



*Press release 5 October 2017*

## **Antimicrobial use in Danish animals continues downward trend**

**The total antimicrobial consumption in Danish animals has continued to decrease for the third consecutive year. This is one of the findings of the annual DANMAP report for 2016 from Statens Serum Institut as well as the National Veterinary Institute and the National Food Institute, which are both departments under the Technical University of Denmark.**

In 2016, the total antimicrobial consumption (in kilos) by Danish animals was approximately 5% lower than the previous year. It is the third consecutive year that a decrease has been recorded. Consumption has decreased in pigs, cattle, poultry and fish.

Overall, the veterinary antimicrobial consumption has decreased approximately 10% from 2013 to 2016, which is equivalent to a reduction of 12 tonnes of antimicrobials.

### **Lower consumption in pig production**

The decrease in the total consumption of antimicrobials is primarily due to a 4% (3,349 kg) reduction in the use in the pig production in 2016 compared to 2015. Pig production in Denmark constitutes approximately 85% of the country's meat production and around 75% of the total veterinary-prescribed antimicrobials are used for pigs.

"A reduction in the use of antimicrobials is necessary if we are to tackle the problem of antimicrobial resistant bacteria. The Danish Veterinary and Food Administration has in recent years implemented several initiatives to limit consumption, and it is positive to see that the downward trend in consumption continues," Head of Division Flemming Bager from the National Food Institute says.

The use of medicinal zinc – zinc oxide– has also decreased by 4% in 2016 compared to 2015. This drop comes after a doubling in use between 2006 (250 tonnes) and 2015 (500 tonnes). Zinc oxide may lead to resistant bacteria in pigs such as MRSA. Furthermore, most of the zinc oxide ends up in the fields via the manure, where it is a potential environmental problem.

"The recent focus on the use of medicinal zinc in pig production and the correlation between antimicrobial resistance and consumption of medicinal zinc may have led to the reduced use in pigs. The European Commission will phase out the substance by June 2022, and consequently we can expect a continued decrease in consumption in the coming years," Flemming Bager says.

### **Positive trends in consumption by poultry and fish**

Following two years with much higher antimicrobial consumption than normal due to several serious disease outbreaks in the broiler production, the consumption by poultry has declined sharply by 36% (880 kilos) from 2015 to 2016. As such, consumption has returned to the pre-outbreak levels.

Antimicrobial consumption in the Danish aquaculture production is the lowest recorded in a decade. This is in large part due to the cooler summer weather, which has resulted in lower water temperatures leading to fewer disease problems.

### **Positive development in the consumption of critically important antimicrobials**

Despite an increase in antimicrobial consumption by companion animals from 2015 to 2016, the development over the past five years has been generally positive with a decrease in the total consumption of approximately 11% (160 kg). The consumption of 3rd and 4th generation cephalosporins in particular has fallen steadily over the past five years.

"It is positive to note that the consumption of cephalosporins in pets has dropped significantly in recent years. Since cephalosporins are among the antimicrobial agents, which are critically important for the treatment of humans, it is especially important that they are used only when the veterinarian has no other treatment options," Flemming Bager explains.

He adds: "It is very important to continue to work towards reducing the use of antimicrobials in pets, as most of the veterinary consumption of critically important antimicrobials is used in pets, who come into close contact with people."

Consumption of critically important antimicrobials – such as cephalosporins and fluoroquinolones – in the animal production is still very low.

"The Danish Veterinary and Food Administration has had a very restrictive approach to the use of fluoroquinolones in production animals for many years, and Danish pork and cattle producers are voluntarily phasing out the use of 3rd and 4th generation cephalosporins. These initiatives have been crucial for the Danish success in reducing the use of these antimicrobials," Flemming Bager says.

### **Read more**

Since 1995, the DANMAP programme has monitored the use of antimicrobials in humans and animals in Denmark, and the occurrence of antimicrobial resistance in bacteria in animals, people and foods. The organizations behind DANMAP are the National Food Institute, the National Veterinary Institute (both institutes are under the Technical University of Denmark) and Statens Serum Institute. The DANMAP report is prepared by the National Food Institute and Statens Serum Institute.

[Find the DANMAP report on DANMAP's website.](#)

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### **Facts about antimicrobial resistance**

Treatment with antimicrobials is intended to kill pathogenic bacteria. Unfortunately, antimicrobials also cause the bacteria to protect themselves by developing resistance to the type of antimicrobials that are used to treat them.

Resistant bacteria can be transmitted between humans, and bacteria can transmit resistance to each other. However, resistant bacteria are poor at surviving if antimicrobials are not present. Therefore, it is important to have an overall focus on using as few antimicrobials as possible for the treatment of both animals and humans.

Bacteria know no borders. Therefore antimicrobial resistance in one country can cause problems outside of its borders. As such the over usage of antimicrobials in both animals and humans is a global problem.

### **Narrow and broad spectrum antimicrobials**

Not all antimicrobials are the same. Some have a narrow spectrum and affect only specific types of bacteria. They are used when you know which bacteria are causing the disease.

Others are broad spectrum and affect numerous groups of bacteria at the same time. They can therefore be used to treat a disease before knowing which bacteria cause the disease. However, they often also kill useful and harmless bacteria such as bacteria from the intestine, which may lead to the emergence of resistant bacteria.

### **Critically important antimicrobials**

Not all antimicrobials are equally important in the treatment of humans. WHO has declared a number of antimicrobials to be 'critically important', because they are the only or one of only a few antimicrobials, which can be used to treat serious or life-threatening infections in humans. These types include carbapenems, third and fourth generation cephalosporins, fluoroquinolones and macrolides.