

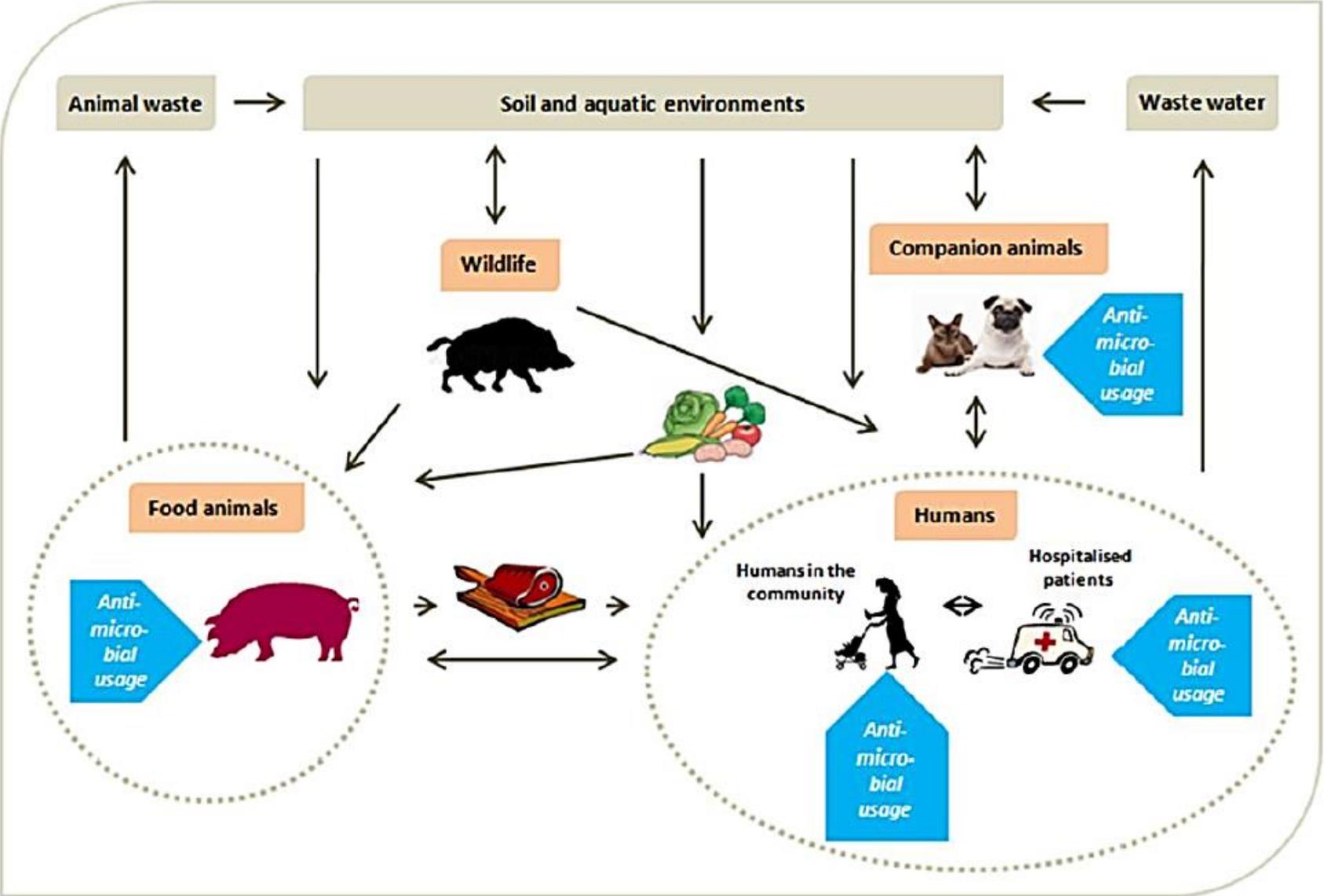
# The Danish action plan on AMR



Ministry of Environment  
and Food of Denmark



# Resistance moves between sectors



# The Danish Ministers – works together



The Minister of Environment and Food



The Minister of Health



# One Health Strategy against AMR

- ❖ A prudent use of antibiotics to reduce the incidence of resistance
- ❖ Greater efforts to prevent infections and to facilitate antibiotic alternatives
- ❖ Enhanced knowledge to improve targeted measures
- ❖ Information and guidance on resistance and transmission
- ❖ Strong international cooperation to minimize the development of AMR



# Three goals for AMU in humans 2017-2020

**Goal 1: The number of redeemed prescriptions for antibiotics should be reduced**

The number of redeemed prescriptions for antibiotics in the primary healthcare sector should be reduced from 460 prescriptions per 1000 inhabitants per year in 2016 to 350 prescriptions per 1000 inhabitants per year in 2020.

**Goal 2: There should be a change in the use of broad-spectrum to narrow-spectrum antibiotics**

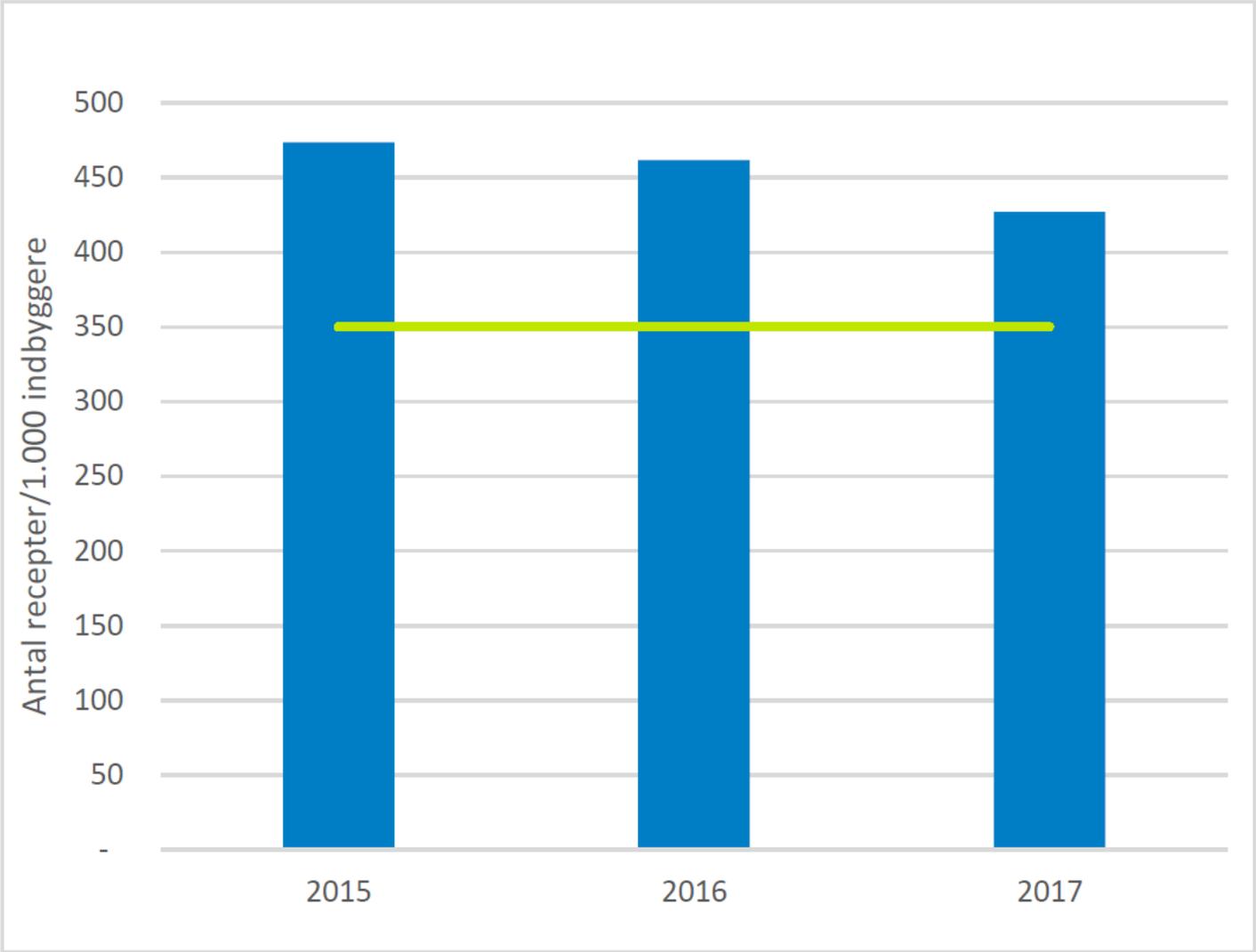
Narrow-spectrum antibiotics should be used more frequently in illness treatment. The use of Penicillin V should be increased from approx. 31 % in 2016 to constituting 36 % of the total antibiotic use in the primary healthcare sector in 2020, measured by the number of prescriptions per 1000 inhabitants.

**Goal 3: The consumption of antibiotics that are critically important for the treatment of infections should be reduced**

The consumption of critically important antibiotics should be reduced by 10 % by 2020 measured by DDD/100 bed-days for hospitalised patients, compared with consumption in 2016.



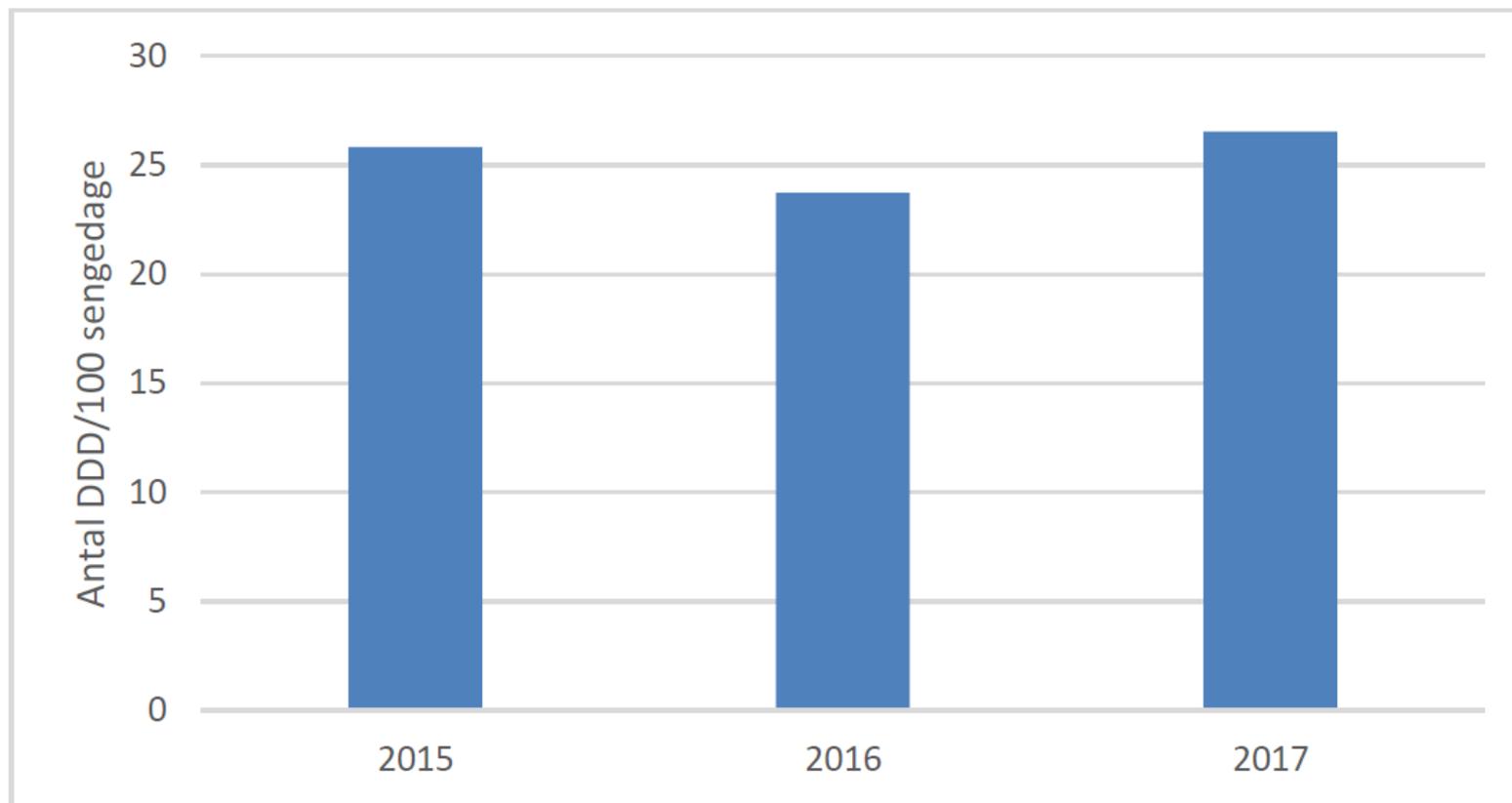
# Goal 1: Number of redeemed prescriptions for antibiotics should be reduced



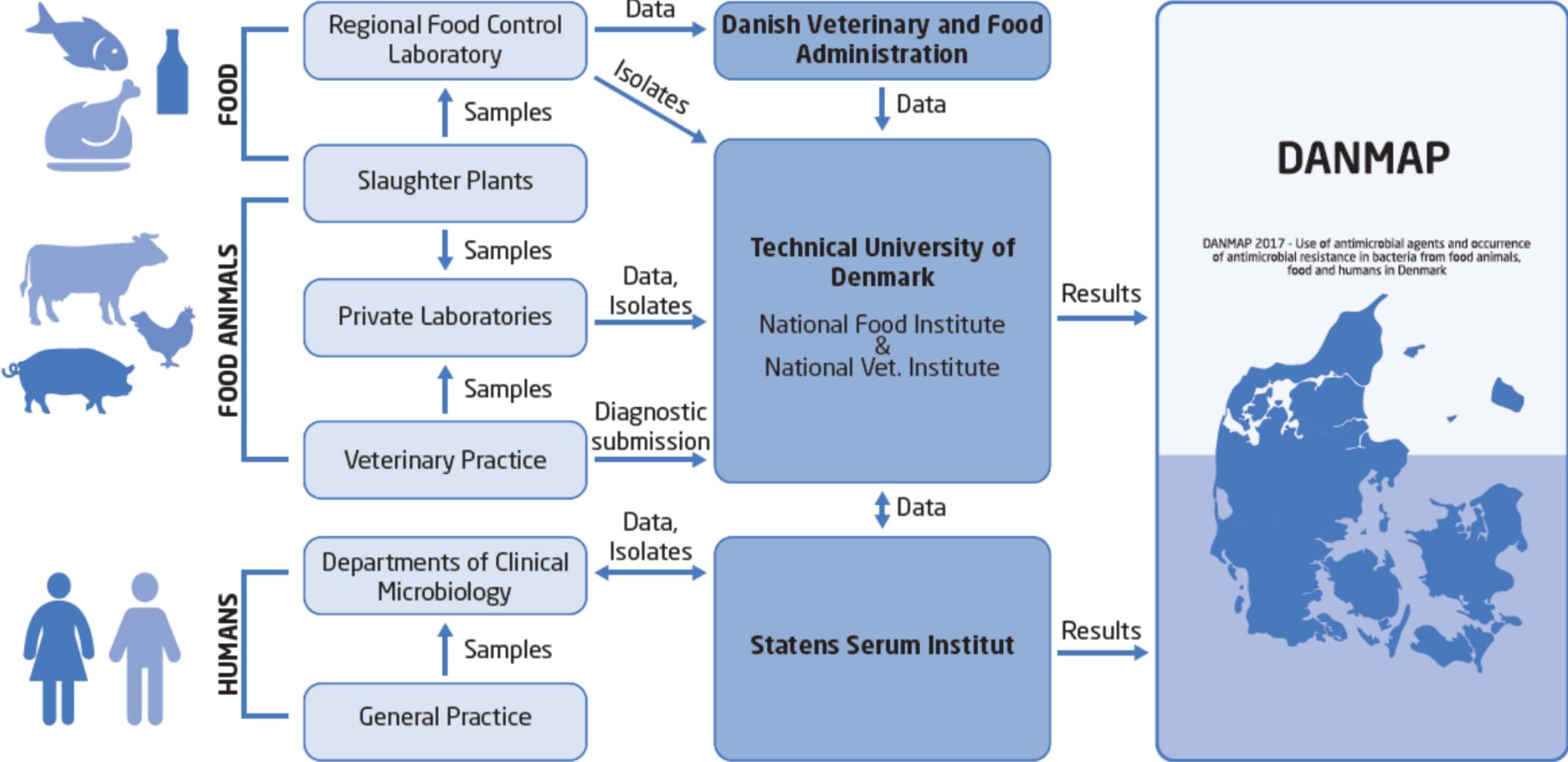
## Goal 2: There should be a change in the use of broad-spectrum to narrow-spectrum antibiotics

År	Al antibiotika	Penicillin V	Andel (%) af Penicillin V
2015	473	151	32
2016	462	145	31
2017	427	136	32

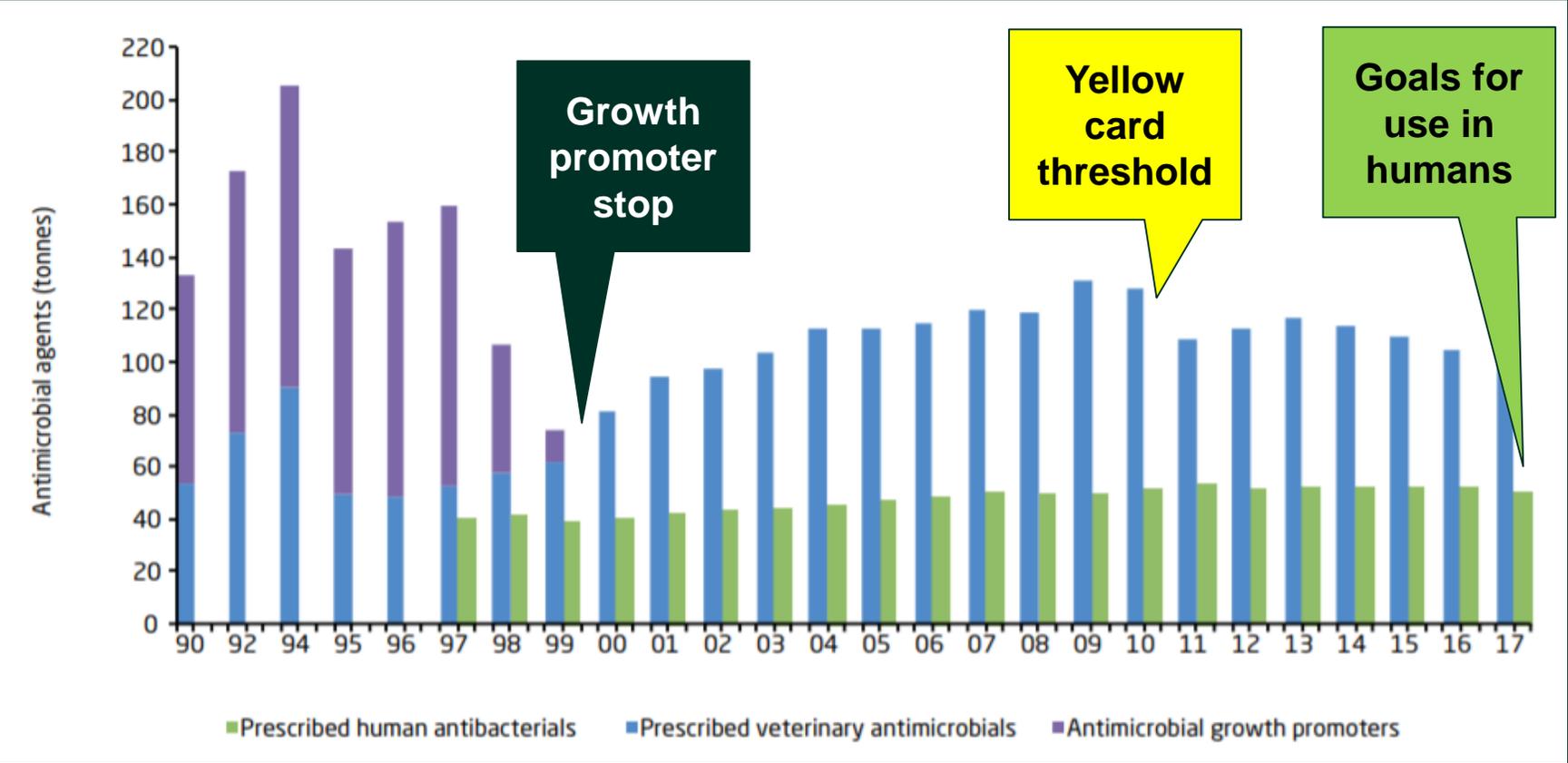
### Goal 3: The consumption of antibiotics that are critically important for the treatment of infections should be reduced



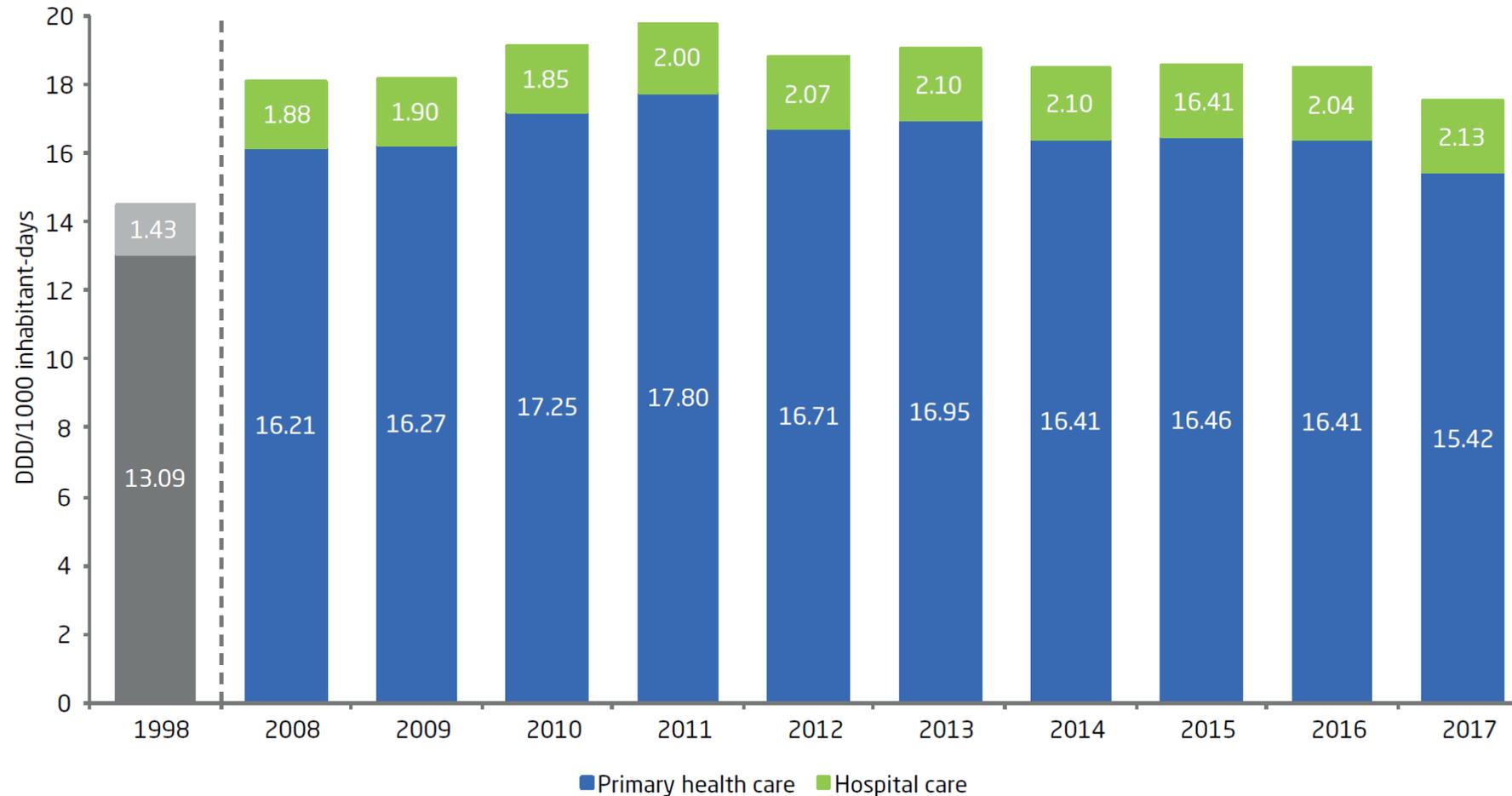
# One Health monitoring of AMU and AMR



# Antimicrobials for Humans and Animals



# Total consumption of systemic antimicrobials in humans, Denmark 2017



**Figure 10.** Spatial distribution of overall sales of all antimicrobials for food-producing animals, in mg/PCU, for 30 countries, for 2016

North- South  
gradient



# Important steps on the Danish way

**1995/2000** DANMAP/VetStat Data on consumption and resistance

**1996** Decoupling - Veterinarian has no longer profit on sales of antimicrobials. And 1:1 relation farmer and veterinarian

**1999** Stop for use of antimicrobials growth promoters

**2010** Goal for production animals, Yellow card initiative

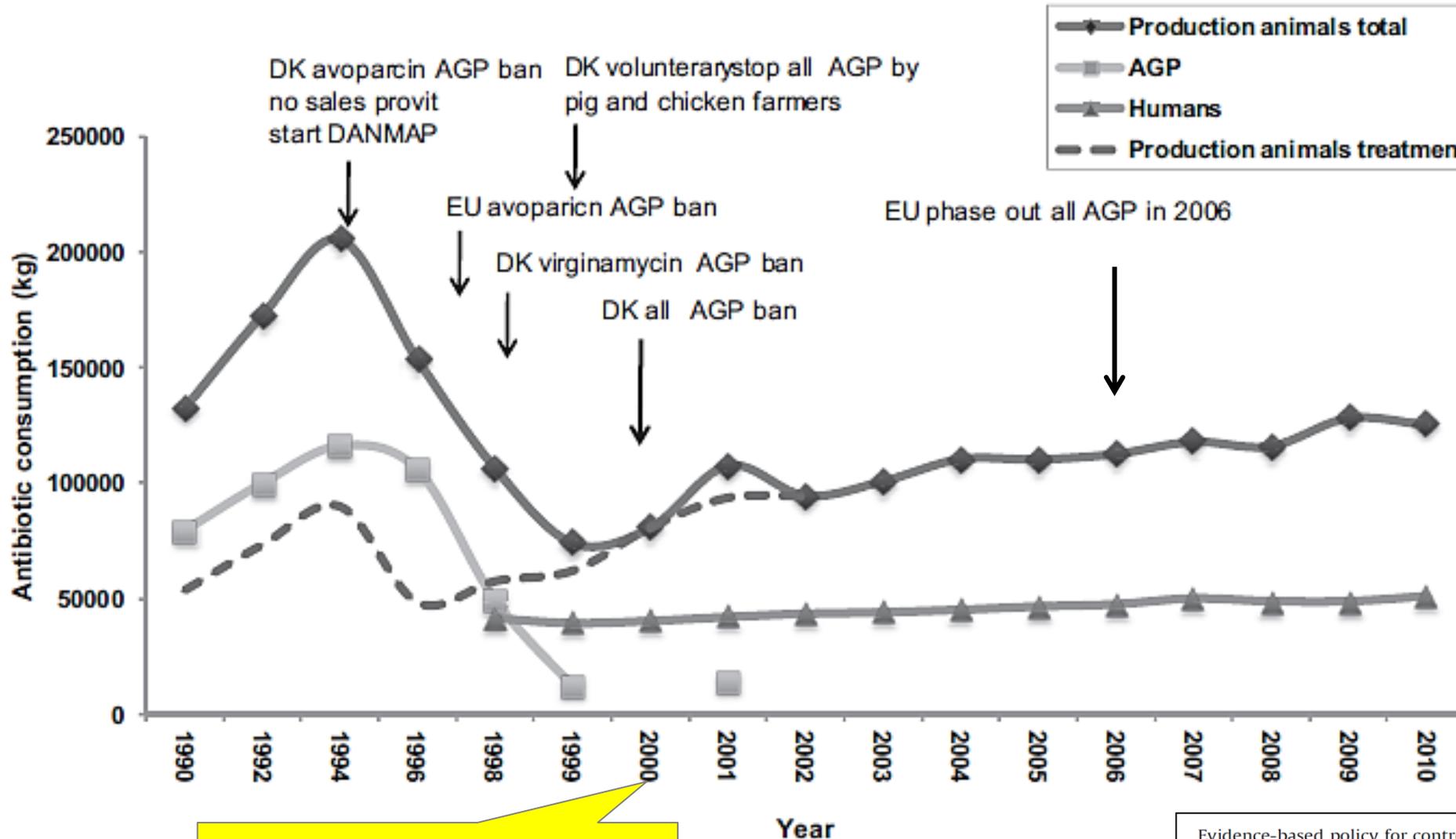
**2017** Goals for use of antimicrobials in humans



# No Antimicrobial Growth Promoters



Ministry of Environment and Food of Denmark  
Danish Veterinary and Food Administration



**Ban on AM growth promoters**

Evidence-based policy for controlling antimicrobial resistance in the food chain in Denmark

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# Mitigation of AMR in Danish animal population

**Decreased use of antimicrobials has resulted in less resistance. Infections in pigs remain treatable without the use of antibiotics of critical importance in human medicine, such as fluoroquinolones and 3rd and 4th generation cephalosporins.**

**It is feasible to reduce the use of antimicrobial for pigs, and maintain a sustained low use in a pig industry with high productivity, with no detrimental effect on pig health or welfare, and marginal cost to the farmer's economy.**

**Herd veterinarians have become the primary advisory expert to farmers on herd health management and prevention of diseases.**

# Public-private collaboration

**Denmark has acted on emerging AMR concerns. By using the strong data collected in the VetStat database we have been able to react to increased antimicrobial use before we have been able to detect increased AMR.**

**Public-private collaboration between the authorities, the industry, veterinarians and researchers have been crucial for the success of reducing antibiotics and finding efficient ways to reduce the usage.**

**The close surveillance of the use of antibiotics on farm level has been an important tool to provide an overview of usage and have formed the basis of a number of interventions by stakeholders.**

# Change takes time

The yellow card initiative has proven to be an important and effective tool in promoting a prudent use of antimicrobial use and to discourage the use of certain critically important antimicrobials.

Joint research activities in the pig industry in collaboration with universities, veterinarians and authorities have given new innovative solutions, where herd health management go hand in hand with increasing productivity and competitiveness.

Change takes time. Most of our initiatives have been rolled out or been adjusted gradually. This has given the farmers and veterinarians time to adjust and to devise smart solutions.

# The Yellow Card Initiative - Thresholds for Antimicrobial Usage in pigs



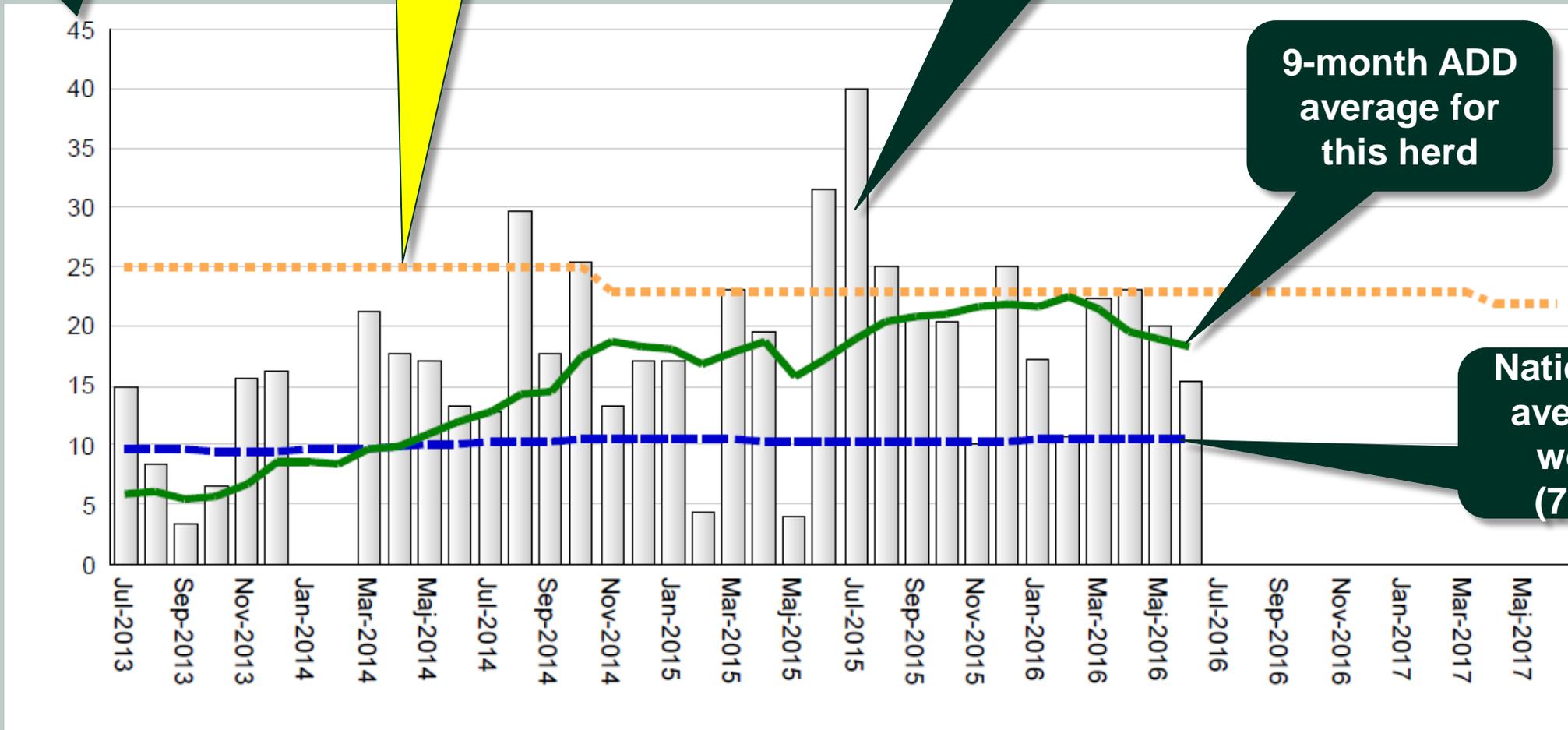
**ADD for weaners/100 days**

**Yellow Card Initiative Treshold for weaners**

**ADD prescribed in one month for this herd**

**9-month ADD average for this herd**

**National ADD average for weaners (7-30 kg)**



# Guidance on Prudent Use

 Ministry of Environment and Food of Denmark  
Danish Veterinary and Food Administration

## Guideline for Prescribing Antimicrobial for Pigs



### GUIDELINES ON GOOD ANTIBIOTIC PRACTICE

- As little as possible, but as often as necessary

2013

Videncenter for Svineproduktion



## Antibiotikavejledning til familiedyr **DOGS&CATS**



### NATIONAL ACTION PLAN ON ANTIBIOTICS IN HUMAN HEALTHCARE

Three measurable goals for a reduction of antibiotic consumption towards 2020

JULY 2017

 MINISTRY OF HEALTH

 SUNDHEDSSTYRELSEN

2018



FF

En god klinisk

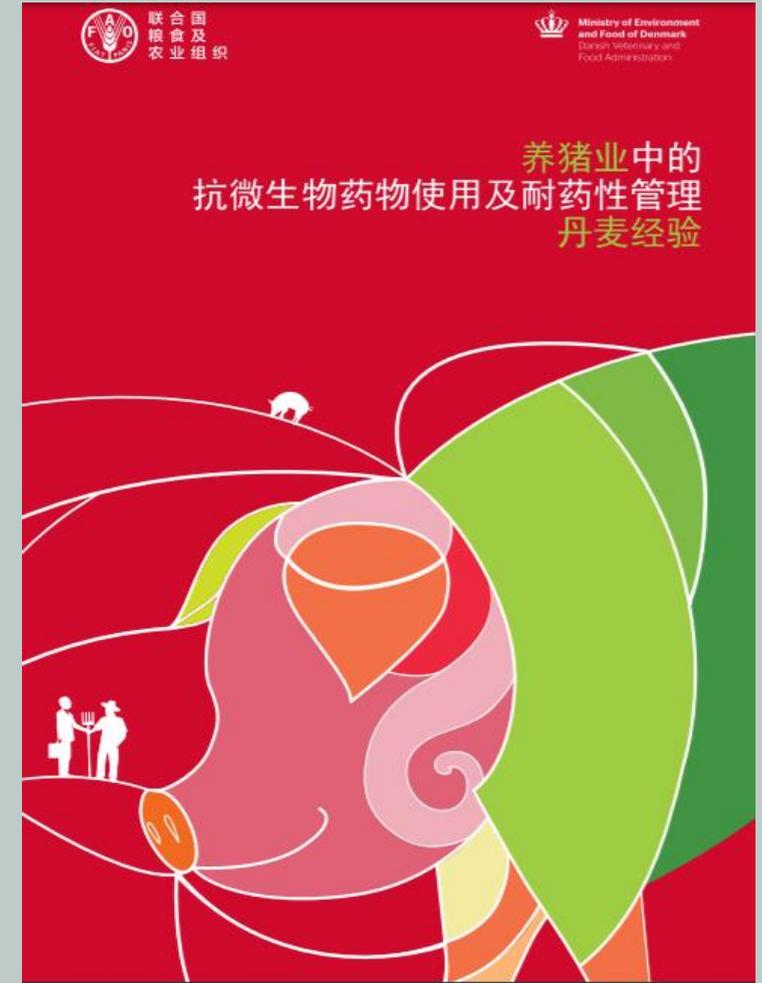
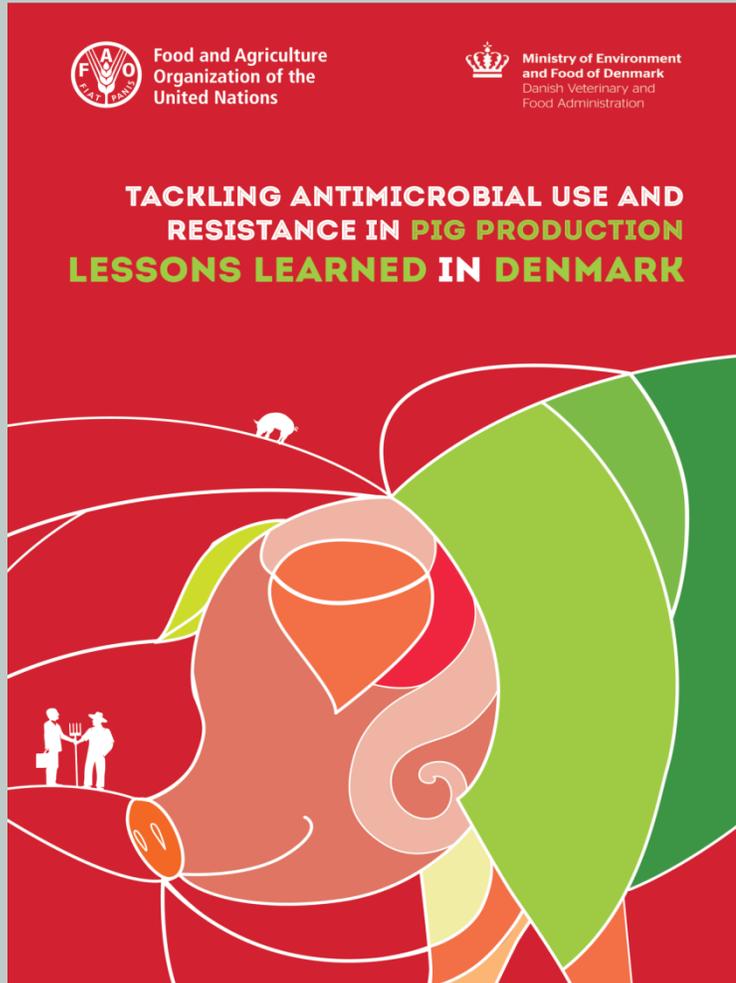
Vejledning om forebyggelse af spredning af CPO



# HUMANS



# FAO report in 2019



# Thank You

Ministry of Environment and Food

