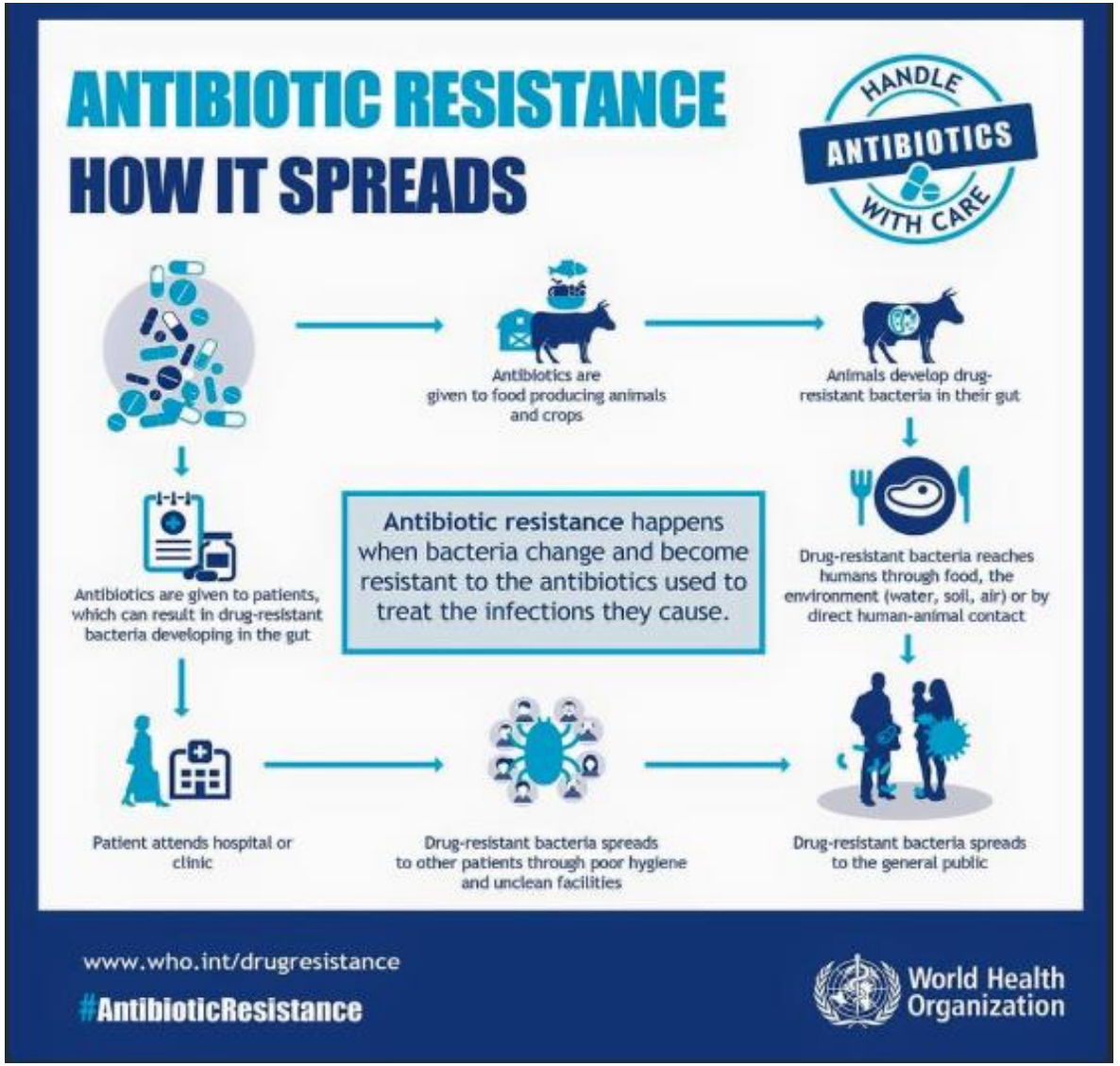
Hoe antibioticum resistentie zich verspreidt - de OH benadering



ECDC & EFSA – Bundeling van de krachten

Commission Implementing Decision 2013/652/EU (12 November 2013)

Animal / Food

- Poultry
  - Laying hens
  - Broilers
  - Turkeys*
- Pigs
- Calves* < 1 year of age

Food

- Meat
  - Beef
  - Pork
  - Broiler meat

Zoonotic bacteria

- *Salmonella* spp.
- *C. jejuni* / *C. coli*
- ESBL-/AmpC-/Carbapenemase-producing *Salmonella*

Indicator bacteria

- *E. coli*
- *E. faecalis* / *E. faecium*
- ESBL-/AmpC-/Carbapenemase-producing *E. coli*

* + 10,000 t/year

SCIENTIFIC REPORT

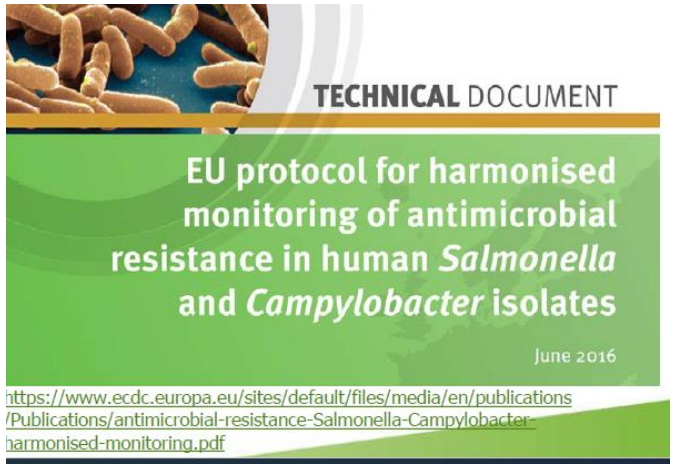
EFSA Journal

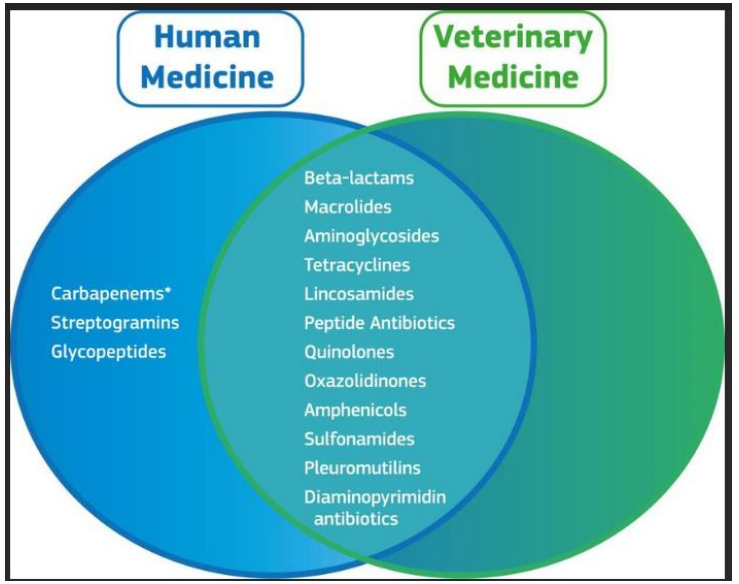
APPROVED: 31 January 2020

doi: 10.2903/j.efsa.2020.6007

The European Union Summary Report on Antimicrobial Resistance in zoonotic and indicator bacteria from humans, animals and food in 2017/2018

European Food Safety Authority and
European Centre for Disease Prevention and Control





SURVEILLANCE ANTIBIOTICUM PANELS

WHO Critically Important Antimicrobials for Human Medicine 6th revision

Advisory Group on Integrated Surveillance of Antimicrobial Resistance (AGISAR)
November 2018

Summary of categorization and prioritization of antimicrobials categorized as Critically Important, Highly Important and Important

	Antimicrobial class	Criterion / Prioritization factor (Yes = ●)				
	CRITICALLY IMPORTANT ANTIMICROBIALS	C1	C2	P1	P2	P3
	HIGHEST PRIORITY					
Highest Priority	*Cephalosporins (3rd, 4th and 5th generation)*	●	●	●	●	●
Highest Priority	*Glycopeptides*	●	●	●	●	●
Highest Priority	*Macrolides and ketolides*	●	●	●	●	●
Highest Priority	*Polymyxins*	●	●	●	●	●
Highest Priority	*Quinolones*	●	●	●	●	●
	HIGH PRIORITY					
	Aminoglycosides	●	●		●	●
	Ansamycins	●	●	●	●	
	Carbapenems and other penems	●	●	●	●	
	Glycylcyclines	●	●	●		
	Lipopeptides	●	●	●		
	Monobactams	●	●	●		
	Oxazolidinones	●	●	●		
	Penicillins (antipseudomonal)	●	●		●	
	Penicillins (aminopenicillins)	●	●		●	●
	Penicillins (aminopenicillins with ß-lactamase inhibitors)	●	●		●	●
	Phosphonic acid derivatives	●	●	●	●	
	Drugs used solely to treat tuberculosis / mycobacterial diseases	●	●	●	●	
	HIGHLY IMPORTANT ANTIMICROBIALS	C1	C2	P1	P2	P3

Critically Important Antimicrobials

C1 Criterion 1

The antimicrobial class is the sole, or one of limited available therapies, to treat serious bacterial infections in people.

C2 Criterion 2

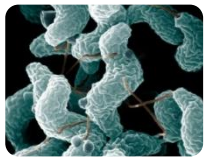
The antimicrobial class is used to treat infections in people caused by either: (1) bacteria that may be transmitted to humans from nonhuman sources, or (2) bacteria that may acquire resistance genes from nonhuman sources.

P1 Prioritization factor 1

Large number of people in the community or in certain high-risk populations (e.g. patients with serious infections in health care settings), who are affected by diseases for

European Commission
Directorate-General for Health and Food Safety (DG SANTE)

Antibioticum
Tetracycline
Nalidixic acid
Ciprofloxacin
Erythromycin
Gentamicin
Streptomycin



Antibioticum
Ampicillin
Cefotaxime
Ceftazidime
Meropenem
Nalidixic acid
Ciprofloxacin
Tetracycline
Colistin
Gentamicin
Trimethoprim
Sulfamethoxazole
Chloramphenicol
Azithromycin
Tigecycline

http://www.who.int/foodsafety/publications/CIAflyer_fr.pdf

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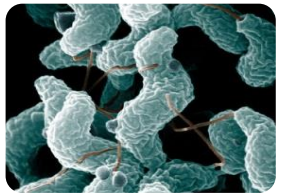
AMR in voeding : Surveillance programma's



Campylobacter spp.

- *C. coli* in pork (end in 2015)
- *C. jejuni* in poultry meat

- AMR Priority :
- Profile of resistance and emerging resistance to macrolides

Salmonella spp.

- *Salmonella* on broilers and laying hens National Control Plan (yearly).
- *Salmonella* from poultry neck skin (odd years)
- *Salmonella* in pork and bovine carcasses (even years)
- *Salmonella* in food and feed

- AMR Priority :
- ß-lactams and carbapenems R
- Colistin R
- Tigecycline R
- Co-resistance to CIA
- MDR

E.coli (ß-lactamase/Carbapenemase producing)

- Detection of ESBL:
  - *ESBL* in poultry meat (since 2011)
  - *ESBL* in pork meat (since 2013)
  - *ESBL* in beef meat (since 2013)
  - *ESBL* in fish (since 2015)
  - *ESBL* in milk (since 2017)
  - *ESBL* in fruits and vegetables (since 2019)

- AMR Priority :
- Carbapenems R
- Colistin R
- Tigecycline R
- Co-resistance to CIA
- MDR

•A•F•S•C•A•
Agence Fédérale pour la Sécurité de la Chaîne Alimentaire

European Commission
Directorate-General for Health and Food Safety (DG SANTE)

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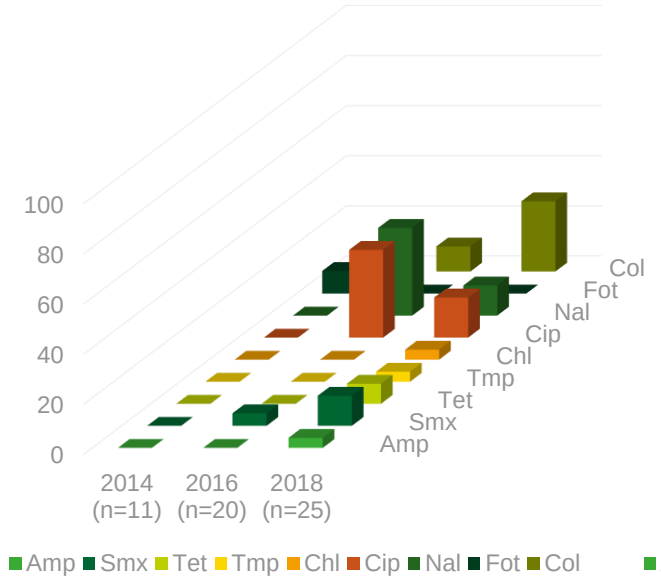
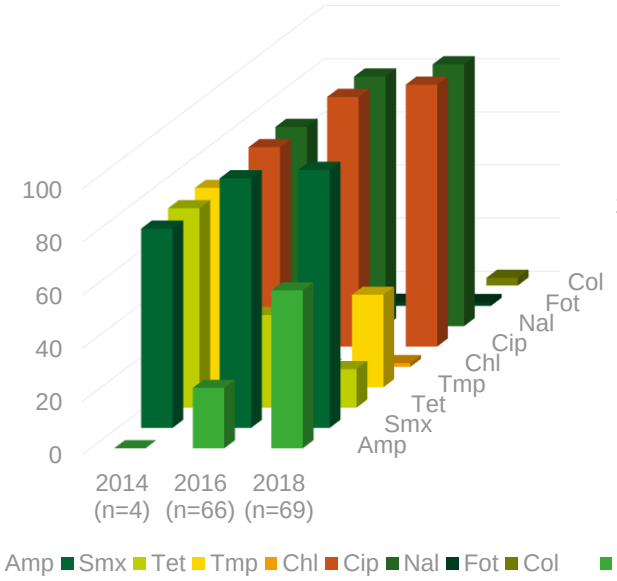
AMR in *Salmonella* spp. geïsoleerd van karkassen van vleeskippen (slachthuis)

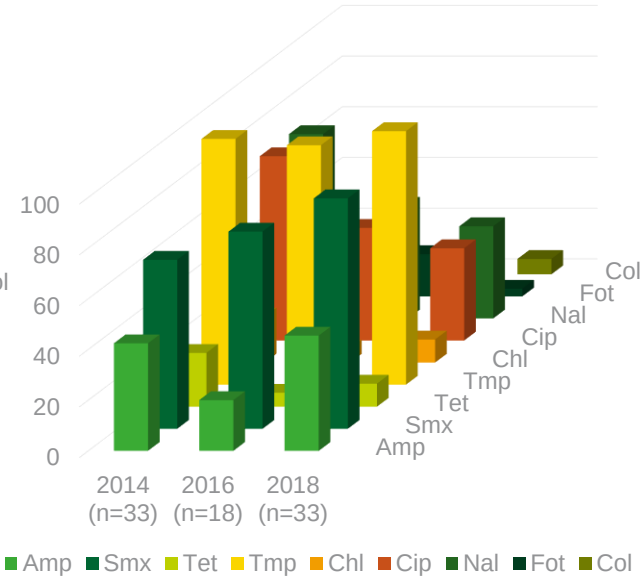
S. Enteritidis



S. Infantis



S. Paratyphi B



Trends 2014-2018		
↑ Col	↑ Amp, Tmp	↑ Smx, Col
↓ Cip	↓ Tet	↓ Cip Nal Fot
	= Cip, Nal, Smx	

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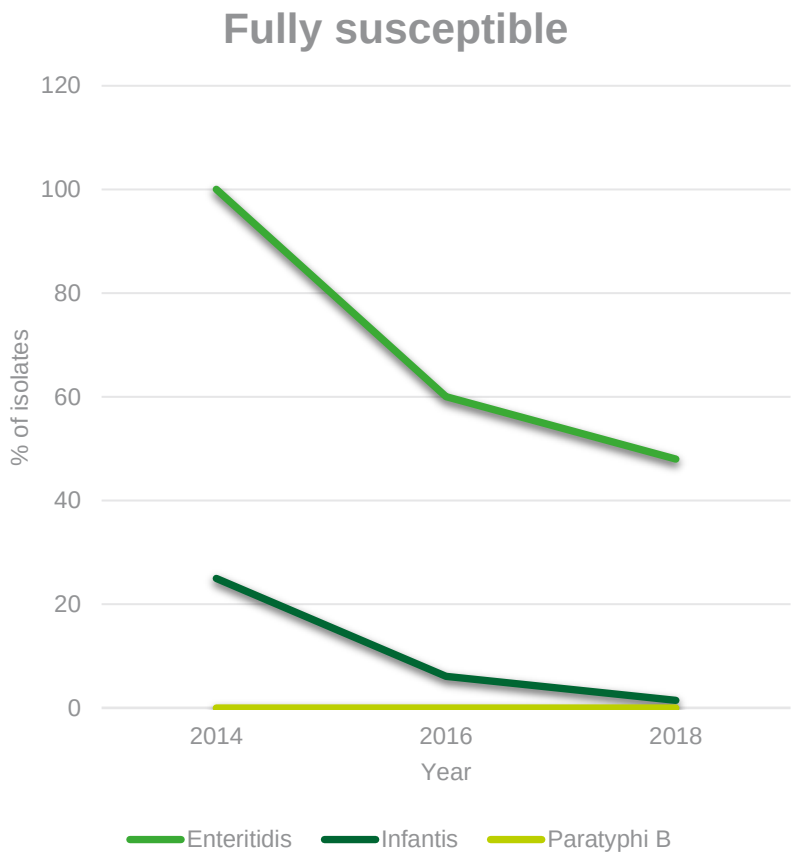
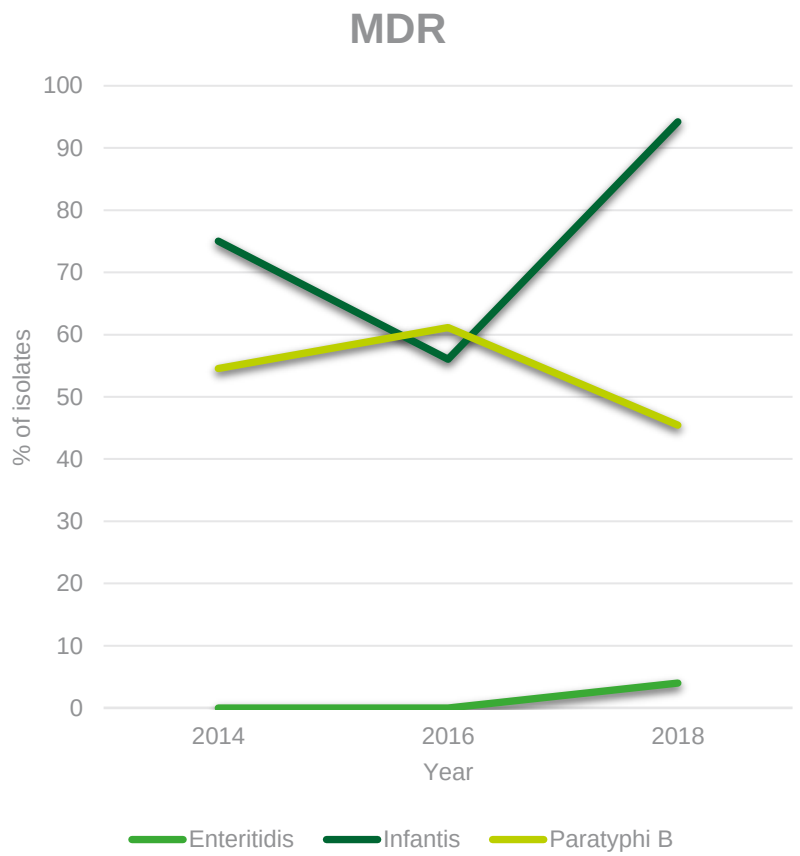
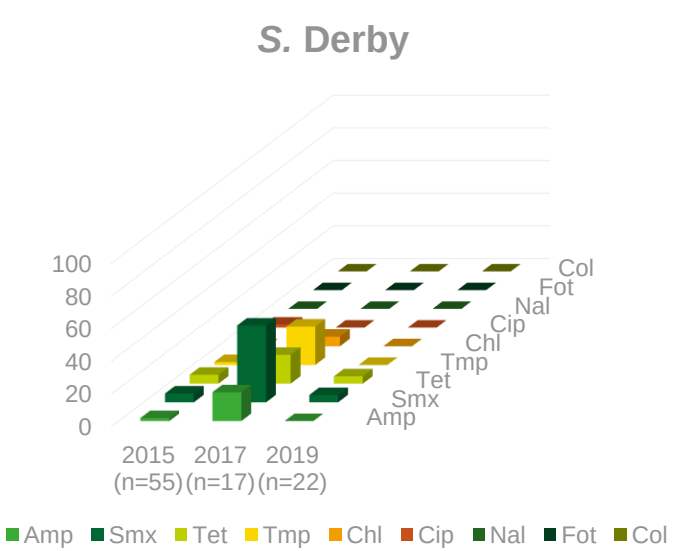
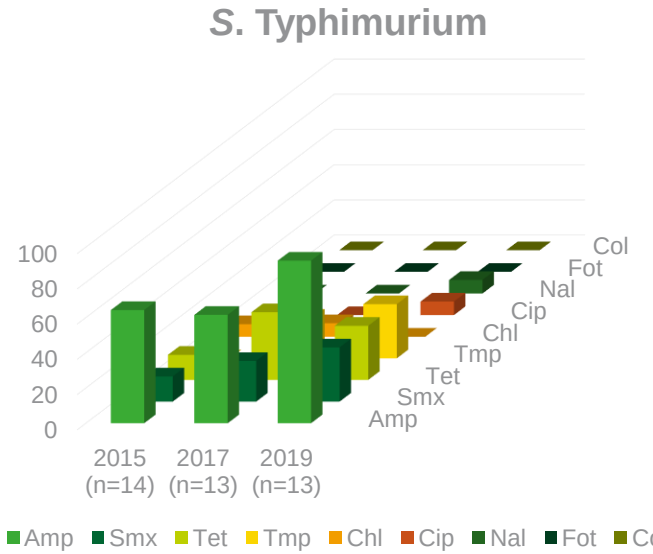
GEVOELIGHEID EN MULTIPELE RESISTENTIE

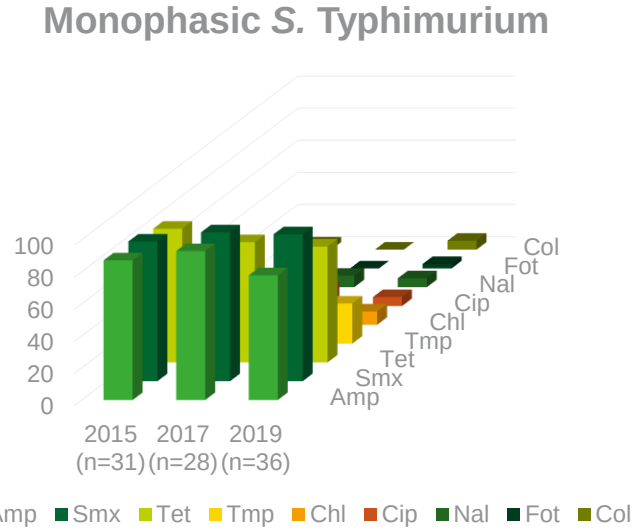


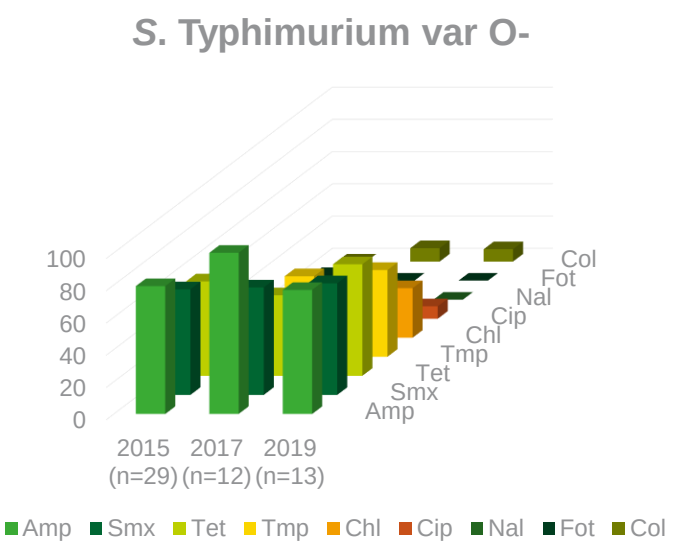


AMR in *Salmonella* spp. geïsoleerd van karkassen van varkens (slachthuis)

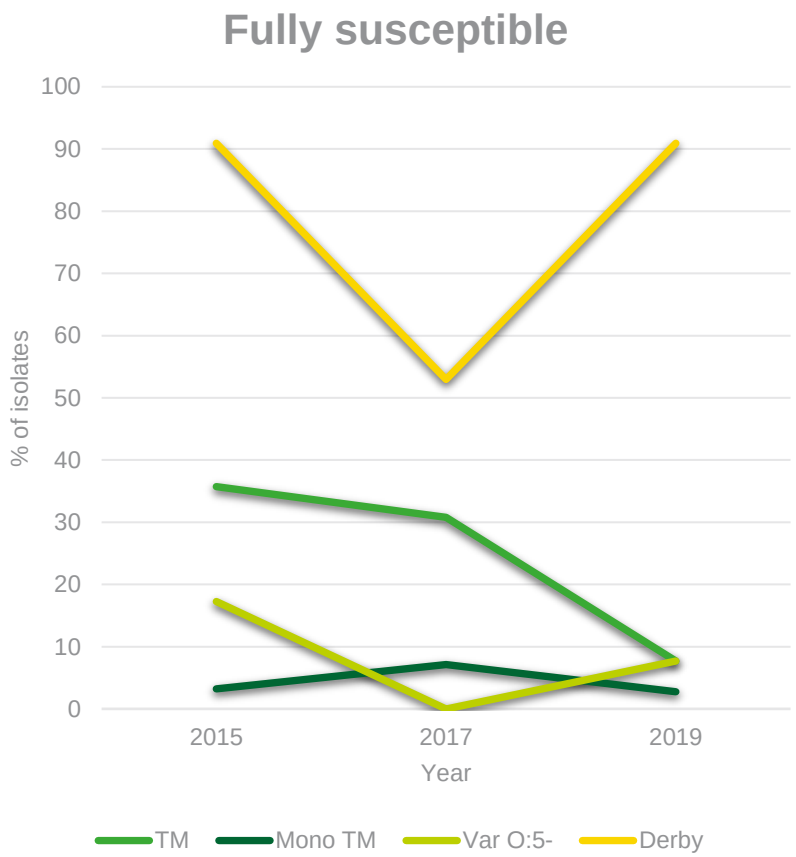


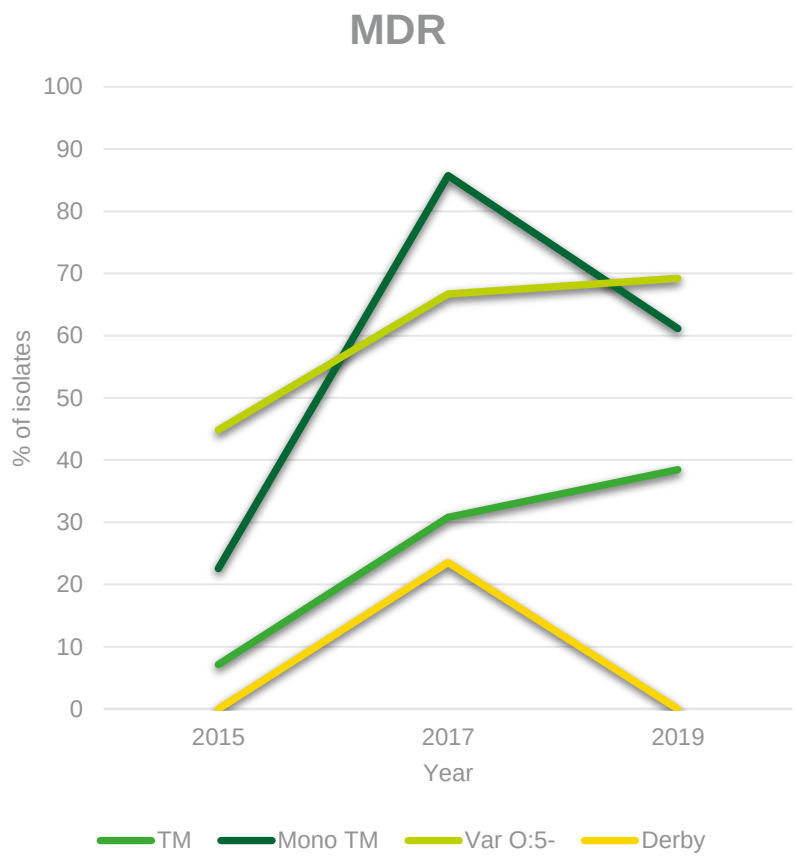






GEVOELIGHEID EN MULTIPELE RESISTENTIE





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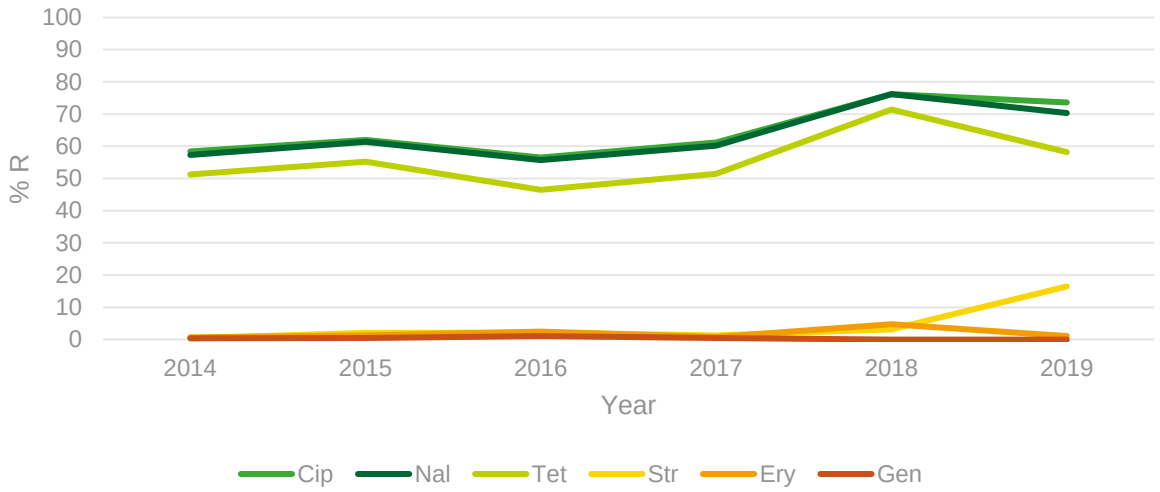
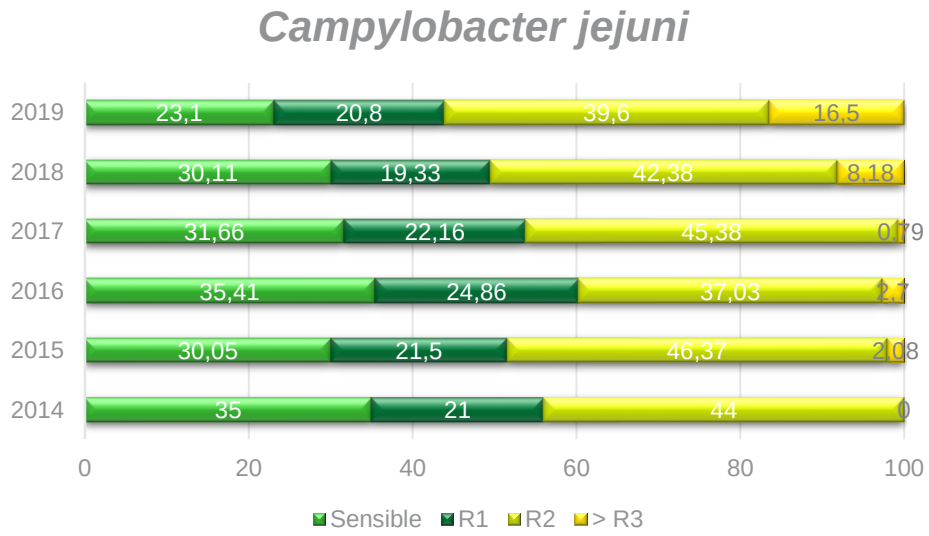
CAMPYLOBACTER JEJUNI GEVOGELTE (VLEES)

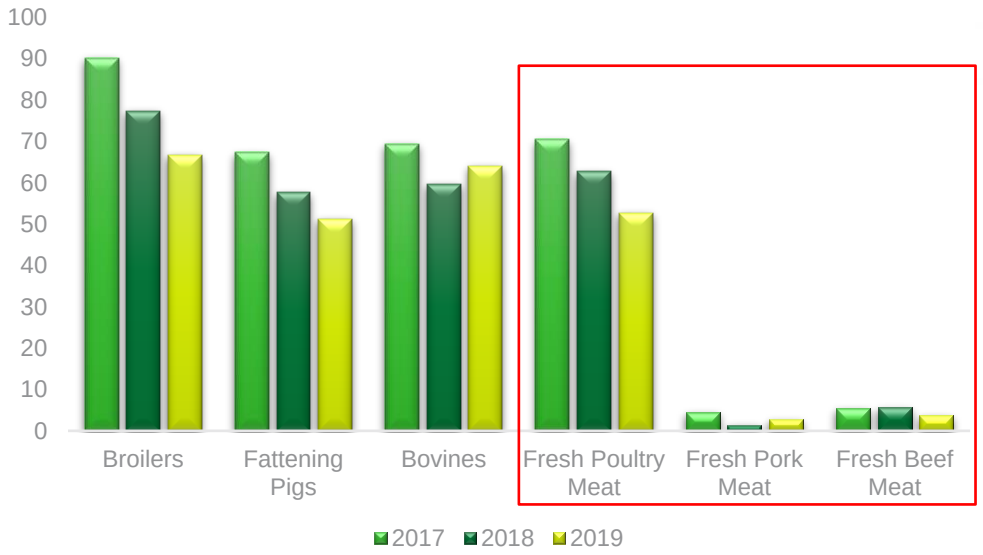


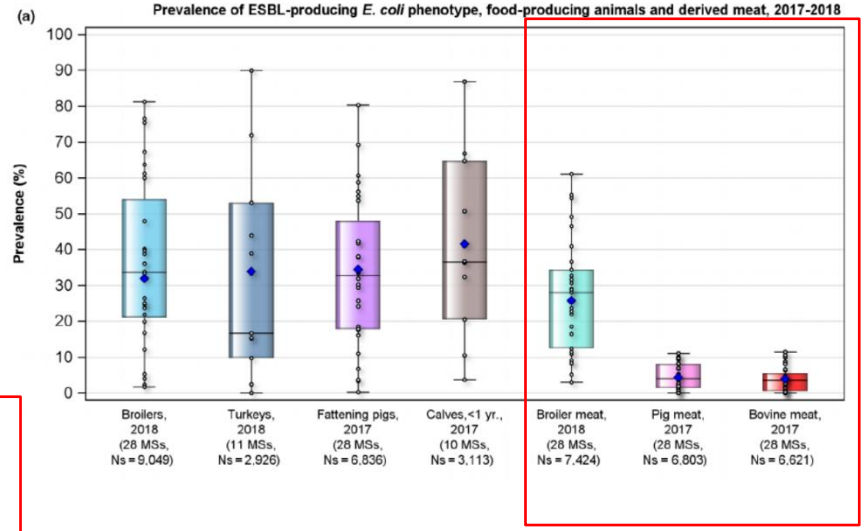
Resistentie profiel	n	%
Gevoelig	49	30,25
Cip	6	3,70
CipNal	24	14,81
CipNalStrTet	17	10,49
CipNalTet	61	37,65
CipTet	1	0,62
Ery	1	0,62
Tet	3	1,85
Totaal	162	



PREVALENTIE VAN *E. COLI* ESBL IN VERS VLEES

Belgium situation, 2017-2019





EFSA Journal 2020;18(3):6007

European situation, 2017-2018

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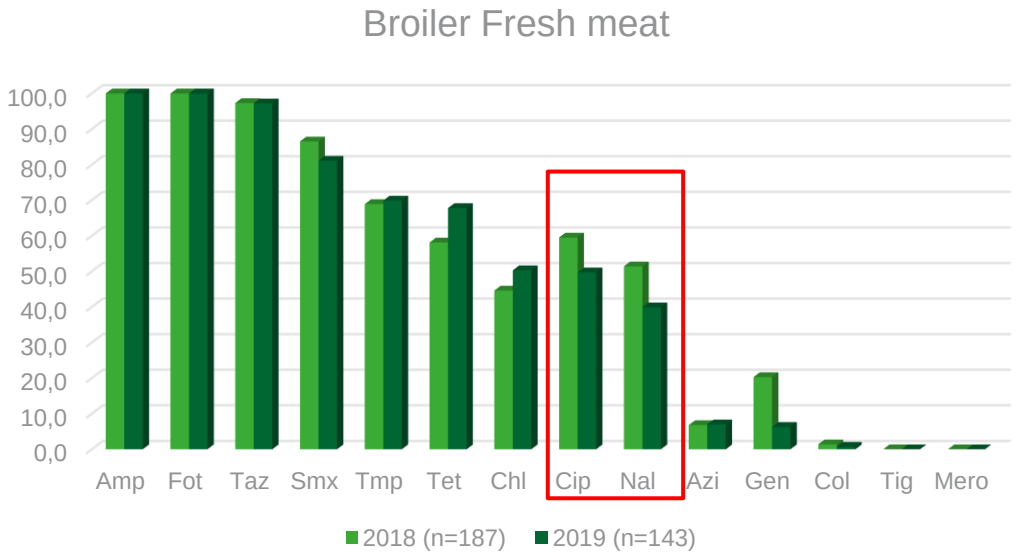
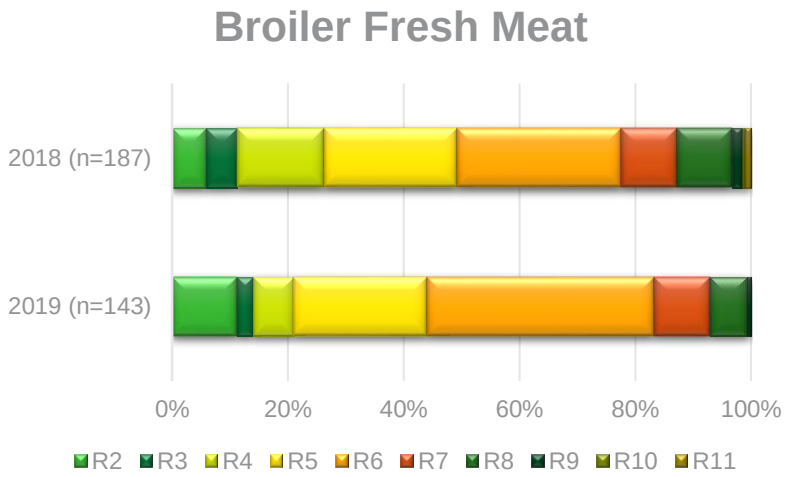
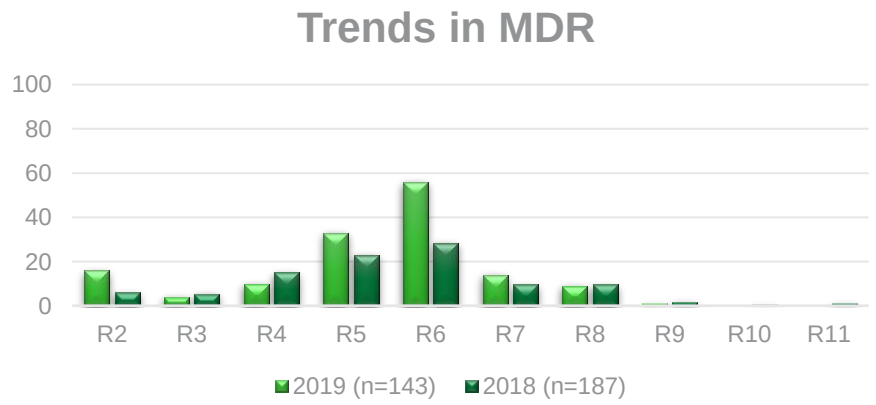
SURVEILLANCE B-LACTAMASE OF CARBAPENEMASE PRODUCERENDE *E. COLI* UIT GEVOGELTE





- Daling fluoroquinolonen
- Graad multipele resistentie stabiel



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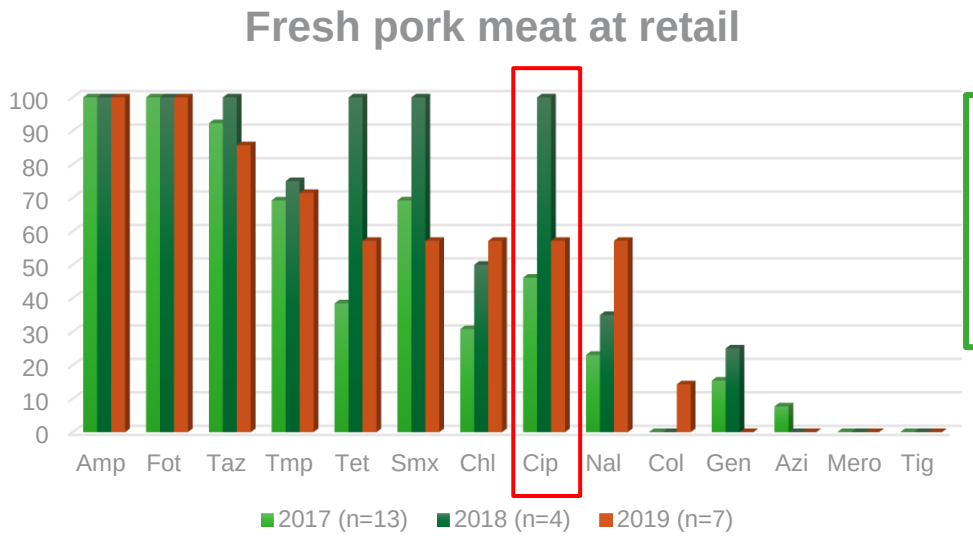
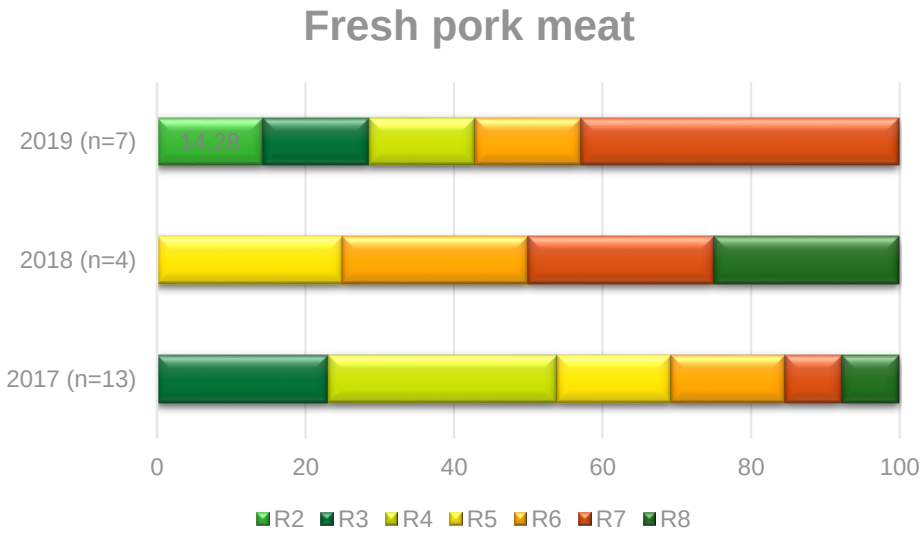
SURVEILLANCE B-LACTAMASE OF CARBAPENEMASE PRODUCERENDE *E. COLI* UIT VARKENSVLEES

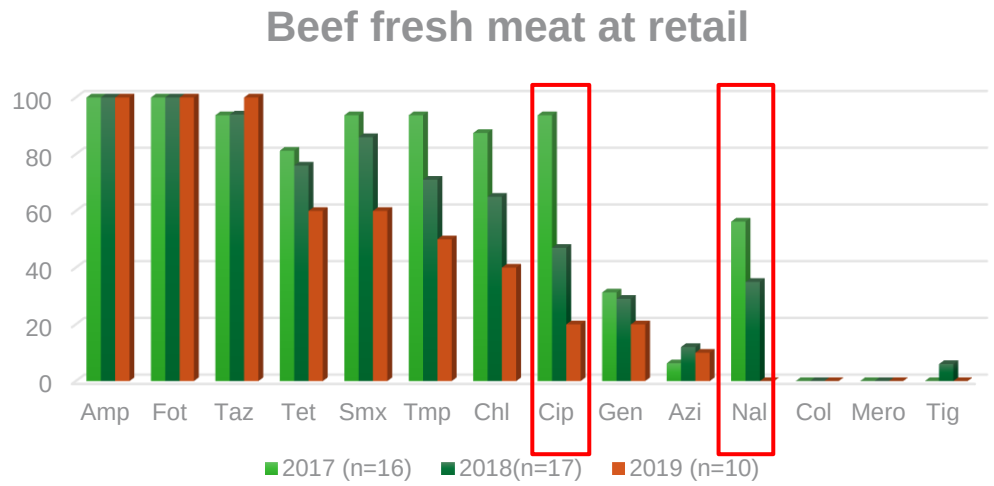


- Voor talrijke antibiotica een dalende trend (ook voor de CIA en fluoroquinolonen)
- 1 isolaat had een MDR profiel dat ESBL + FQ + COL combineert

Daling van multipele resistentie
van 100% (2017, 2018) naar 85,72% (2019)

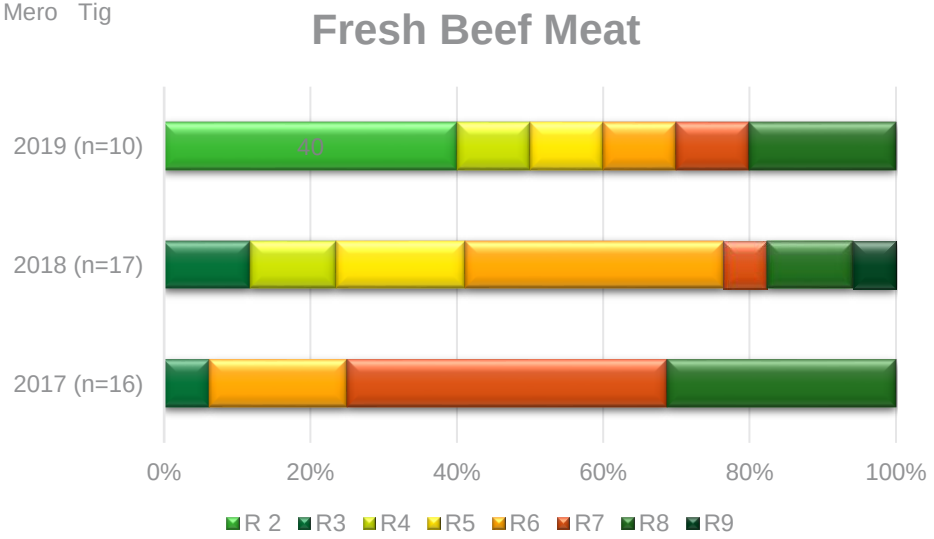


SURVEILLANCE B-LACTAMASE OF CARBAPENEMASE PRODUCERENDE *E. COLI* UIT RUNDSVLEES



- Positieve trends
- Daling voor tal van antibiotica waaronder de CIA en fluoroquinolonen

Daling van multipele resistentie
van 100% (2017, 2018) naar 60% (2019)



BEDANKT

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