Changes in the use of antimicrobials and the effects on productivity of swine farms in Denmark

Objective—To evaluate changes in antimicrobial consumption and productivity by Danish swine farms during 1992 to 2008.

Sample Population—All Danish swine farms for antimicrobial consumption data and a representative sample of Danish swine herds for productivity data. Procedures—Antimicrobial consumption by Danish swine farms from 1992 to 2008 was determined and evaluated in light of policies to regulate antimicrobial consumption, changes in disease patterns, and productivity data. Trend analyses of productivity data were conducted before and after a ban on use of antimicrobial growth promoters (AGPs). Results—Antimicrobial consumption peaked at 100 mg/kg of swine produced in 1992, decreased to 31 mg/kg in 1999, and increased to 49 mg/kg in 2008. Key factors for changes were regulations banning subtherapeutic use of antimicrobials and veterinary profits from the prescription and sale of antimicrobials in 1994 and termination of AGP use by January 2000. Pig production increased from 18.4 to 271 million pigs, and the mean number of pigs per sow per year raised for slaughter increased from 21 in 1992 to 25 in 2007 Average daily gain for weaning (<35 kg) and finishing (>35 kg) pigs was higher in 2008 than in 1992, but mortality rates for weaning and finishing pigs were similar in 1992 and 2008. Conclusions and Clinical Relevance—From 1992 to 2008, antimicrobial consumption per kilogram of pig produced in Denmark decreased by > 50%. Furthermore, there was improvement in productivity, suggesting that long-term swine productivity was not negatively impacted by a ban on AGP use.