

6th EURL-AR Workshop 2012

Presentation of

THE DANISH EU-PRESIDENCY 2012 - CONFERENCE

COMBATING ANTIMICROBIAL RESISTANCE – TIME FOR JOINT ACTION Copenhagen 14 -15 March 2012 and Relevant preliminary DRAFT Council Conclusions

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OF HEALTH**
Ministry of Food,
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Infections caused by resistant bacteria



- The number of serious infections caused by resistant bacteria is rapidly increasing throughout Europe i.e.
 - MRSA (methicillin resistant *Staphylococcus aureus*)
 - ESBL (Extended spectrum betalactamase producing *Enterobacteriaceae* (gut flora bacteria - i.e. Coli and Klebsiellae bacteria)
 - CPE (Carbapenemase producing *Enterobacteriaceae*)
 - Carbapenem antibiotics are **last** resort antibiotics
- Treatment options are increasingly limited
- Burden of infection increases

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Cost and Burden of infections caused by resistant bacteria in the EU



Table 2. Estimated yearly human burden of infections due to the selected antibiotic-resistant bacteria and percentage of this burden due to bloodstream infections, EU Member States, Iceland and Norway, 2007.

Antibiotic-resistant bacteria ^a	No. cases of infection (four main types) ^b (% bloodstream infections)	No. extra deaths (% from bloodstream infections)	No. extra hospital days (% from bloodstream infections)
<i>Antibiotic-resistant Gram-positive bacteria</i>			
Methicillin-resistant <i>Staphylococcus aureus</i> (MRSA)	171 200 (12%)	5 400 (37%)	1 050 000 (16%)
Vancomycin-resistant <i>Enterococcus faecium</i>	18 100 (9%)	1 500 (28%)	111 000 (22%)
Penicillin-resistant <i>Streptococcus pneumoniae</i> ^c	3 500 (27%)	–	–
<i>Sub-total</i>	192 800 (12%)	6 900 (35%)	1 161 000 (16%)
<i>Antibiotic-resistant Gram-negative bacteria</i>			
Third-generation cephalosporin-resistant <i>Escherichia coli</i> ^d	32 500 (27%)	5 100 (52%)	358 000 (27%)
Third-generation cephalosporin-resistant <i>Klebsiella pneumoniae</i>	18 900 (27%)	2 900 (52%)	208 000 (27%)
Carbapenem-resistant <i>Pseudomonas aeruginosa</i> ^e	141 900 (3%)	10 200 (7%)	809 000 (3%)
<i>Sub-total</i>	193 300 (9%)	18 200 (27%)	1 375 000 (13%)
Total	386 100 (11%)	25 100 (29%)	2 536 000 (14%)

ECDC/EMA JOINT TECHNICAL REPORT: The bacterial challenge: time to react

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Cost and Burden of infections caused by resistant bacteria in the EU



Table 3. Estimated yearly economic burden of infections (four main types^a) due to the selected antibiotic-resistant bacteria, EU Member States, Iceland and Norway, 2007.

Antibiotic-resistant bacteria ^b	Extra in-hospital costs (EUR)	Extra outpatient costs ^c (EUR)	Productivity losses due to absence from work (EUR)	Productivity losses due to patients who died from their infection (EUR)	Overall costs (EUR)
<i>Antibiotic-resistant Gram-positive bacteria</i>	424 700 000	5 500 000	91 100 000	145 600 000	666 900 000
<i>Antibiotic-resistant Gram-negative bacteria</i>	503 100 000	4 500 000	59 300 000	300 300 000	867 200 000
Total	927 800 000	10 000 000	150 400 000	445 900 000	1 534 100 000

ECDC/EMEA JOINT TECHNICAL REPORT: **The bacterial challenge: time to react**

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EARS-net : *E.coli* resistant to 3rd gen. cephalosporins (%) in bacteremias

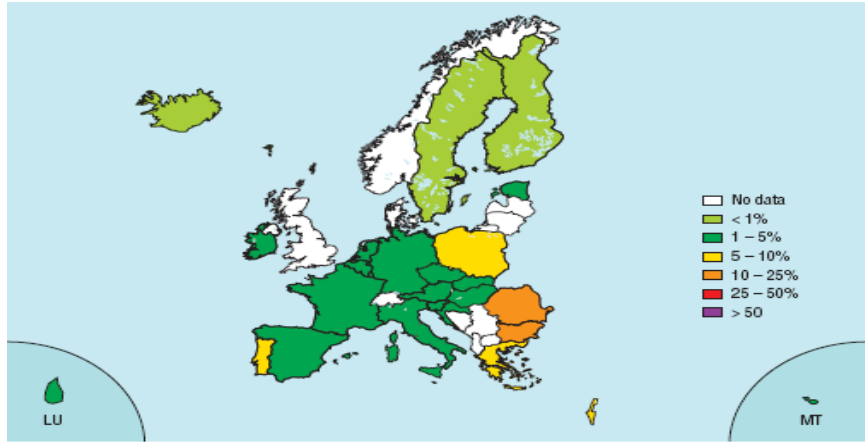
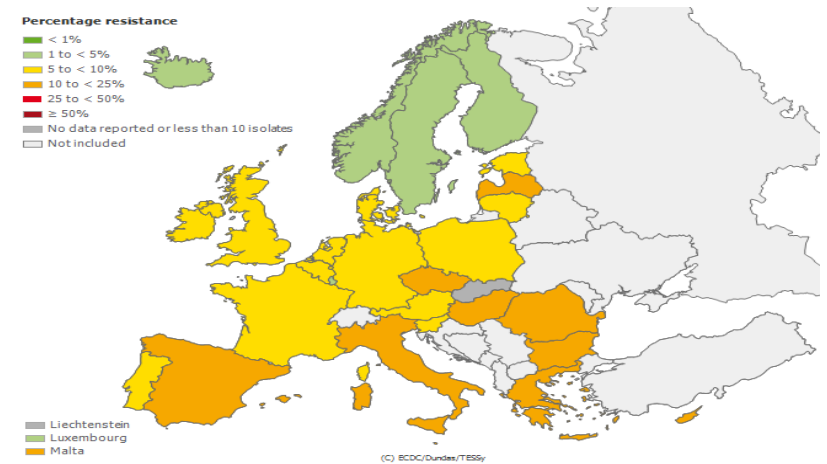


Figure 5.11. *Escherichia coli*: invasive isolates resistant to third-generation cephalosporins in 2002



2002

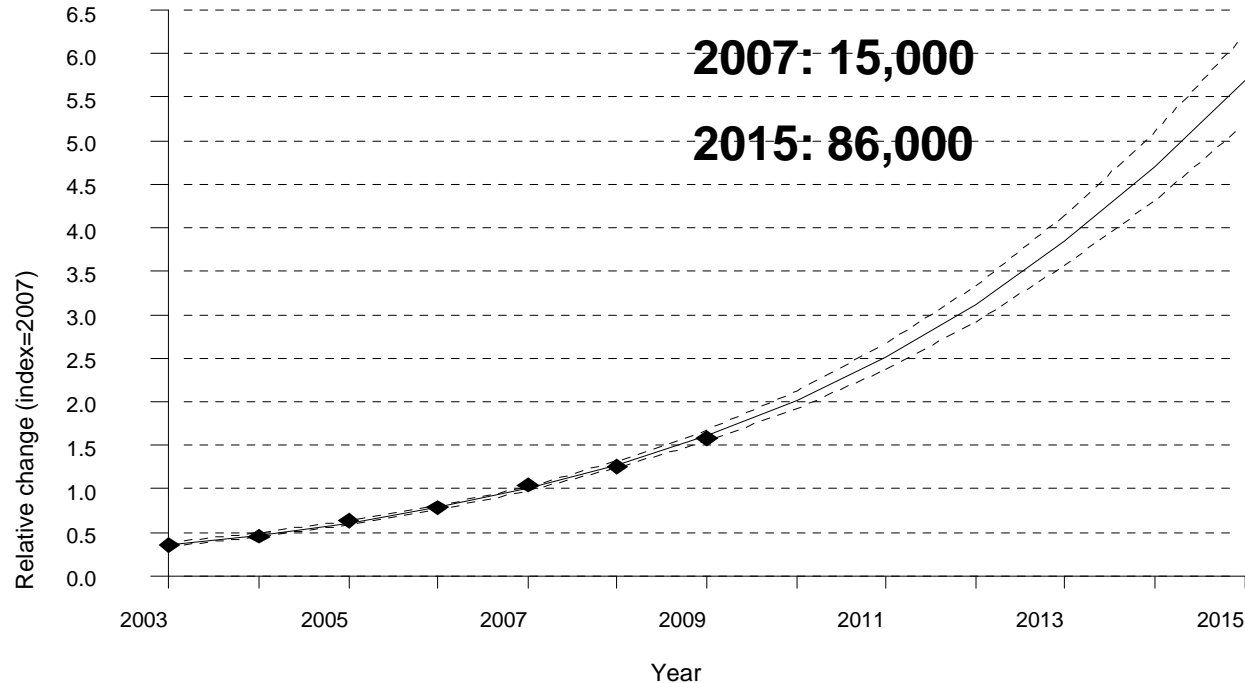
2010

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Increasing frequencies of resistant blood stream infections



Trends in ESBL Bacteremia in Europe



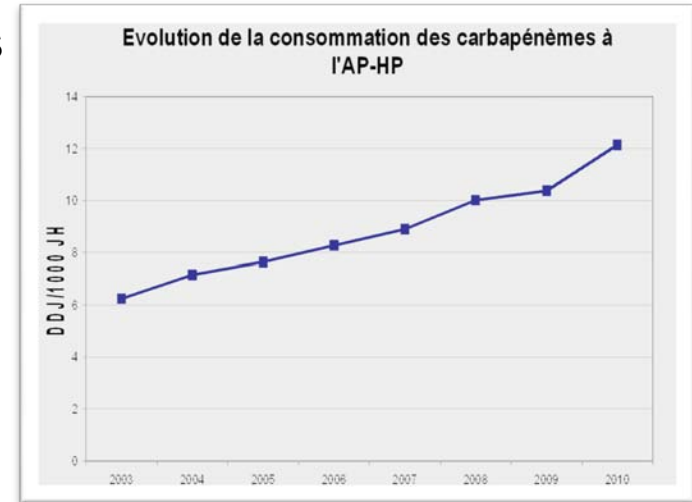
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Courtesy
Hajo Grundman

Increasing frequencies of resistant blood stream infections



- For serious ESBL infections virtually only carbapenem antibiotics are available
 - Increasing usage of carbapenem antibiotics
- Carbapenem resistant =
 - Very few /**NO** treatment options



Courtesy Vincent Jarlier

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Response to increasing frequency of resistance

- Development of new antibiotics
 - This will still take at least 5- 10 years even with maximum priority
- Decrease use of antibiotics
 - Limit use to prudent and rational usage
- Stop / diminish transmission
 - Infection control measures



Copenhagen conference

Focus points



- 1) Data collection and monitoring of antibiotic consumption and resistance for both animals and people throughout the EU
- 2) Stop overuse of antibiotics in humans and animals - focus on rational use
- 3) Reduce use of critically important antibiotics (CIA's) in humans and animals

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Programme – day 1

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Opening of the conference - Her Royal Highness Crown Princess Mary

**Pia Olsen Dyhr, Danish Minister for Health and
Mette Gjerskov, Danish Minister for Food, Agriculture and Fisheries**

**Video-presentation by John Dalli, Commissioner for Health and Consumer Policy
Dr. Martin Seychell, Deputy Director-General for DG Health and Consumers, European
Commission**

Session 1: Setting the scene – challenges and opportunities, M. Chan and M. Sprenger

Session 2: The antimicrobial resistance threat (MRSA, ESBL, CPE)

Session 3: Best Practices

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Programme – day 2



Session 4: Antimicrobial resistance - Socio-economic and health consequences

Session 5: Workshops

Workshop 1: Stop the overuse of antibiotics in both humans and animals

Workshop 2: Reduce the use of CIA's – in the human and veterinary sector

Workshop 3: Surveillance and collection of comparable data

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Workshop 1 - discussions : Stop overuse

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Healthy animal production systems = reduced need for antibiotics

Strengthening veterinarians position:

Increase importance of consultancy role and preventive role of vet

Mandatory regular health visit from vets

Vets income on health consulting work, not from sale of antibiotics /possibilities for prescription delinking

Good examples promoting prudent use of antimicrobials in humans in EU countries

Develop and strengthen guidelines at national level : in hospitals, primary health , long term care institutions and herds of food production animals

National legislation to prevent Over The Counter sales of antibiotics

Raise awareness on inappropriate treatment and sales without prescriptions

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Workshop 2 discussions: Reduce use of CIA's



Need to educate and raise awareness: patients, farmers, health professionals

Guidelines are needed ! European, but adapted to local situations

Avoid off-label use of CIAs

Legislation: ban? of 3rd and 4th generation cephalosporins for food production animals

- Analyse consequences and possibilities of enforcement
- EU regulation will be important to support initiatives at the MS level

There should be no economic incentive of prescribing CIAs for both veterinarians and doctors

Monitoring of use including indications for prescribing via audits or supervision

Importance of microbiological surveillance, standard methods, building laboratory capacity

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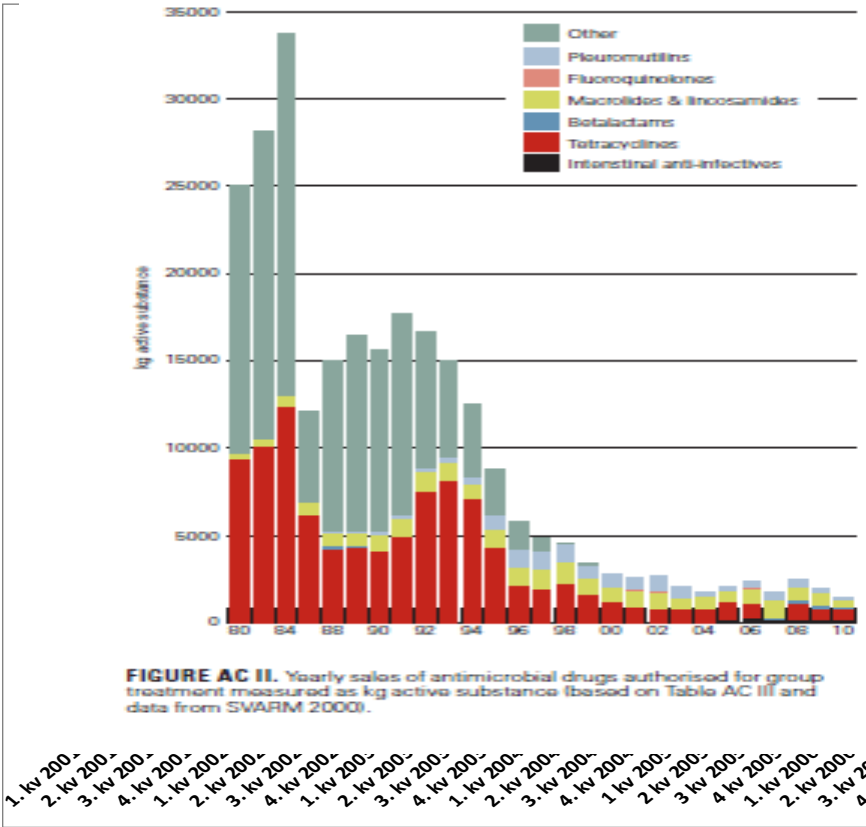
Workshop 3 - discussions : Comparable data



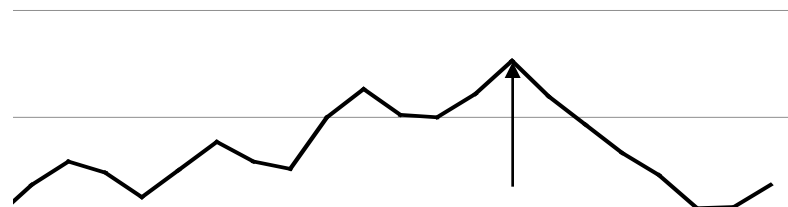
- Clear legal framework
 - EU level
 - National level
 - With existing frameworks
EFSA/EMA/ESVAC/ECDC /EARS-Net/ESAC-Net
- Continuously updated Technical documents
 - Clear definitions
 - Data collection/interpretation and Reporting
 - Both for
consumption/resistance/human/
veterinarian
- Comparable data
 - Between countries
 - Within Sectors
- Real time Reporting
 - Surveillance data
 - Early warning (use of existing frameworks)
- Baseline surveys
 - Some by point prevalence – some repeatedly
 - Selected pathogens
 - Indicator bacteria from Normal flora
 - Use the existing EFSA model
- Obstacles
 - Risk of blame
 - Financial constrains

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Reducing overuse - examples of effects in MS



ne 2001- 2011
/ year and quarter



- Awareness farmers and vets / benchmarking
- Strengthening vet position
- Result: reduced flock medication FPA
 - DK and NL 20-30% in 2 years
 - SE 38% in 5 years
- Political goal setting
 - DK 10 % reduction 2009 vs. 2013
 - NL 20% in 2011 and 50% in 2013

Reducing overuse of CIA's



DK: Only justified use of CIA

Laboratory tests showing no other AM effective

Not recommended treatment in guidelines

US, FDA 2005 ban of Enrofloxacin for poultry

2012 ban on extralabel and preventive use of cephalosporins in FPA

Norway: No cephalosporins marketed for FPA

NL: Lab. test before use and last choice in guidelines

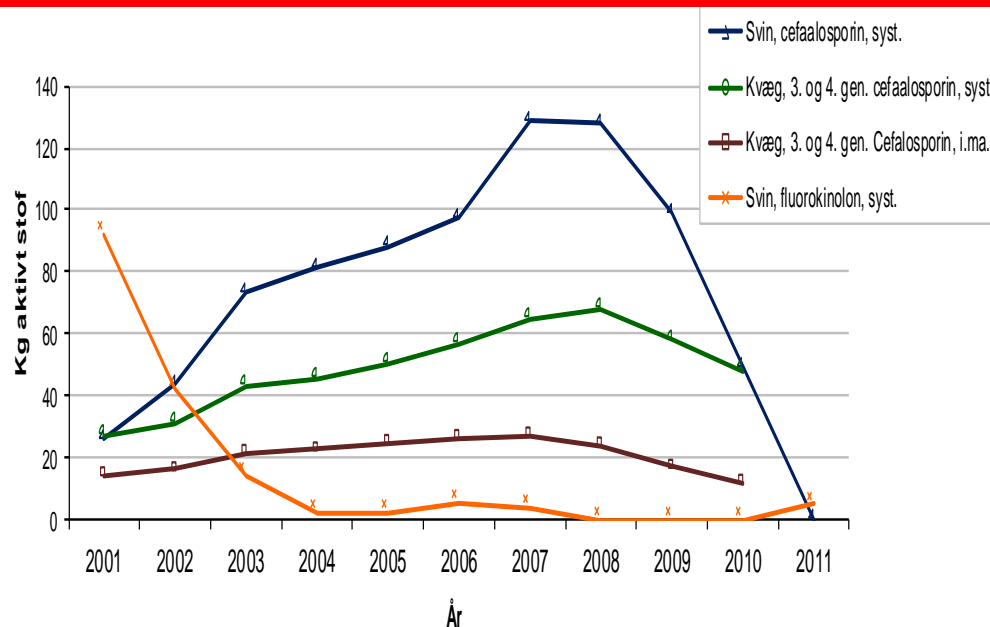
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Reducing overuse of CIA's – example of effects

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2002 Fluoroquinolone legislation Strategic use – lab tests



2007 Cephalosporin focus

Guidelines and supervision vets

23 % reduction, swine 2007- 2009

2010 Voluntary ban swine industry

99,9 % reduction swine

No CIA use = Reduced ESBL / multi
resistance

Secure human treatment

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Time for ACTION Reducing overuse veterinary sector



- **A**wareness – your country's potential and contribution to a solution
- **C**ourageous politicians – CIA legislation and goal setting
- **T**hreshold values, AM use benchmarking of vets and herds in your country
- **I**ncentive for solutions –prevention of disease/vaccination/no prophylactics
- **O**ne to One relation – farmer and vet
- **N**o profit – advisors in health, strengthening vet position

Most strategies can be done now - reducing 40% AM use and 99 % CIA use in animals
also in MSs without fancy databases !

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DRAFT – preliminary council conclusions lab related

DRAFT - standardised methods and interpretation

STRESSES that microbiological diagnosis together with standardised methods and susceptibility testing methods and a common interpretation create the basis for a correct choice of antimicrobial treatment, thus allowing antimicrobials to be used in the most efficient way with the objective to limiting the use of antibiotics in general and especially of CIAs.

Read: microbiological diagnosis based on standardised methods,
susceptibility testing used and common interpretation

– epidemiological versus clinical breakpoint

DRAFT - CIA's

- STRESSES the need to target the use of most recent generations and CIAs to specific cases in which the use is considered necessary.
- STRESSES the need to be extremely restrictive in both the human and veterinary use of CIAs and newly developed antimicrobials.
- limit the use of CIAs to cases where microbiological diagnosis and susceptibility testing has determined that no other type of antimicrobials will be effective. In acute cases, CIAs can be used initially when necessary, but must be re-evaluated depending on test results.

DRAFT CIA's

- Develop a classification of antimicrobials that are essential to treat multiresistant microbial agents in humans for which other antimicrobials have become ineffective taking into account that this classification would be a subgroup of the definition of CIAs as agreed upon by the WHO and to promote and carry out education and guidance of health and veterinary professionals alike on limiting the use of CIAs for humans

DRAFT - Surveillance systems

- STRESSES the importance of effective surveillance systems in both the human health sector and the veterinary sector to allow collection of comparable and timely data on AMR and on the use of antimicrobial agents *based on existing monitoring systems under the auspices of EFSA, the ECDC European Surveillance of Antimicrobial Consumption (ESAC-net) and the ECDC European Antimicrobial Resistance Surveillance Network (EARS-net), and the EMA European Surveillance of Veterinary Antimicrobial Consumption (ESVAC).*
- MS ensure effective surveillance systems, including both the human health sector and the veterinary sector with the aim of collecting timely data that are comparable between MS within each sector sectors and Member States on AMR and on the use of antimicrobial agents;

DRAFT - Surveillance systems

- transmission to surveillance systems of data on the prescription and sales of all antimicrobial agents for use in humans
- cooperate on the early detection of specific pathogenic AMR bacteria in humans, in animals and in foodstuffs in order to continuously monitor the development of AMR;
- implement early warning systems for the swift detection of new mechanisms of resistance
- work actively to promote international initiatives to limit the use of antimicrobials which would include international requirements for antimicrobials, international requirements on surveillance and reporting of antimicrobial use and resistance and a global ban on antimicrobial growth promoters in animals;

DRAFT – Commission to

- expand the existing food and veterinary working group on AMR to fully involve the human health sector to support the implementation of a comprehensive approach against AMR at EU and national level taking into account the “One Health” perspective of the initiatives;
- ensure effective mechanisms to process data from the Member States’ surveillance systems on *AMR in humans, animals and foodstuffs* and on the use of antimicrobial agents in humans and animals in *order to ensure timely and comparable data in the EU*;
- *initiate* baseline surveys on AMR in both humans and animals at appropriate intervals;

THANKS

QUESTIONS ?

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