

# Risk-mitigation for antimicrobial resistance in Danish swine herds at a national level

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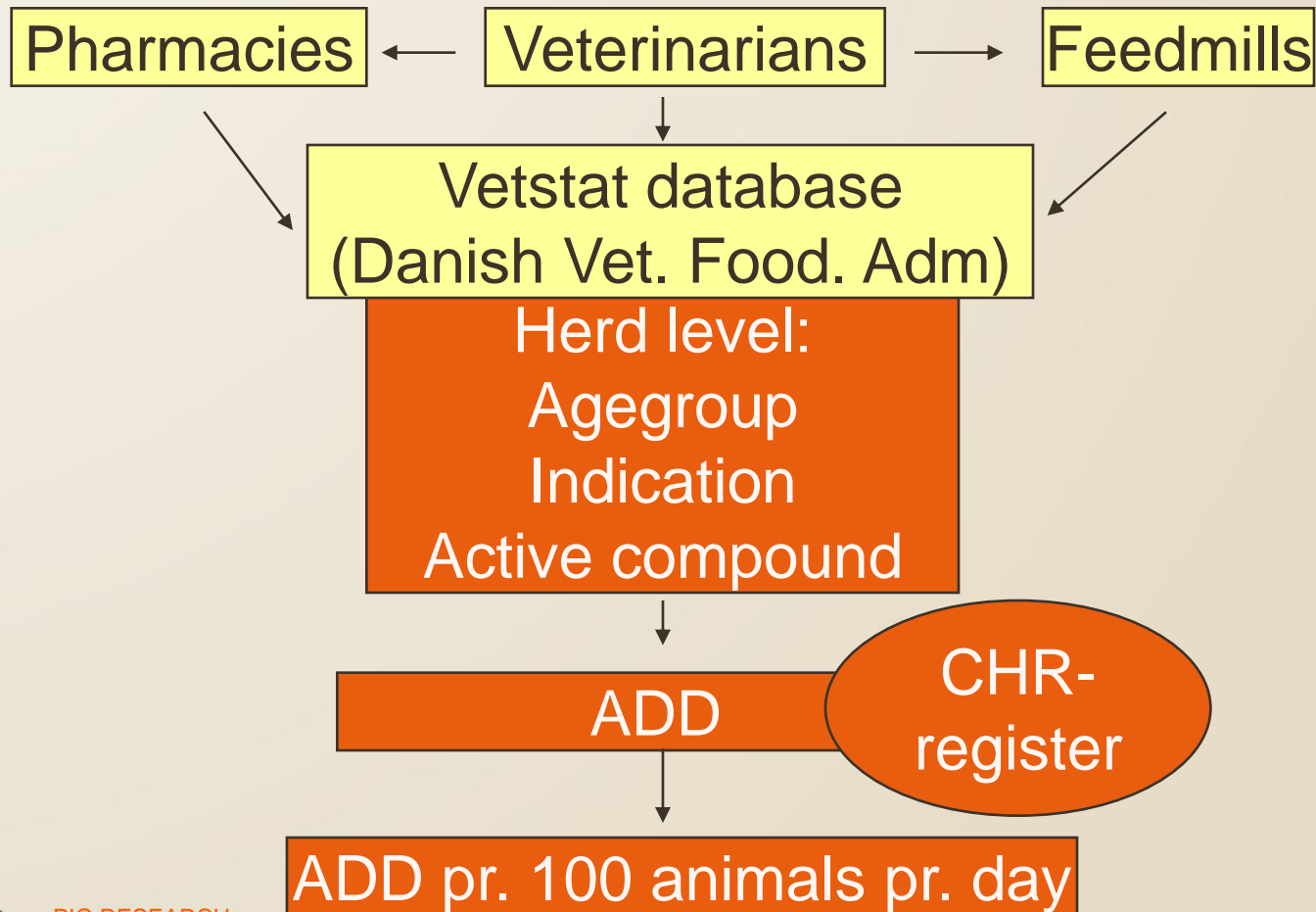
A. C. Cleveland, Danish Veterinary & Food Administration



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# Vetstat

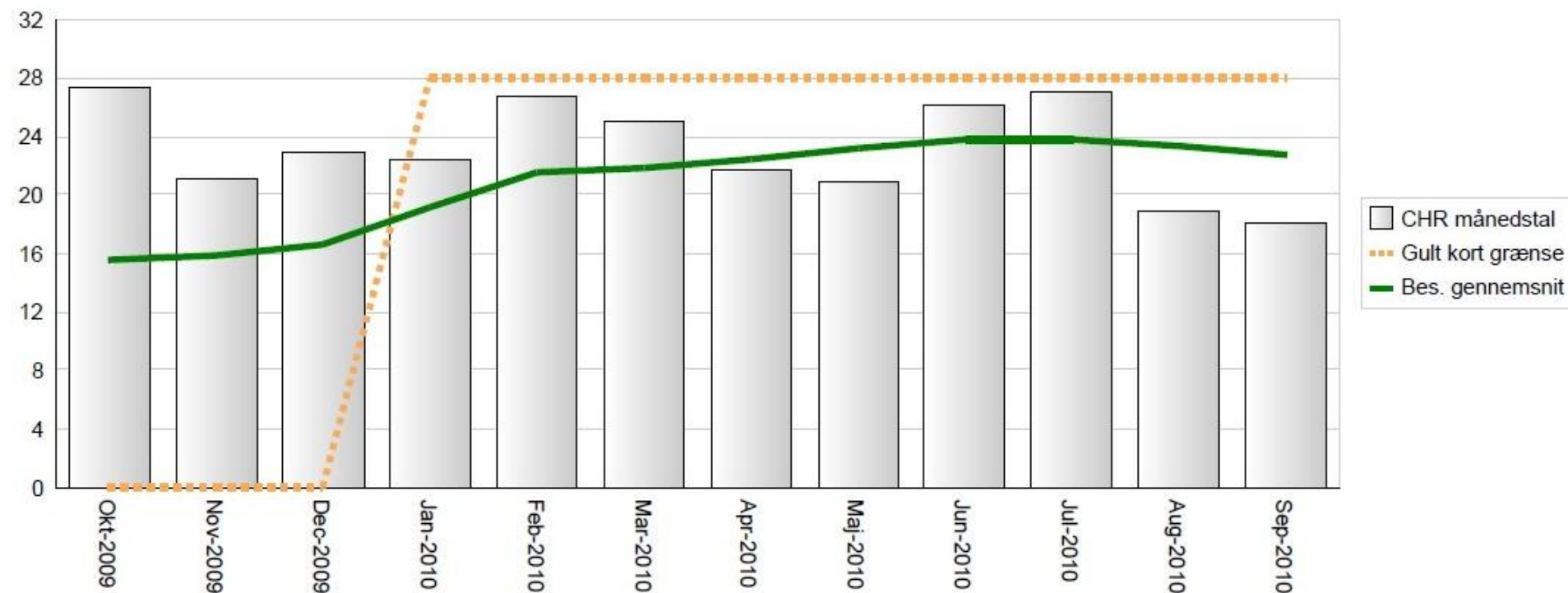
## – monitoring consumption of antimicrobials



# The herds consumption can be followed closely by farmer and consultants

Example from [www.vetstat.dk](http://www.vetstat.dk) (code needed):

FVST's grænseværdi, løbende 9 måneder



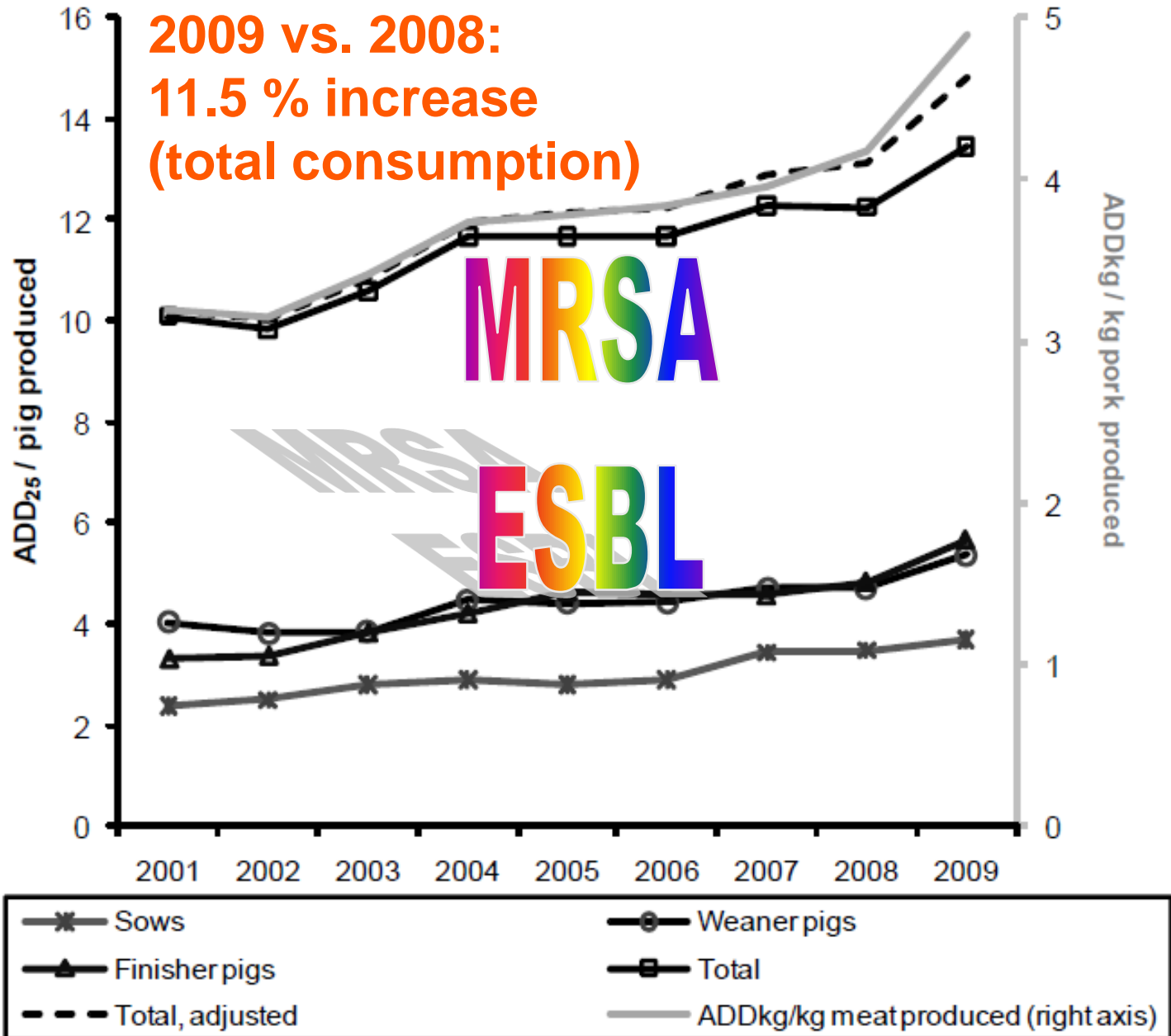
# Herds consumption can be followed closely on indication and active compound

ADD pr. 100 dyr pr. dag pr. antibiotikagruppe

Antibiotikagruppe	Okt 2009	Nov 2009	Dec 2009	Jan 2010	Feb 2010	Mar 2010	Apr 2010	Maj 2010	Jun 2010	Jul 2010	Aug 2010	Sep 2010
Tetracycliner	0,11					0,07	0,07		0,11			
Lincosamider	0,09	0,09	0,09	0,18	0,08	0,09	0,09	0,18	0,13	0,09	0,18	0,19
Penicilliner, udv.	0,58	0,76	0,5	0,74	0,39	0,37	0,5	0,95	0,86	0,37	0,74	0,62
Simple penicilliner	0,65	0,67		1,08	1,43	0,32	0,33	1,08	0,67	0,32	0,97	1,33
Pleuromutiliner				4,01					8,29			
Sulf/trim	0,4	0,21		0,2		0,08						
Amfenikoler	0,22		0,11	0,16		0,11	0,11	0,22				
Ordinationsgruppe	Okt 2009	Nov 2009	Dec 2009	Jan 2010	Feb 2010	Mar 2010	Apr 2010	Maj 2010	Jun 2010	Jul 2010	Aug 2010	Sep 2010
Reproduktion	0,69	0,48	0,23	0,47	0,39	0,31	0,44	0,82	0,72	0,23	0,47	0,48
Yver	0,4	0,21		0,2		0,08						
Tarmlidelser	0,95	0,09	0,2	4,35	0,08	0,2	0,2	0,39	8,4			
Luftvejslidelser									0,13	0,09	0,18	0,19
Led, lemmer etc.		0,94	0,27	1,34	1,43	0,46	0,47	1,21	0,81	0,46	1,24	1,47
<i>Gns. antal dyr/md.</i>	<i>600</i>	<i>600</i>	<i>600</i>	<i>600</i>	<i>600</i>	<i>600</i>	<i>600</i>	<i>600</i>	<i>600</i>	<i>600</i>	<i>600</i>	<i>600</i>
<i>Bes. gns. ADD/100 dyr/dag (9 mdr.)</i>	<i>2,12</i>	<i>2,0</i>	<i>1,85</i>	<i>2,39</i>	<i>2,34</i>	<i>2,28</i>	<i>2,24</i>	<i>2,26</i>	<i>3,04</i>	<i>2,9</i>	<i>2,91</i>	<i>3,08</i>
<i>Gult kort grænse</i>	<i>0,0</i>	<i>0,0</i>	<i>0,0</i>	<i>5,2</i>	<i>5,2</i>	<i>5,2</i>	<i>5,2</i>	<i>5,2</i>	<i>5,2</i>	<i>5,2</i>	<i>5,2</i>	<i>5,2</i>



# Antimicrobial consumption (2004-2009)



# 2010: Yellow card scheme

## We must decrease usage!

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# Yellow card scheme - permit limits 2010/11

9-month moving average by age-group



	Sows	Weaners	Finishers
<b>ADD pr. 100 animals pr. day</b>	<b>5,2</b>	<b>28</b>	<b>8</b>

Appr. 10 % of farmers above these limits



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# Yellow card – course of events

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July 2010

→ "Informationletters"

- 1249 farmers - close to or over permit limit
- Informed about herds 3 ADD- values
- Chance to correct mistakes in their registrations

November 2010

→ Consolidated act

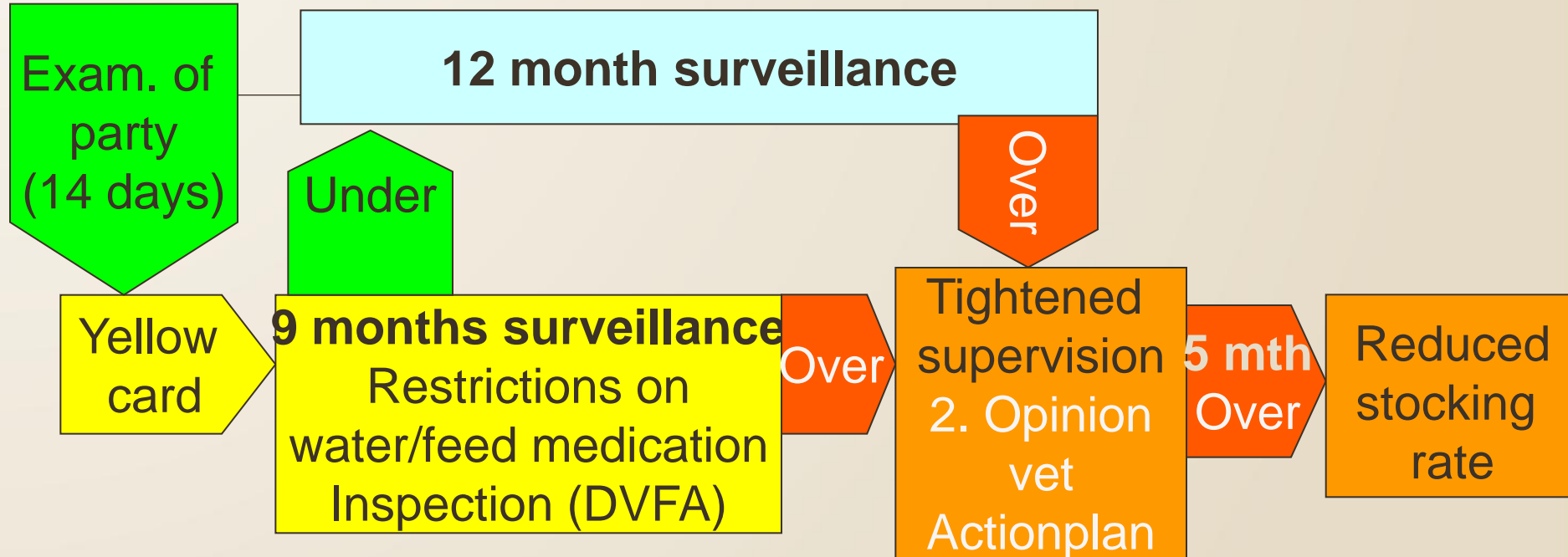
December 2010

→ "Warning letter" to

- Appr. 1100 farmers above permit limits
- Appr. 500 above limit; 600 data-mistakes



# Warning letter – then what?



Charged supervision  
and charged enforcement orders/bans

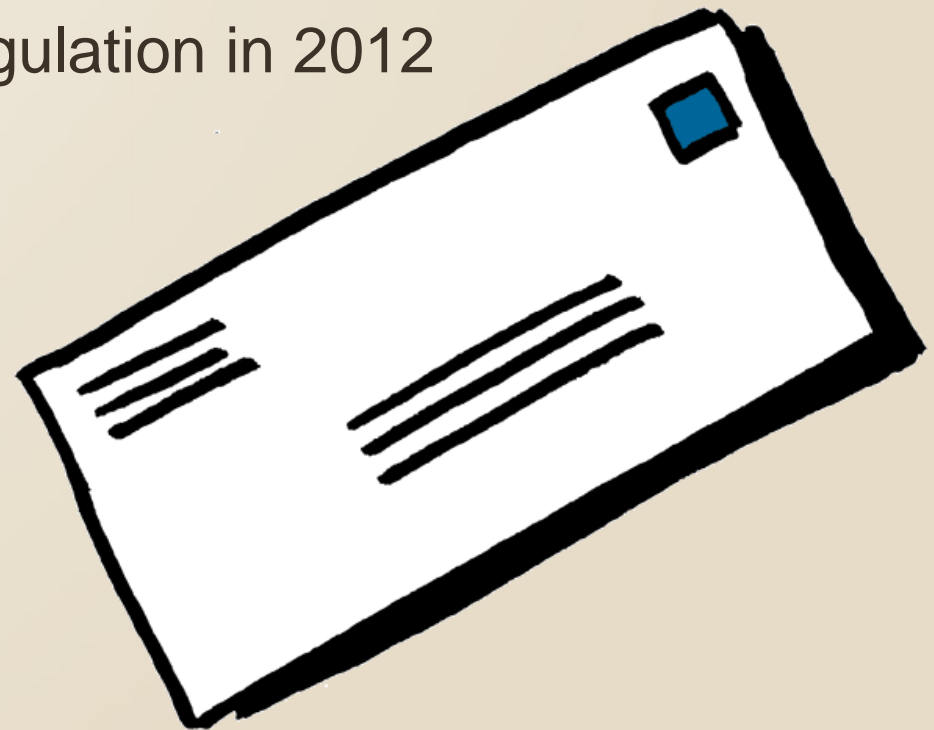
Action plan includes  
Laboratory diagnostics  
Treatments  
Change layout barn  
Purchasing of animals  
Management



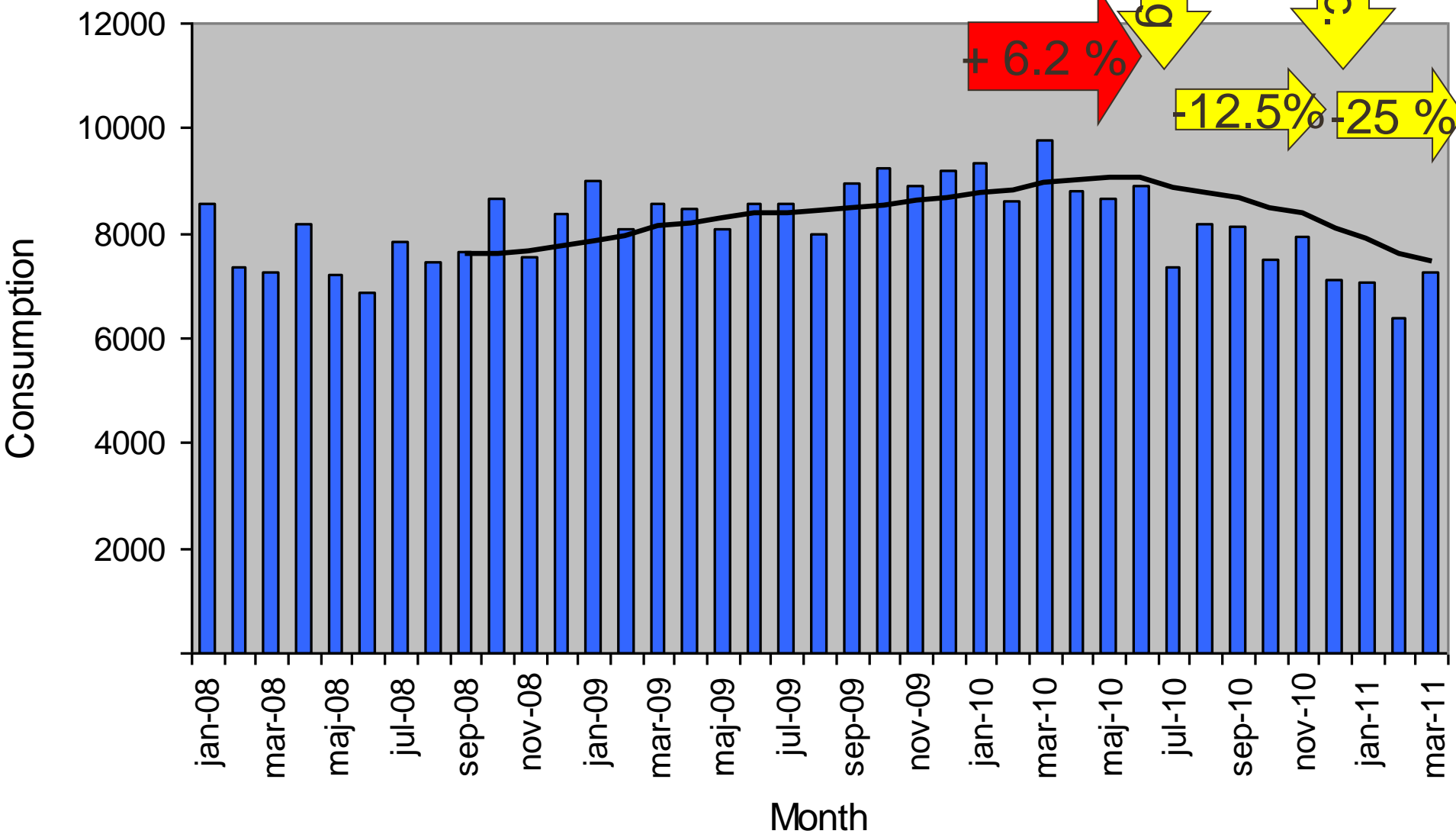
# Future ...

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- Monthly letters to new herds exceeding permit limits
- Yearly new lower permit limits
  - However, no down-regulation in 2012



# Has it affected the consumption?



# Moreover...

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## Critical antimicrobials for humans

- Fluoroquinolons
  - Not used since 2006
- Cephalosporins
  - Voluntary ban:
    - July 2010; 2-year period
    - Exemption only if documented only drug efficient
    - Now negligible use



# Discussion and Conclusion

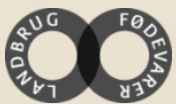
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- First time risk communication to herd owner
- Motivator:
  - Fear of intensified supervision
  - Risk of public exposure
  - Economy
- Only possible due to VETSTAT
- Significant reduction in antimicrobial consumption
- However what about
  - Animal welfare consequences?
  - Improved safety for the consumer?



# Thank you for listening!

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