



DANMAP

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Prudent use of antimicrobials in Danish animals continues

The use of antimicrobials in animals has been declining for five consecutive years. This is one of the findings of the annual DANMAP report for 2018. Particularly significant is a reduction in the use of antimicrobials in mink of just under 2.5 tonnes, which equates to 40% reduction compared with the previous year.

The downward trend in the use of antimicrobials in animals has continued in 2018 for five consecutive years. As such, the veterinary antimicrobial use was 14% lower in 2018 than in 2013.

This is one of the findings in the annual DANMAP report for 2018 from Statens Serum Institut—the Danish national institute for surveillance and preparedness of human infectious diseases—and the National Food Institute, Technical University of Denmark.

The use of critically important antimicrobials—such as cephalosporins and fluoroquinolones—in production animals was still very low in 2018. The use of cephalosporins in companion animals has continued to decrease.

Use in mink almost reduced by half

After a sharp increase in the use of antimicrobials in mink over a number of years, the use decreased by 40% from 2017 to 2018. The use of antimicrobials in mink in 2018 is the lowest since 2009.

"The increased use of antimicrobials in mink that we have registered during recent years appears to be reversing, which is probably a result of both the industry's targeted efforts in this area and a lower incidence of disease in mink during 2018," Senior Academic Officer Birgitte Borck Høg from the National Food Institute explains.

Decrease in antimicrobial treatments in pigs

Around 75% of the total veterinary-prescribed antimicrobials are used in pigs. When measured in treatment intensity—i.e. how many pigs receive some sort of antimicrobial treatment on any given day—the use across the entire pig sector has decreased by approximately 5% in 2018.

A closer look reveals a decrease in treatment intensity in weaner pigs (6%) and finishers (7%) and a small increase in sows and piglets (approximately 1%).

Law changes have contributed to the reduction

There has also been a shift in the types of antimicrobials that are used to treat pigs. This is largely due to the changes in legislations from both 2016 and 2017 in the Danish "Yellow Card" scheme, which multiply the amount of some antimicrobials by a factor making them count significantly more in a pig herd's antimicrobial account.

As an example, the use of tetracyclines is multiplied by 1.5 and in 2018, the total use of tetracyclines in pigs measured in kilo active compound has decreased by 15% (from approx. 15 tonnes to approx. 13 tonnes). Similarly, the use of colistin, which is multiplied by 10, has virtually ceased in pigs.

"The data clearly show that changes to the "Yellow Card" scheme can effect swift and substantial changes in the antimicrobial use in pigs," Birgitte Borck Høg says.

The goal of the Danish MRSA action plan from 2015 was to reduce the use of antimicrobials in pigs by 15% from 2015 to 2018. The DANMAP report for 2018 shows that this goal has not quite been reached as the use has decrease by 13% during this period.

Increase in antimicrobial use in fish due to hot summer

As expected, the unusually warm summer of 2018 led to a higher incidence of illness in Danish fish farms that required antimicrobial treatment. In fact, consumption slightly more than doubled in 2018 compared to the previous year (3,557 kilograms vs. 1,697 kilograms), where the use was quite low. However, the use of antimicrobials in 2018 was still 30% lower than in 2014, when the highest use in fish was recorded.

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 DANMAP report is prepared by the National Food Institute and Statens Serum Institute.

[Download the DANMAP report from DANMAP's website.](#)

[A fact sheet about antimicrobial resistance is also available from the DANMAP website.](#)

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FACTS

Calculating use in weight or treatment intensity

It is possible to calculate antimicrobial use in several ways. In DANMAP, this is done in two ways: Partly as the amount in kilograms of active compounds, which were used to treat Danish animals during a year, and partly in treatment intensity, i.e. how many pigs receive some sort of antimicrobial treatment on any given day.

Fluctuations in antimicrobial use calculated in kilograms of active substance provide an overall impression of whether antimicrobial use increases or decreases over time.

The development of resistance has led to new recommendations regarding the choice of antimicrobials for the treatment of animals. Because different types of antimicrobials do not weigh the same, a change to a 'heavier' antimicrobial will lead to an increase in the amount of kilo active compound used, while at the same time leading to a decrease in the number of treatments that have been administered.

For example, neomycin replaced colistin for the treatment of pigs in 2017. A neomycin treatment weighs about five times as much as a colistin treatment. Therefore, replacing colistin with neomycin will cause the overall use in kilo active compound to increase as the number of treatments decreases



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