Legislation as an efficient driver to reach national targets for the use of critically important antibiotics in veterinary medicine in France

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INTRODUCTION

- **Newer-generation cephalosporins** and **fluoroquinolones** are considered as particularly important in human medicine because they are among the only alternatives for the treatment of certain serious infectious diseases in humans.
- The aim of the **French Ecoantibio Plan** is to reduce the contribution of antimicrobial use in animals to antimicrobial resistance. Alongside voluntary and incentive measures, **legislative and regulatory actions** have been taken during the first action Plan.

METHODS

➢ **A law published in 2014 set a reduction target of 25% over three years** (2014-2016) in the exposure of animals to critically important antibiotics for human health (CIA), i.e. 3rd and 4th generation cephalosporins and fluoroquinolones.
(Act on the future of agriculture, food and forestry, Act No. 2014-1170)

➢ **A Decree** and an Interministerial Order to frame the use of CIA in veterinary medicine were published in March 2016.
- **Ban of CIA for preventive purposes**
- **Mandatory clinical examination** followed by bacterial identification and an **antibiotic susceptibility testing** before prescribing CIA for curative or metaphylactic purposes.

➢ **Data from the Sales survey of veterinary medicinal products containing antimicrobials in France in 2017**
(Anses report, 2018)
- **ALEA indicator:** Animal Level of Exposure to Antimicrobials, for the oral and parenteral routes
  ALEA = the number of Defined Course Doses divided by the biomass of the animal population potentially using antimicrobials
  Change in the ALEA is representative of the change in the number of treatments performed.
- **Number of intramammary treatments per dairy cow**

RESULTS

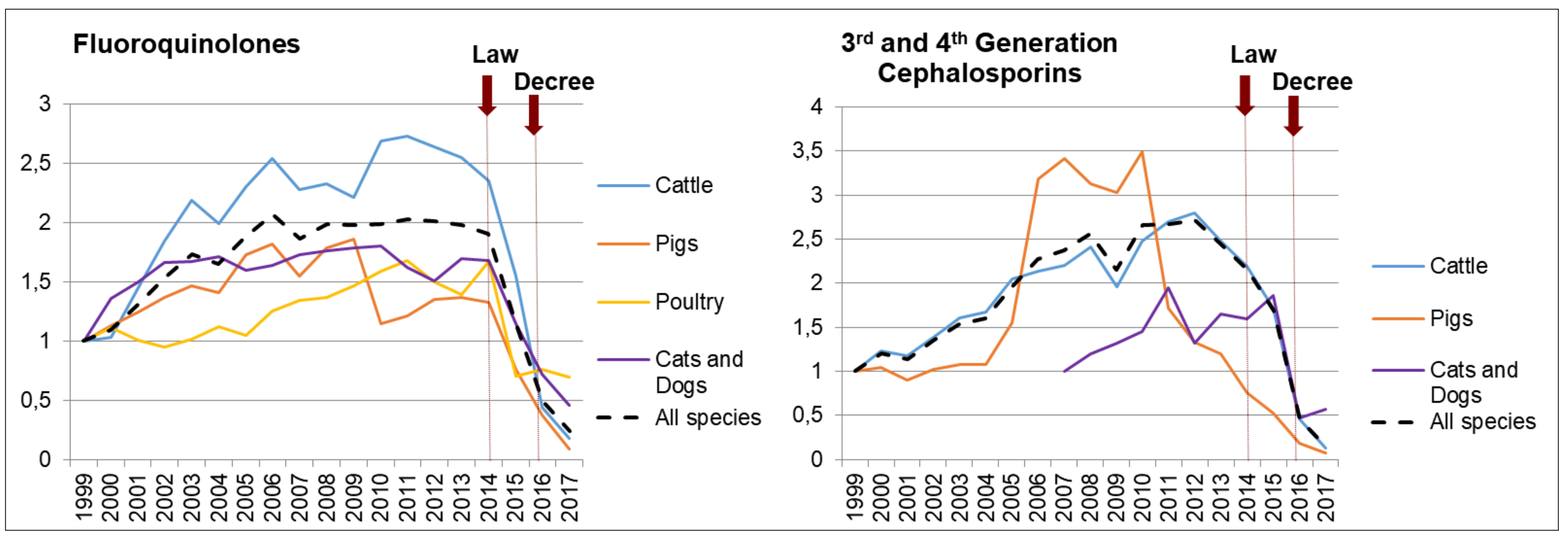

Figure: Changes in the ALEA indicator for CIA in France compared to 1999

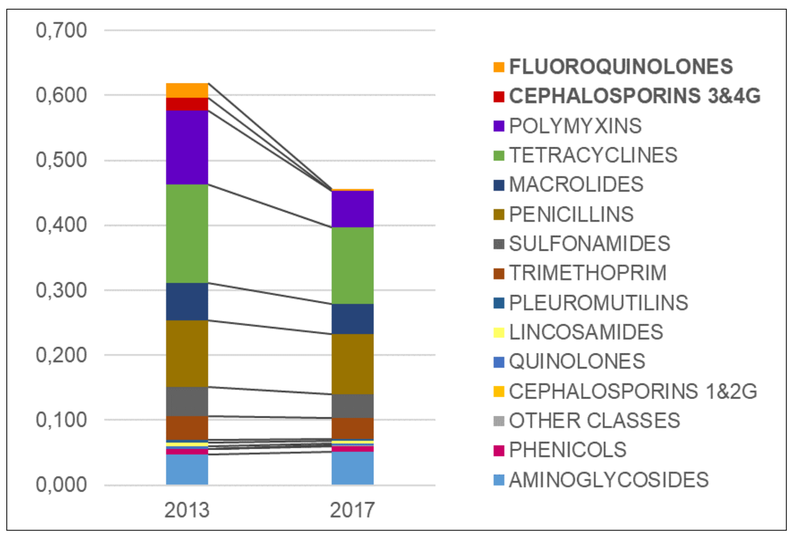

Figure: ALEA indicator in 2013 and 2017

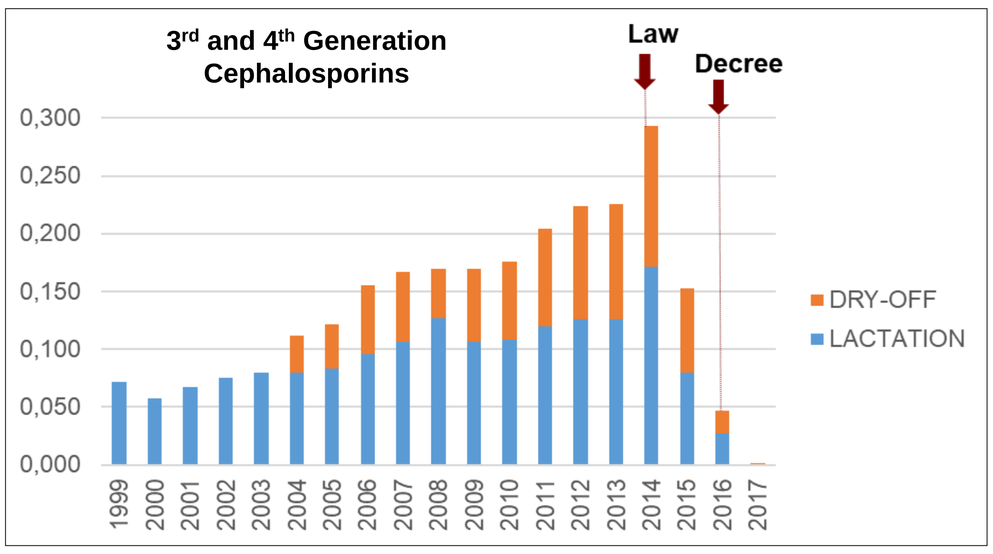

Figure: Number of intramammary treatments per dairy cow

Results in 2017 compared to 2013:

- **ALEA**
  - ➢ **-94.2%** for 3rd and 4th generation cephalosporins (all species combined)
    cattle: -95%, pigs: - 94%, cats and dogs: -66%
  - ➢ **-87.8%** for fluoroquinolones (all species combined)
    cattle: -93%, pigs: - 94%, poultry: - 50%, cats and dogs: -73%
- **Number of intramammary treatments per dairy cow**
  - ➢ **-99.5%** for newer-generation cephalosporins

This **sharp decrease observed in CIA** use can be explained by several factors:

- prior to the Ecoantibio plan, **professionals voluntarily engaged** themselves in a reduction process focusing on CIA,
- options taken in the Decree were **largely explained and communicated** and were well accepted by the professionals
- the Decree has acted as a mandatory tool inducing **an important change in practices**.

CONCLUSION

The exposure decline for CIA was observed for all species. The targeted 25% reduction in the use of newer-generation cephalosporins and fluoroquinolones in three years was largely achieved in 2016, and this drop in exposure continued in 2017. These encouraging results can clearly be linked to legislative measures seeking to regulate the prescription and sale of drugs used in veterinary medicine containing CIA.