



Bundesministerium
für Gesundheit



Federal Ministry
of Food
and Agriculture

German Antimicrobial Resistance Strategy „DART 2020“

AMR One Health Network meeting, 26 October 2018

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German Antimicrobial Resistance Strategy „DART“ (2008)

- Recommendations on EU level
 - ◆ Community strategy against antimicrobial resistance
 - ◆ Council recommendation on the prudent use of antimicrobial agents in human medicine
- Joint development of "DART" by the ministry of health, the ministry of food and agriculture and the ministry of education and research
- Involvement of medical associations and other stakeholders
- Published in November 2008
- Emphasis on one health approach, yet still separate measures for human and veterinary medicine





Main activities in the implementation of „DART“ 2008 – 2013 (human sector)

- Commission on Hospitalhygiene and Infectionprevention was established before
- Antibiotic-Resistance-Surveillancesystem (ARS)
- National Reference Centre for gram-negative hospital-pathogens
- Amendments in the Infection Protection Act, e.g. Notification obligation for MRSA
- Commission on Anti-Infectives, Resistance and Therapy (ART)
- Antibiotic Stewardship training programme
- 1. Research Priority “AMR, Hygiene and nosocomial Infections” (2012-2015)
- Interministerial Working Group on AMR
- “Regional networks”



Regional Networks

- Successful EUREGIO project MRSA-Net at the dutch-german border as a model for networks in other regions
- Coordinated action of hospitals, rehabilitation facilities, nursing homes and medical practices involving the public health service
- Consensus on consistent measures to be performed
- Award of quality labels to participating hospitals when following hygiene recommendations
- Regular meetings of networks support exchange of experience
- Regional networks established almost nationwide, differences in activities, participants and regional expansion

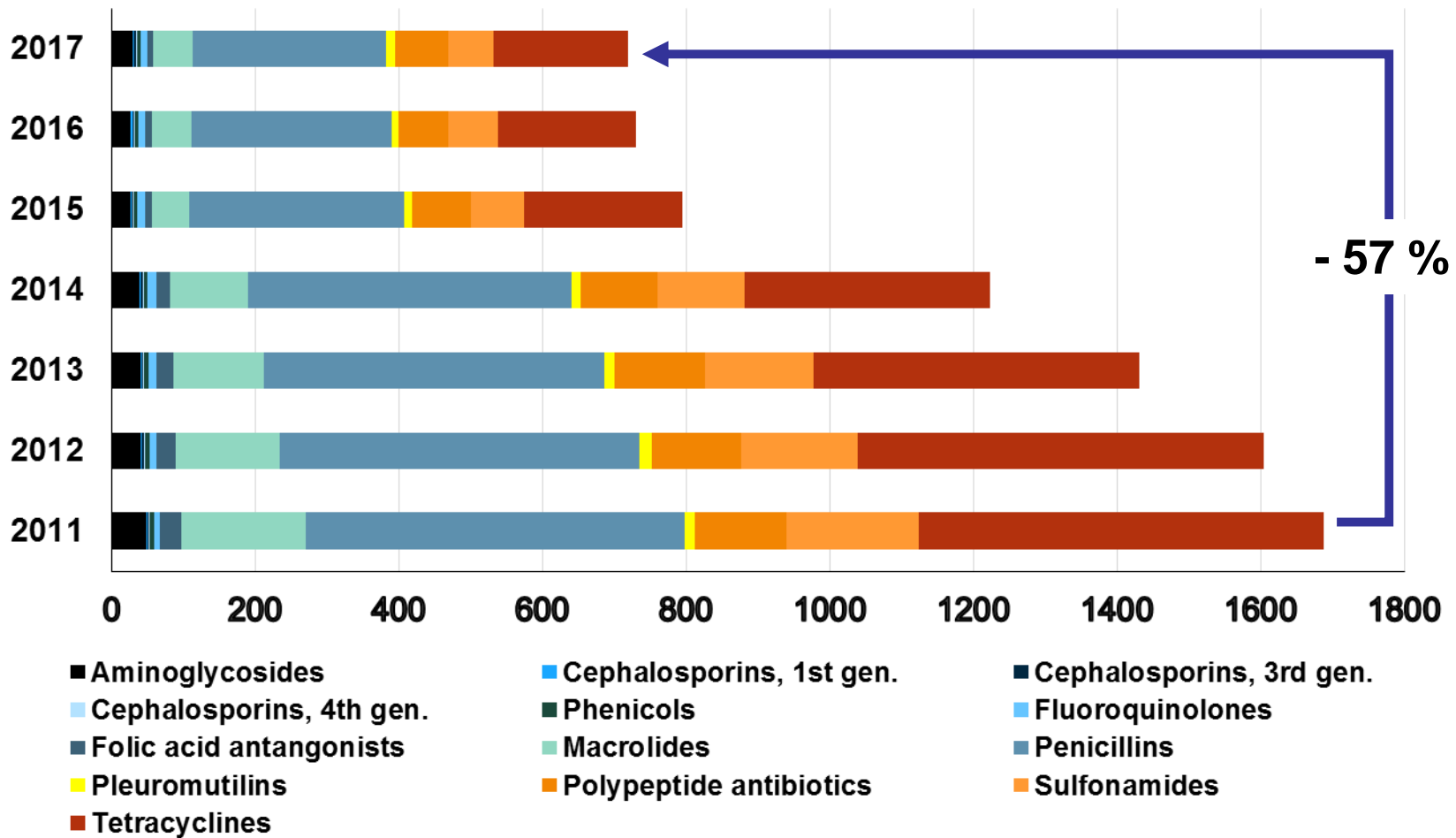


Main „veterinary“ results of DART (2008)

DIMDI Regulation on Medicinal Products

- Since 2011: Annual reporting of the antibiotics quantities sold to veterinarians by pharmaceutical companies and wholesalers to a central register at the German Institute for Medical Documentation and Information (DIMDI)
- Assessment and Publication: by the Federal Office of Consumer Protection and Food Safety (BVL)
- **Quantity** of the antibiotics sold **reduced** by 57% to now 733 tons between 2011 and 2017

Veterinary antibiotic sales data (active agents in t) 2011 - 2017

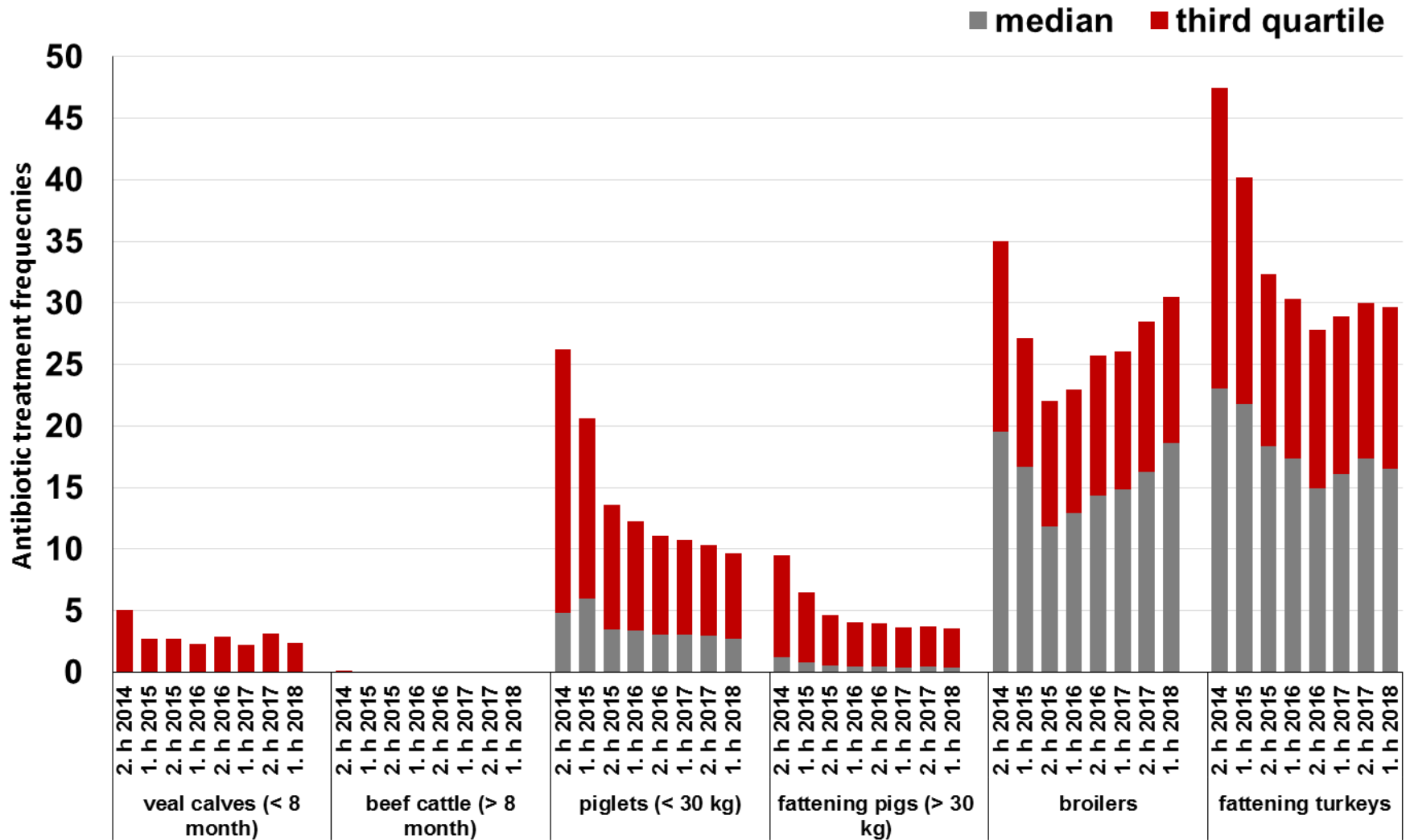


Main „veterinary“ results of DART (2008)

16th AMG amendment

- Regulation of the antibiotics minimisation strategy and
 - authorisation of further legislation
- April 2014: start of the antibiotics minimisation strategy
 - **National measuring and benchmarking procedure** for the use of antibiotics on fattening farms (benchmarking)
 - **Insight of authorities into the operational status**, therapy frequency parameters and the antibiotics minimisation plan
 - More **system-related veterinary advice** in connection with the examination of the causes of the need for antibiotics on the farm

Antimicrobial treatment frequencies



Legislation on administering antibiotics to animals in Germany (before DART)

- Antibiotics available only on **veterinary prescription** after **examination** of animals by a veterinarian (pets & livestock!)
- **Quantity restricted** to the need for 7 days (livestock)
- In identical treatment cases **maximum interval of 31** days between examination and follow-up prescription or treatment (livestock)
- EU-wide **ban** on the marketing and use of **antibiotic growth promoters** since 2006



„DART 2020“

Further developed and adopted by the federal cabinet in May 2015

Goal 1: Strengthening the One Health approach nationally and internationally

Goal 2: Recognising changes in resistance at an early stage

Goal 3: Retaining and improving therapy options

Goal 4: Breaking chains of infection early and avoiding infection

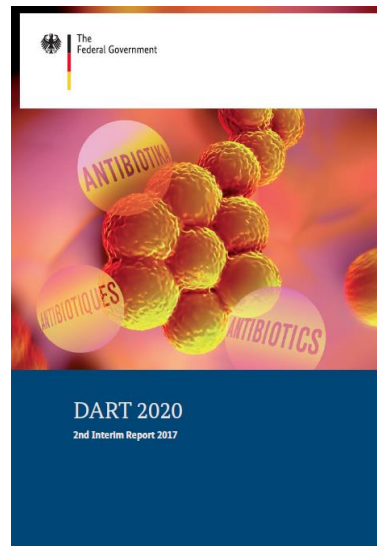
Goal 5: Raising awareness and strengthening skills

Goal 6: Supporting research and development





Interim Reports





Goal 1: Strengthening the One health approach nationally and internationally

- international collaboration -

- Collaboration with other countries
 - ◆ bilateral agreements / bilateral talks
 - ◆ Global Health Security Agenda
 - ◆ Funding of WHO-projects
- Global Health Protection Programme – AMR-Projects
 - ◆ 5 Projects with african and south-east asian countries: diagnostic and surveillance, training in the prudent use of antimicrobials, training in quality control of medicines
- German G7-Presidency 2015
 - ◆ Declaration, development Best Practice Brochure
- German G20-Presidency 2017
 - ◆ Declaration, establishment Global AMR R&D Hub, One Health-Meeting in Berlin
- Use of other international formats, such as Patient Safety Summit (2017), Grand Challenges (2018) to adress AMR

GOAL 1: Strengthening the One health approach nationally and internationally

- international collaboration -

Global action plan on antimicrobial resistance

GLOBAL ACTION PLAN
ON ANTIMICROBIAL
RESISTANCE



The OIE Strategy
on Antimicrobial Resistance
and the Prudent Use of Antimicrobials

UNGA Adopts Political
Declaration on Antimicrobial
Resistance, Discusses Links
with SDGs

THE **FAO** ACTION PLAN ON
ANTIMICROBIAL RESISTANCE
2016-2020

TFAMRS

Ad hoc Codex Intergovernmental Task Force on Antimicrobial Resistance
27/11/2017 - 01/12/2017 | Jeju, Republic of Korea

TFAMR
5*
27.11-01.12.17

GOAL 1: Strengthening the One health approach nationally and internationally

- international collaboration -

ANNEX

Leaders' Declaration
G7 Summit
7-8 June 2015



Council conclusions

on the next steps under a One Health approach to combat antimicrobial resistance



G7 – CVOs Second Forum – AMR – 5 October 2017

G20 Agriculture Ministers' Action Plan 2017

*Towards food and water security:
Fostering sustainability, advancing innovation*



COMMON APPROACH OF G7 CVOs ON THE DEFINITIONS OF THERAPEUTIC,
RESPONSIBLE AND PRUDENT USE OF ANTIMICROBIALS IN ANIMALS

Meeting of the Public Health and Veterinary
Public Health Institutes of the G20





Goal 1: Strengthening the One health approach nationally and internationally

- One health collaboration -

Coordination national AMR policy

- Interministerial Working Group AMR (IMAG AMR)
 - ◆ To plan, coordinate, evaluate and further develop the national AMR policy
 - ◆ Participation by relevant ministries, relevant subordinated agencies
- Working Groups on the “Länder” and the local level

Joint (research) activities

- Research agreement on Zoonoses between the MoER, MoFA, MoH, MoD
- Research priority „Zoonoses“ of the MoH
- Joint research projects of the subordinated agencies (national/international)
- Meeting of the Public Health and Veterinary Public Health Institutes of the G20 in 2017

Joint data collection

- GERMAP - Report on the consumption of antimicrobials and the spread of AMR in human and veterinary medicine in Germany



Goal 2: Recognising changes in resistance at an early stage

- Expansion of the Antibiotic-Resistance-Surveillance (ARS) at the Robert-Koch-Institute (RKI)
- Notification obligation according to the IfSG
 - ◆ since May 2016 Carbapenem-resistant gram-negative bacteria and severe infections by *Clostridium difficile*

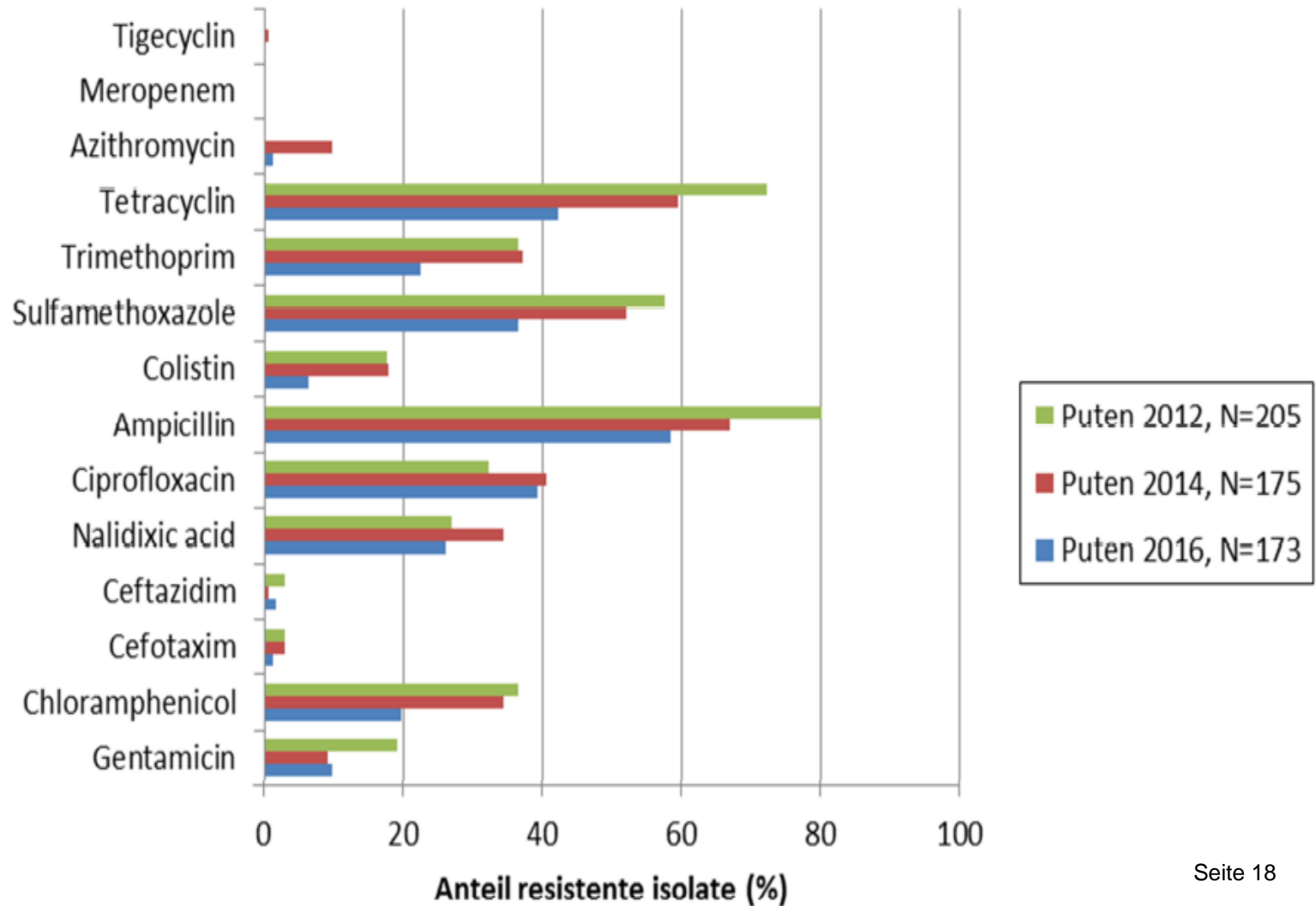
Goal 3: Retaining and improving therapy options

- Expansion of the Antibiotic Consumption-Surveillance at the Robert-Koch-Institute (AVS)
- Project „ARVIA“ (Antimicrobial Resistance and Consumption – integrated Analysis), funded by the MoH since 2016

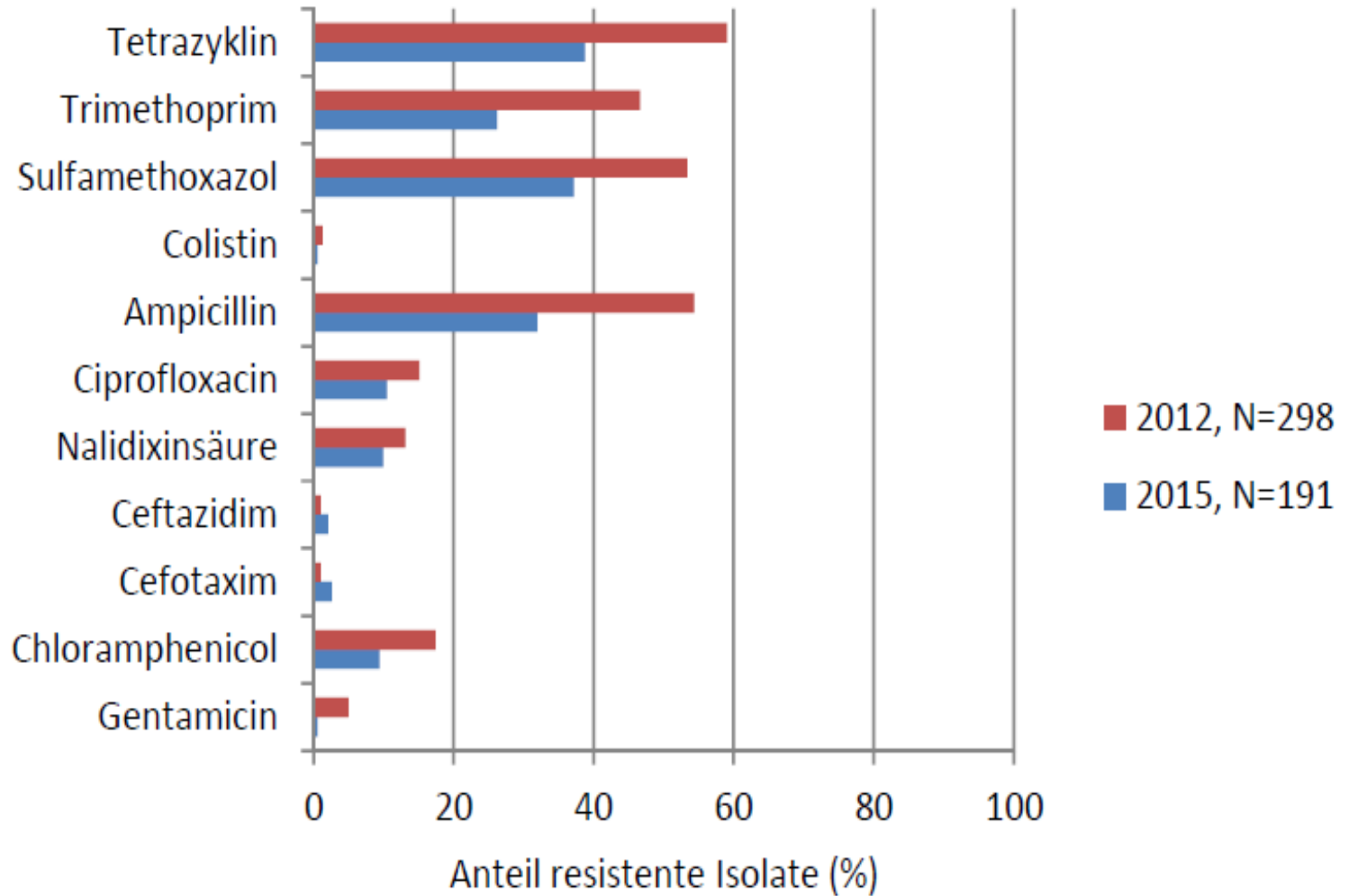
GOAL 2: Recognising changes in resistance at an early stage

- **Monitoring of antibiotic resistance in zoonotic bacteria and commensals**
 - Based on EU-regulations, but DE monitors more, e.g. MRSA, ESBL-/AmpC and mcr-1 (gene encoding resistance against colistin)
- **Monitoring of antibiotic resistance in animal pathogen originating from food animals and pets (GERM-Vet)**
 - Based § 77 Abs. 3 AMG
 - Analysis of mcr-1 has been added

Resistant *E. coli* in turkey food chain



Resistant *E. coli* in caecal samples, veal & beef



GOAL 3: Retaining and improving therapy options

- antibiotics minimisation strategy of 16. AMG-Amendment
 - Preparation of **Evaluation** well under way, report to parliament 2019
- **Key elements** for the amendment of the Veterinary House Dispensary Ordinance (**TÄHAV**):
 - **Ban on off-label use in specific circumstances**
 - critical substances in poultry, pigs, cattle, dogs, cats
 - **Obligation to carry out resistance tests in specific circumstances**
 - e.g. repeated or long term treatment, off label use, critical substances
 - **General requirements for the implementation of resistance tests**



Goal 4: Breaking chains of infection early and avoiding infections

- Further development and expansion of regional networks
 - ◆ Support by RKI: regular meetings, dedicated webpage

- Hospital hygiene promotion program
 - ◆ Recommendations of the KRINKO on the availability of hygiene personnel in the hospital in relation to the number of beds
 - ◆ Binding character of the recommendations according to the Infection Protection Act
 - ◆ Since 2013 recruitment of personnel as well as education and training are financially supported, 2016 expansion to infectiology

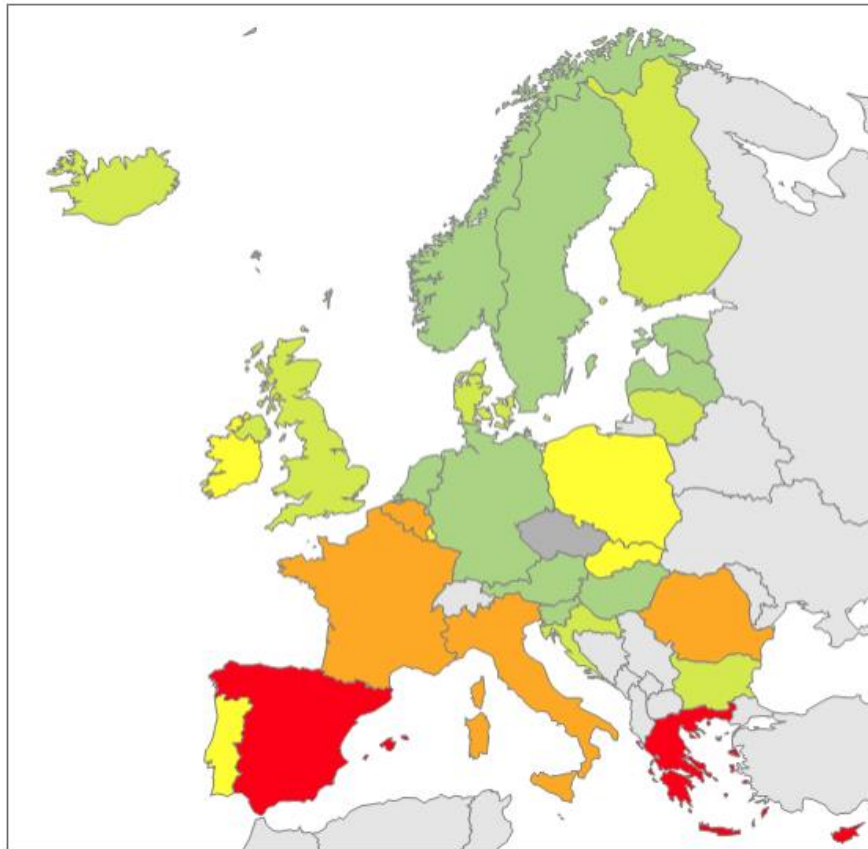
- Improvements in the reimbursement of diagnostics in the outpatient-sector

GOAL 4: Breaking chains of infection early and avoiding infections

- **Goal** of measures listed in Antibiotics minimisation strategy
- Establishment of a standing committee on veterinary vaccination (**StlKo Vet**), which publishes recommendations and informations on vaccination
- Part of counselling programs in model- and demonstration farms funded by BMEL
- **Regional health programmes**, organised by farmers, vets, slaughter houses and animal transporters

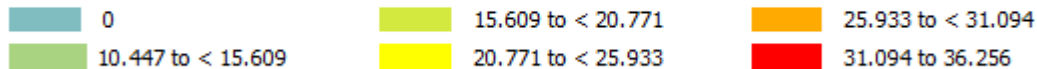


Goal 5: Raising awareness and strengthening skills



Consumption of
Antibiotics for
systemic use in the
primary care sector
in 2016

DDD per 1000 inhabitants and per day





Goal 5: Raising awareness and strengthening skills

- Information materials on AMR for the public, provided by the Federal Centre for Health Education (BZgA) and other stakeholder
- Current Social Media Campaign for the public, focus on infection prevention and prudent use of antimicrobials
- Strengthening Hygiene / Microbiology / Infectious Diseases in training and continuing education of medical professionals
 - ◆ National competency-based learning targets amended and adopted in June 2015
 - ◆ Strengthening of infectiology with the hospital hygiene promotion program
 - ◆ Ongoing ABS-Programme

GOAL 5: Raising awareness and strengthening skills

- Funding **VetMAB**, an internet based schooling and data administration tool aimed at minimising antibiotic use in livestock
 - Recognised by Academy of Advanced Veterinary Training
 - Topics: resistance emergence and spreading, current test procedures
 - Basic module and species-specific advanced modules
 - Exercises and interactive discussions included

- AMR was included in the **topics to be examined** in “pharmacology and toxicology” in the German Regulation Pertaining to the Licensing of Veterinarians (TAppV)

- **Part of counselling measures** in model- and demonstration farms funded by BMEL



Goal 6: Supporting research and development

- Development of new antibiotics, alternative treatments and diagnostics:
 - ◆ National „Pharmadialogue“ of the Federal Government, industry and academia; working group „Antibiotics“
 - ◆ G7/G20
 - ◆ Global AMR R&D Hub
 - ◆ Financial support of GARDP

- Other research related to AMR, e.g. 2. Research priority „Antibiotic resistance and nosocomial infections“ 2017-2020, 7 projects
 - ◆ Pilot projects on patient-oriented communication strategies
 - ◆ Assessing the effectiveness of existing measures

GOAL 6: Supporting research and development

Currently BMEL focusses on measures in animal husbandry and food production

- Selective drying off of dairy cows
- Concepts for animal husbandry and related counseling for poultry and pigs
- Development of vaccines
- Faster (pen-side) diagnostic
- Use of phages to fight pathogens
- Development of products and measures to reduce the development and transfer of ESBL and MRSA in the poultry production chain

Conclusions

- Public, stakeholders and Governments need to be and stay aware of the issue of antimicrobial resistance
- Close cooperation across sectoral limits and across national borders is necessary (one health concept)
- German measures show first successes, but the goal is not yet reached
- No easy, one fit for all solution to AMR: measures need to be tailored to each country's / farm's / health system's situation



Thank you for the
attention!