



Better Training for Safer Food *Initiative*

Antimicrobial Resistance One Health approach

**Working Group – CATEGORIZATION
OF CRITICAL ANTIMICROBIALS**

BTSEF

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Food safety

Malaga, Spain – 25-28 November 2019

AG1 – Categorization of critical antimicrobials

Case study

How have you used categorisation in your country?



AG1 – preparation

45 min 

- 1. Presentation of a practical example from tutors: colistin**
- 2. Presentations of examples from Member States.**
- 3. Brainstorming in group on how MS have implemented the categorisation in veterinary sector.**



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Programa Reduce Colistina



Emergence of plasmid-mediated colistin resistance mechanism MCR-1 in animals and human beings in China: a microbiological and molecular biological study

Yi-Yun Liu*, Yang Wang*, Timothy R Walsh, Ling-Xian Yi, Rong Zhang, James Spencer, Yohei Doi, Guobao Tian, Baolei Dong, Xianhui Huang, Lin-Feng Yu, Danxia Gu, Hongwei Ren, Xiaojie Chen, Luchao Lv, Dandan He, Hongwei Zhou, Zisen Liang, Jian-Hua Liu, Jianzhong Shen

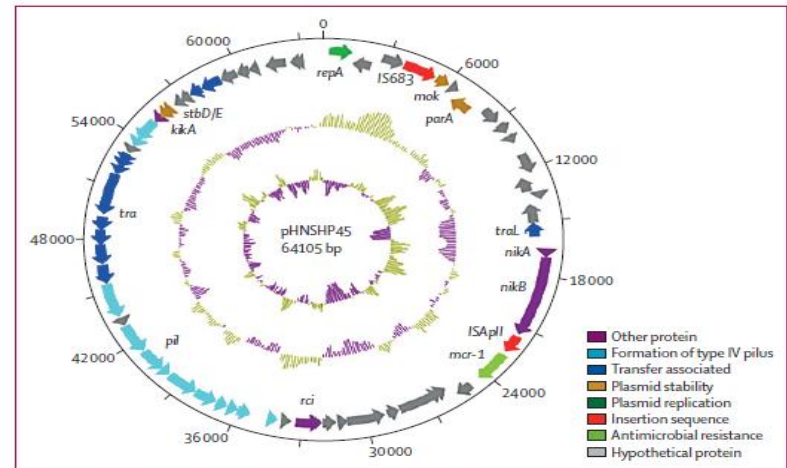


Figure 2: Structure of plasmid pHNSHP45 carrying *mcr-1* from *Escherichia coli* strain SHP45



EUROPEAN MEDICINES AGENCY
SCIENCE MEDICINES HEALTH

27 July 2016

EMA/CVMP/CHMP/231573/2016

Committee for Medicinal Products for Veterinary use (CVMP)

Committee for Medicinal Products for Human Use (CHMP)

Updated advice on the use of colistin products in animals within the European Union: development of resistance and possible impact on human and animal health

9.1.5. Summary of the risk mitigation recommendations

Colistin should be added to category 2 of the AMEG's classification; the risk to public health from veterinary use is considered only acceptable provided that specific restrictions are placed on its use. Colistin, fluoroquinolones and 3rd- and 4th-generation cephalosporins should be reserved for those occasions when there are no effective alternative antimicrobials authorised for the respective target species and indication.

There are wide variations in the use of colistin between countries which are largely unexplained. Countries with intensive livestock production can have a level of usage below 1 mg/PCU (e.g. Denmark and the UK) and much higher, up to 20-25 mg/PCU (Italy and Spain). Considering the rapidly increasing importance of colistin for treatment of critically ill human patients, all countries should strive to reduce the use of polymyxins as much as possible.

For the current "high and moderate consumers" the target and desirable levels are set at 5 and 1 or below 1, mg/PCU, respectively, based on the observations on the level of use in other countries. Meanwhile more information should be gathered to determine the minimum level of colistin use that can be achieved while maintaining animal welfare and preventing the increased use of other critically important antimicrobials.

If the situation regarding colistin resistance in animals or humans deteriorates further it may be necessary to lower the level proposed targets.

Reduction in use of colistin should be achieved without an increase in the use (in mg/PCU) of fluoroquinolones, 3rd- and 4th-generation cephalosporins or overall consumption of antimicrobials.

COLISTIN SALES LEVEL IN 2014 IN COUNTRIES WITH THE SAME LEVEL OF SWINE PRODUCTION:

Denmark: 0.5 mg / PCU

Netherlands: 0.9 mg / PCU

France: 6 mg / PCU

Germany: 13 mg / PCU

Spain: 37 mg / PCU



Programa
Reduce
Colistina



Agreement to voluntarily reduce **colistin** consumption in the porcine sector

KICK OFF:



When: **September 15th 2016**

Who: **veterinarians and professionals representing the porcine sector + AEMPS**

Objective: **achieve an agreement to reduce the colistin consumption**



Agreement to voluntarily reduce **colistin** consumption in the porcine sector

KICK OFF: AGREEMENT with specific goals



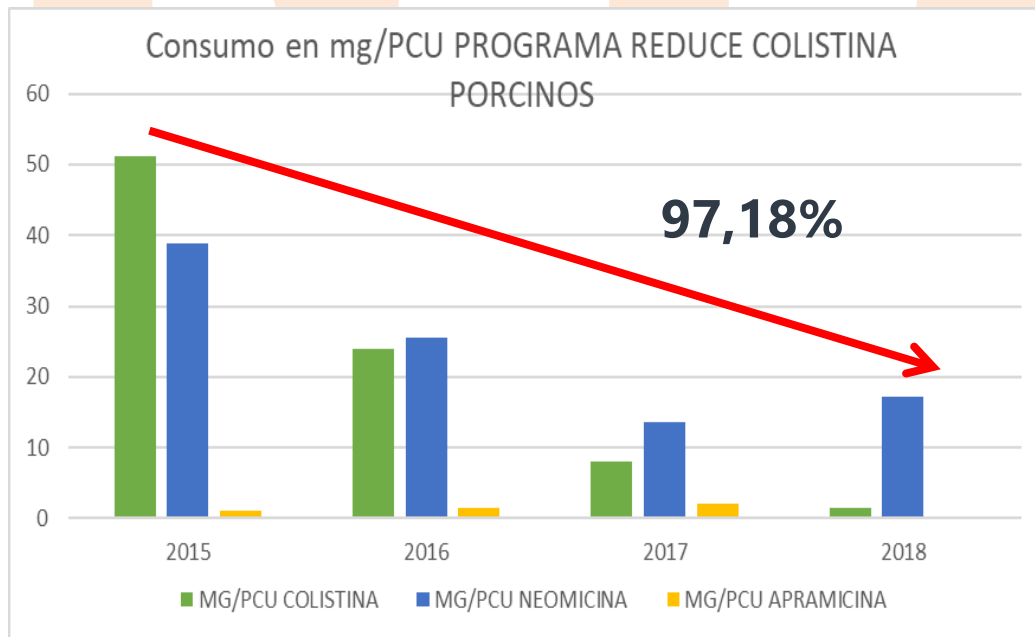
- i. **Reduce** the **consumption** of colistin in the porcine sector.
- ii. **Quantitative target of 5 mg/PCU** in the maximum period of three years.
- iii. **Control the consumption of other AM** as an alternative: avoid the increase in neomycin and/or apramycin.

Programa Reduce Colistina



Agreement to voluntarily reduce **colistin** consumption in the porcine sector

RESULTS:



1 78 companies representing 80% of the sector

2 97,18% reduction in colistin consumption between 2015 and 2018

3 55% reduction in neomycin consumption between 2015 and 2018



Agreement to voluntarily reduce **colistin consumption in the porcine sector**

RESULTS: how did we achieve this?

- i. **Spread awareness** on prudent use of AM.
- ii. **Production improvements:**
 - a) Feeding programme
 - b) Weaning management: ventilation, temperature, animal welfare (no overcrowding), homogeneous batches, appropriate numbers of animals.
 - c) Increase immunity: food, vaccination programmes.
 - d) Better biosecurity and hygiene at farm level.
- iii. **Significant investment** (3rd largest producer worldwide).
- iv. **Public recognition.**

Agreement to voluntarily reduce **colistin** consumption in the porcine sector

RESULTS: how did we achieve this?

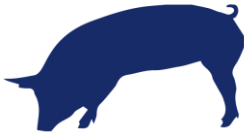
Public recognition.

When adhering to the agreement, companies sign a public declaration of compliance.

There's a distinctive recognition when a company complies.



Programa
Reduce
Colistina



Agreement to voluntarily reduce **colistin consumption in the porcine sector**

What is next?

Programa
Reduce
Antibióticos



Programa
Reduce
Antibióticos

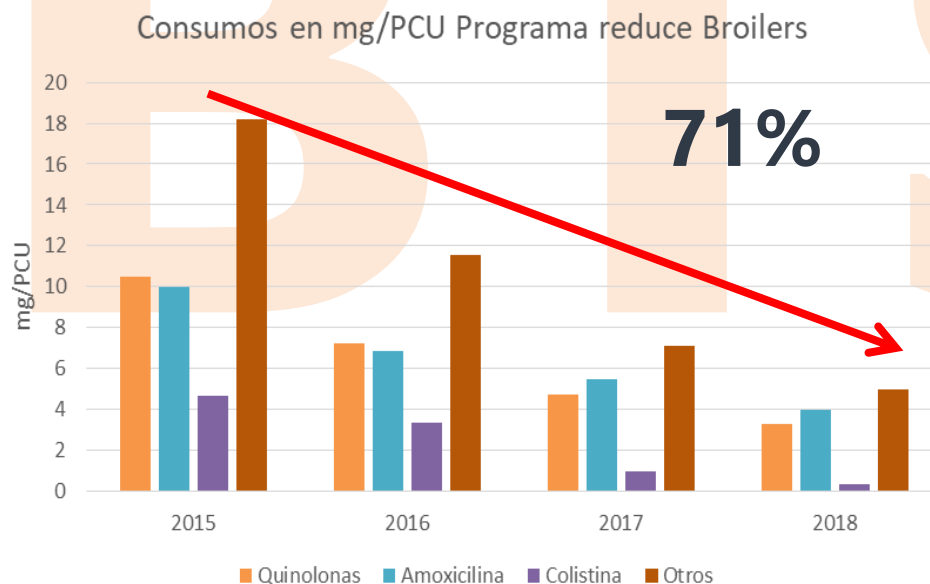


Programa Reduce Antibióticos



Agreement to voluntarily reduce **antibiotic** consumption in broilers

RESULTS:



1

23 companies representing
97% of the sector

2

Objective: 45% drop in total
antibiotic consumption in
2020

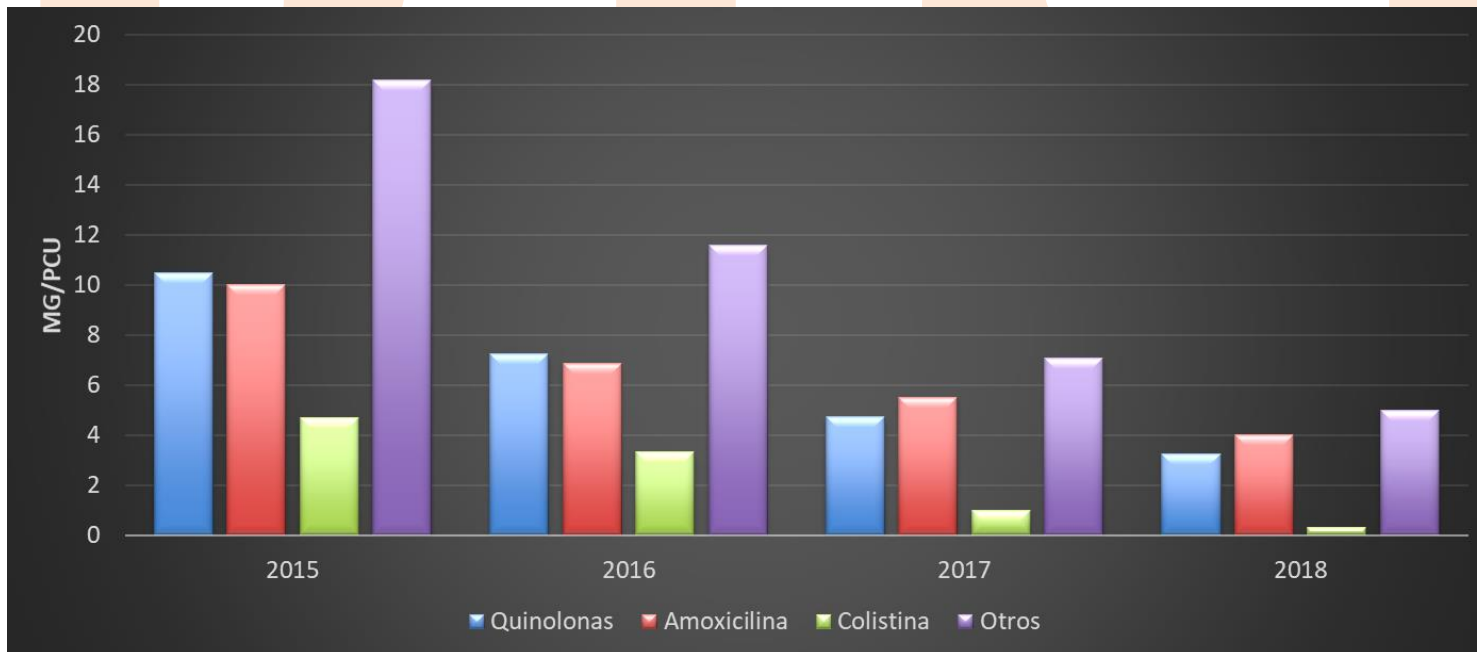
3

71% reduction in global
antibiotic consumption
between 2015 and 2018

Programa Reduce Antibióticos



Agreement to voluntarily reduce **antibiotic consumption in broilers**



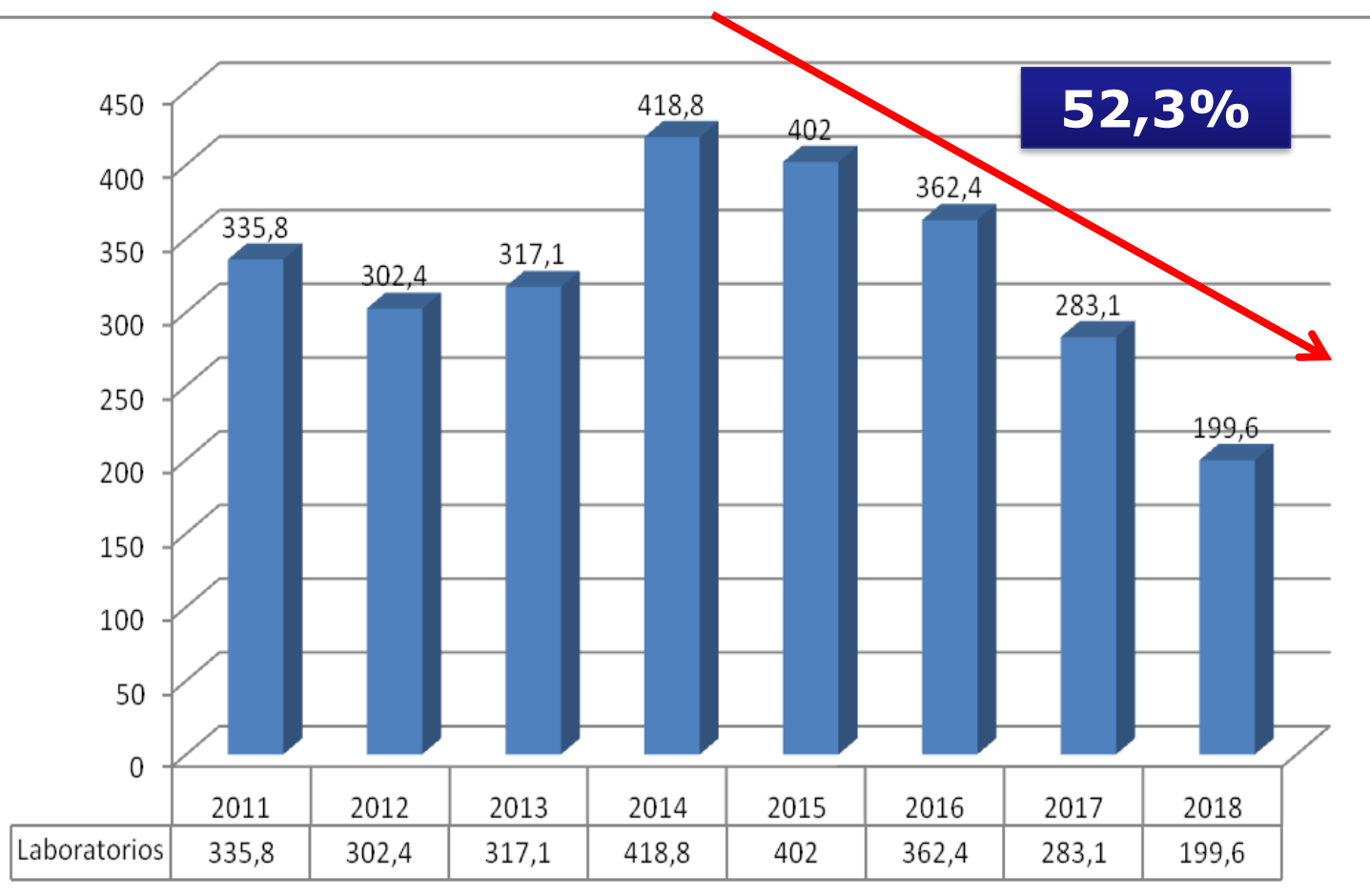
Agreement to voluntarily reduce **antibiotic consumption in broilers**

Goal = ↓ 30% in two years

- i. Not prescribing **colistin** (oral / feed).
- ii. **Guidelines** for prescription.
- iii. **Maternities** “without medication”.
- iv. Pre-weaning (Mucoid Epizootic Enteropathy): **2 Atb.**
- v. Special look at **Oxytetracycline**.



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What is next?



PORCINO



POLLOS BROILER



CUNICULTURA



BOVINO CARNE



BOVINO LECHE



OVINO Y CAPRINO



AVICULTURA DE PUESTA



PAVOS



PEQUEÑOS ANIMALES



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Check List

DISPONER DE UN PROGRAMA SANITARIO ELABORADO CONJUNTAMENTE CON EL VETERINARIO DE LA EXPLOTACIÓN:

- BIENESTAR ANIMAL
- BIOSEGURIDAD INTERNA Y EXTERNA
- BUEN MANEJO DE LOS ANIMALES
- BUENAS PRÁCTICAS DE HIGIENE Y DE LIMPIEZA Y DESINFECCIÓN
- PLAN VACUNAL
- REGISTRO CORRECTO DE LAS ACCIONES REALIZADAS

VIGILANCIA DEL ESTADO SANITARIO DE LOS ANIMALES:

- REVISIÓN DIARIA DE LOS ANIMALES
- CHEQUEO DE LOS INDICADORES DE SALUD
- ANÁLISIS DE LOS DATOS PRODUCTIVOS

DETECCIÓN DE LOS ANIMALES ENFERMOS TANTO POR EL GANADERO COMO POR EL VETERINARIO

DIAGNÓSTICO:

- CLÍNICO POR EL VETERINARIO
- LABORATORIAL MEDIANTE TOMA DE MUESTRAS
- ESTUDIOS DE SENSIBILIDAD

TRATAMIENTO:

- EL TRATAMIENTO Y LA PRESCRIPCIÓN DEL FÁRMACO ÚNICAMENTE LO PUEDE REALIZAR EL VETERINARIO A CARGO DE LA EXPLOTACIÓN
- ADMINISTRACIÓN DEL TRATAMIENTO: ■ VÍA ■ TIEMPO ■ DOSIS

REVISIÓN DEL FUNCIONAMIENTO DEL TRATAMIENTO, TOMAR MEDIDAS PREVENTIVAS O MODIFICAR EL PROGRAMA SANITARIO.

Acciones en un plan sanitario

ACCIÓN	RESPONSABLE
PLAN SANITARIO	VETERINARIO + GANADERO
VIGILANCIA SANITARIA	GANADERO
DETECCIÓN DE ENFERMEDAD	GANADERO + VETERINARIO
DIAGNÓSTICO	VETERINARIO
PRESCRIPCIÓN	VETERINARIO + GANADERO
ADMINISTRACIÓN	VETERINARIO + GANADERO
REVISIÓN DEL RESULTADO	VETERINARIO + GANADERO

*Ni menos, ni más
¡Tú decides!*

Plan Nacional Resistencia Antibióticos

REALIZA PRUEBAS DE DIAGNÓSTICO PARA MEJORAR EL USO DE LOS ANTIBIÓTICOS

*Ni menos, ni más
¡Tú decides!*

Plan Nacional Resistencia Antibióticos



<http://resistenciaantibioticos.es/es>





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@PRANgob

Plan Nacional frente a la Resistencia a los Antibióticos (PRAN)

España

Tweets Tweets y respuestas Multimedia

Tweet fijado



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Profesionales sanitarios, pacientes, ganaderos, investigadores, estudiantes...
Todos podemos combatir la #ResistenciaBacteriana y conseguir que los
#antibióticos sigan funcionando. ¡Tómatelos en serio!

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Regístrate



Plan Nacional
frente a la
Resistencia a los
Antibióticos - PRAN

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Food safety

**TV and
radio
campaigns**



**PRAN
Awards**

AG1 – preparation

45 min 

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