Ministerie van Economische Zaken

Reduction of antimicrobial use and resistance in livestock

The Dutch Approach

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The Netherlands

WHO Global action plan AMR

Goal
Ensure ability to treat infectious diseases with effective and safe antimicrobials

4 Main objectives:
1. Improve awareness and understanding
2. Strengthen knowledge through surveillance
3. Infection prevention
4. Optimize the use of antimicrobials

Which measures did we take to achieve these objectives in animal husbandry?

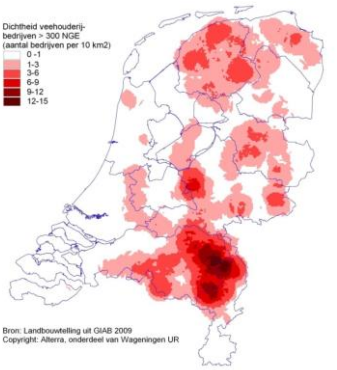
Livestock production in the Netherlands

The Netherlands

34,000 sq km land

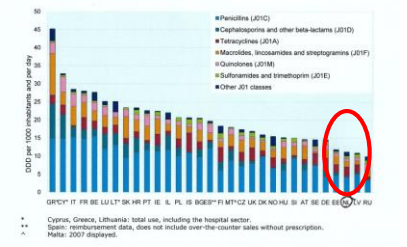
17 million people

130 million animals
- 4,2 million cattle
- 12,6 million swine
- 106,0 million chicken
- 1,8 million turkeys and ducks
- 1,5 million sheep and goats

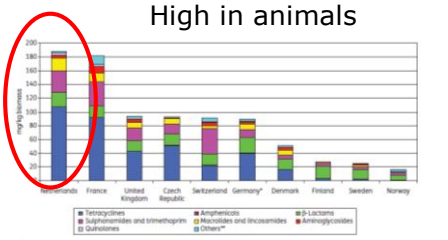


Triggers for reduction policy

Low in humans



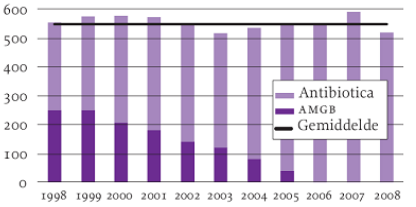
High in animals



Strong appeal for a more responsible and restrictive application of antibiotics in animal production

Triggers for reduction policy

- Primary motivation in public health: low level of AMR in human population
- Risk of resistance transmission from livestock to humans
- Growing concern about possible human health implications of livestock production in the Netherlands



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Key elements of reduction policy

- **Self-regulation**, combined with public surveillance and enforcement
- **Transparency**: all antibiotic use registered in mandatory central databases
- **Prevention not cure** (started with national awareness program)
- **Reduction targets**: -20% in 2011; -50% in 2013; -70% in 2015.

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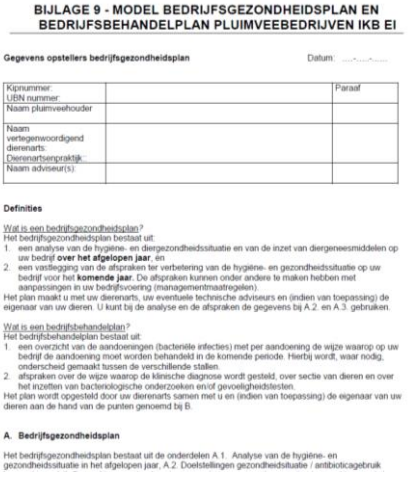
Report by Health Council

Recommendations for short and long term One Health policy measures:

- **Prohibition** of preventive use
- **Restrictions** on use of CIA's
- **Professional guidelines** for veterinary use of antibiotics and medication (1st, 2nd, 3rd choice antibiotics)
- **Mandatory** susceptibility testing before using 3rd choice antibiotics
- **Focus** on increase of health status

Actions of livestock production sectors

- Central registration of use on farm level
- Herd health and treatment plans
- One vet per herd
- Restrictions on use of CIA's
- Action plans for farmers using high amounts of antibiotics
- plans to (further) improve animal health in each sector (2016)



BIJLAGE 9 - MODEL BEDRIJFSGEZONDHEIDSPLAN EN BEDRIJFSBEHANDELPLAN PLUIMVEEBEDRIJVEN IKB EI

Gegevens opstellers bedrijfsgezondheidsplan Datum: ..-..-..

Kipnummer: UBN nummer:		Paraaf
Naam pluimveehouder		
Naam vertegenwoordigend dierenarts: Dierenartsenpraktijk:		
Naam adviseur(s):		

Definities

Wat is een bedrijfsgezondheidsplan?
Het bedrijfsgezondheidsplan bestaat uit:
1. een analyse van de hygiëne- en diergezondheidssituatie en van de inzet van diergeneesmiddelen op uw bedrijf **over het afgelopen jaar**, en
2. een vastlegging van de afspraken ter verbetering van de hygiëne- en gezondheidssituatie op uw bedrijf voor het **komende jaar**. De afspraken kunnen onder andere te maken hebben met aanpassingen in uw bedrijfsvoering (managementmaatregelen).

Het plan maakt u met uw dierenarts, uw eventuele technische adviseurs en (indien van toepassing) de eigenaar van uw dieren. U kunt bij de analyse en de afspraken de gegevens bij A.2. en A.3. gebruiken.

Wat is een bedrijfsbehandelplan?
Het bedrijfsbehandelplan bestaat uit:
1. een overzicht van de aandoeningen (bacteriële infecties) met per aandoening de wijze waarop op uw bedrijf de aandoening moet worden behandeld in de komende periode. Hierbij wordt, waar nodig, onderscheid gemaakt tussen de verschillende stallen.
2. afspraken over de wijze waarop de klinische diagnose wordt gesteld, over sectie van dieren en over het inzetten van bacteriologische onderzoeken en/of gevoeligheidstesten.

Het plan wordt opgesteld door uw dierenarts samen met u en (indien van toepassing) de eigenaar van uw dieren aan de hand van de punten genoemd bij B.

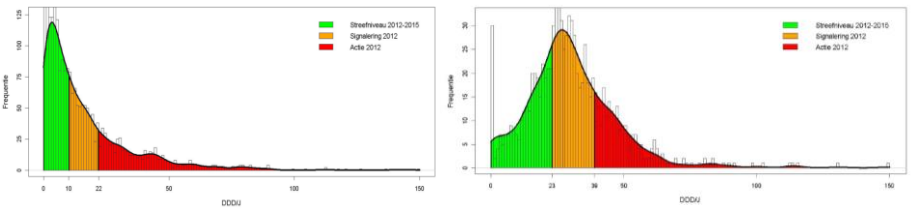
A. Bedrijfsgezondheidsplan

Het bedrijfsgezondheidsplan bestaat uit de onderdelen A.1. Analyse van de hygiëne- en gezondheidssituatie in het afgelopen jaar, A.2. Doelstellingen gezondheidssituatie / antibioticagebruik

Benchmarking approach per species

Example: frequency distribution of ADD/Y for pig-farms (L), veal (R)

- red area: immediate action
- orange area: attention
- green area: no specific action



- Same exercise has been performed for veterinarians

Actions of Veterinarians

- Development of a private quality scheme ("qualified veterinarians")
- Developments of professional guidelines for veterinary use of antibiotics in livestock.
- Professional medication guidelines adapted (1st, 2nd, 3rd choice)
- Benchmarking of veterinarians
- Action plan for vets in the red zone

Government

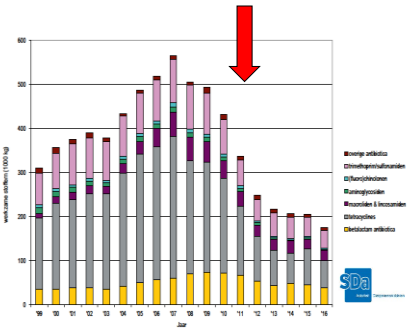
- Reduction targets
- Stringent enforcement
- New legislation:
  - Ban on profylactic use (2011)
  - Antimicrobials (prescribed) and administered exclusively by veterinarian after diagnosis, unless farmer complies with strict conditions
  - Susceptibility testing mandatory for 3d choice antimicrobials (3d, 4th gen. cephalosporins and fluoroquinolones)

Strengthen position of veterinarian

Dutch approach: Empowerment of vets to act as gatekeeper for human health

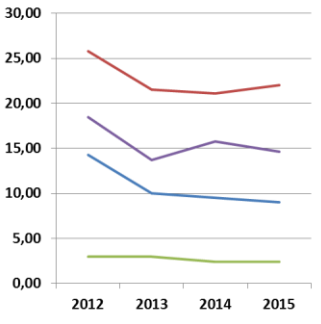
- One to one relation farmer vet
- Vet responsible for animal health on farm:
- Administration by vets only regulation
- Transparency: benchmarks for farmers and vets
- Mandatory farm visits
- Animal health plan
- Veterinary guidelines
- Private quality schemes ("qualified veterinarians")
- Stringent enforcement

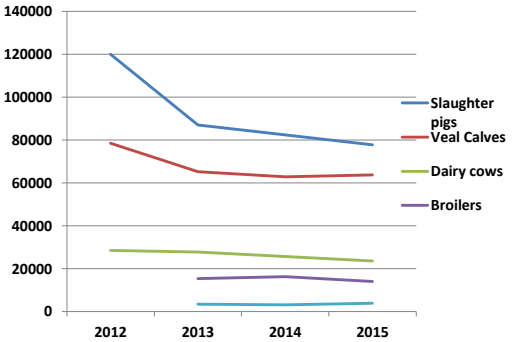
Reduction of usage of antimicrobials 2009-2016



- Total :**64,4%**
- Colistin :**79%**
- 3/4th gen.Cephalosporines : **98%**
- Fluoroquinolones :**75%**

Animal daily dose versus usage per sector

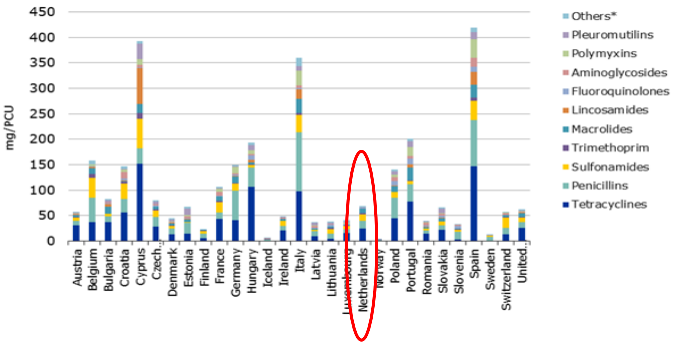




Source : Sda (Autoriteit Diergeneesmiddelen) 2015 report on usage of antimicrobials in livestock in the NL

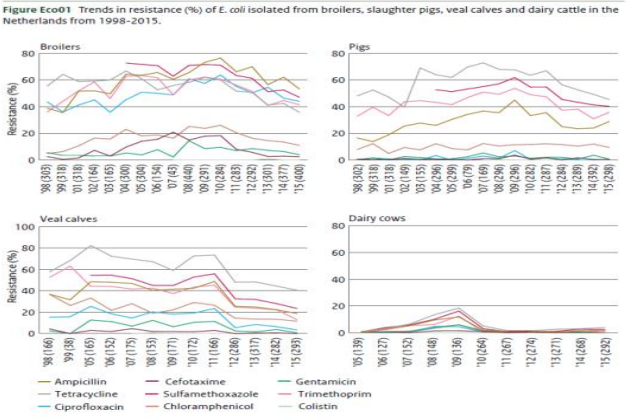
Figure provided by AJS Dwarkasing

Sales for food producing animals 2015



(Source: EMA / ESVAC 2016)

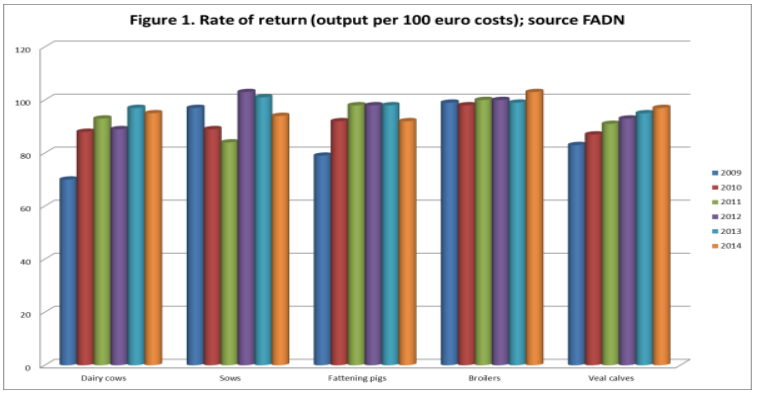
Results: Decrease of antimicrobial resistance in commensal E. coli in animals



Decrease of resistance levels in broilers, veal calves and pigs.

Reduction seems to be an effective measure.

Economic results 2009 - 2014



Critical (Dutch) success factors

- Sense of urgency on all levels (political, societal, sectoral)
- Action taken by all parties
- *We're in this together* – cooperation:
  - vets & farms
  - public & private
  - One Health
- Private sector well organized enabling public-private cooperation & the use of Private Production Chain Quality Systems

Best practices & lessons learned

- Transparency (registration & benchmarking)
- Strengthen position of the vet as a 'gatekeeper' for human health
- Promote prudent use (implementation advise Health Council)
- Reduce use of antibiotics critical for human health (reduces AMR)
- Enforcement by the government
- Prevention, improvement animal health: farm health plan, mandatory farm visits

Choose effective instruments according to structure of private sector

Experience based recommendations

The Dutch policy is specifically designed for the situation in NL and is **tailor-made** according

- intensive animal husbandry systems
- well organized private quality systems, enabling PP - cooperation
- small country, limited distances
- frequent import/export of food, animals & plants

✓ Multi-sectoral/One Health approach needed (human-vet-environment)
✓ Targeted measures / prevention not cure
✓ Surveillance is essential

- data for action
- to show the effectiveness of policy measures

Measures work