



# The RESET model to change the mindset towards antimicrobial use



# Decrease antimicrobial use in dairy cows .....

## ..... change the mindset



# R.E.S.E.T. mindset ..... behavioural change



**UGCN**  
Dutch Udder Health Centre



# Changing behaviour is changing the mindset



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Dutch Udder Health Centre



# Changing behaviour is changing the mindset



Jansen et al., 2010

## Different communicative approaches

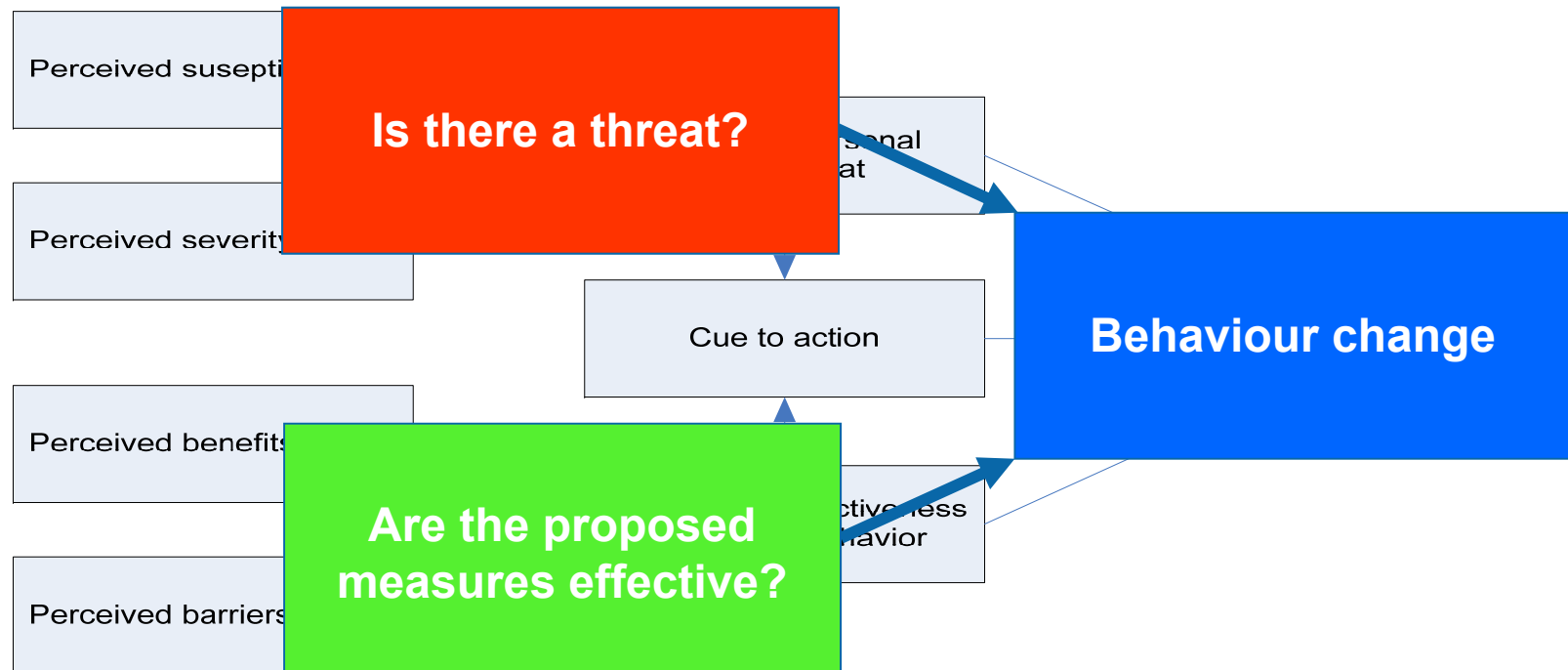


- Central**
- Internal motivation
  - Most effective
  - Reasoned opinions



- Peripheral**
- External motivation
  - Indirect approach
  - No rational argumentation

# The health belief model



## Behavioural change



### R.E.S.E.T. Mindset Model

Based on:

- van Woerkom et al., 1999
- Leeuwis, 2004



ules and regulations



ducation and information



ocial pressure



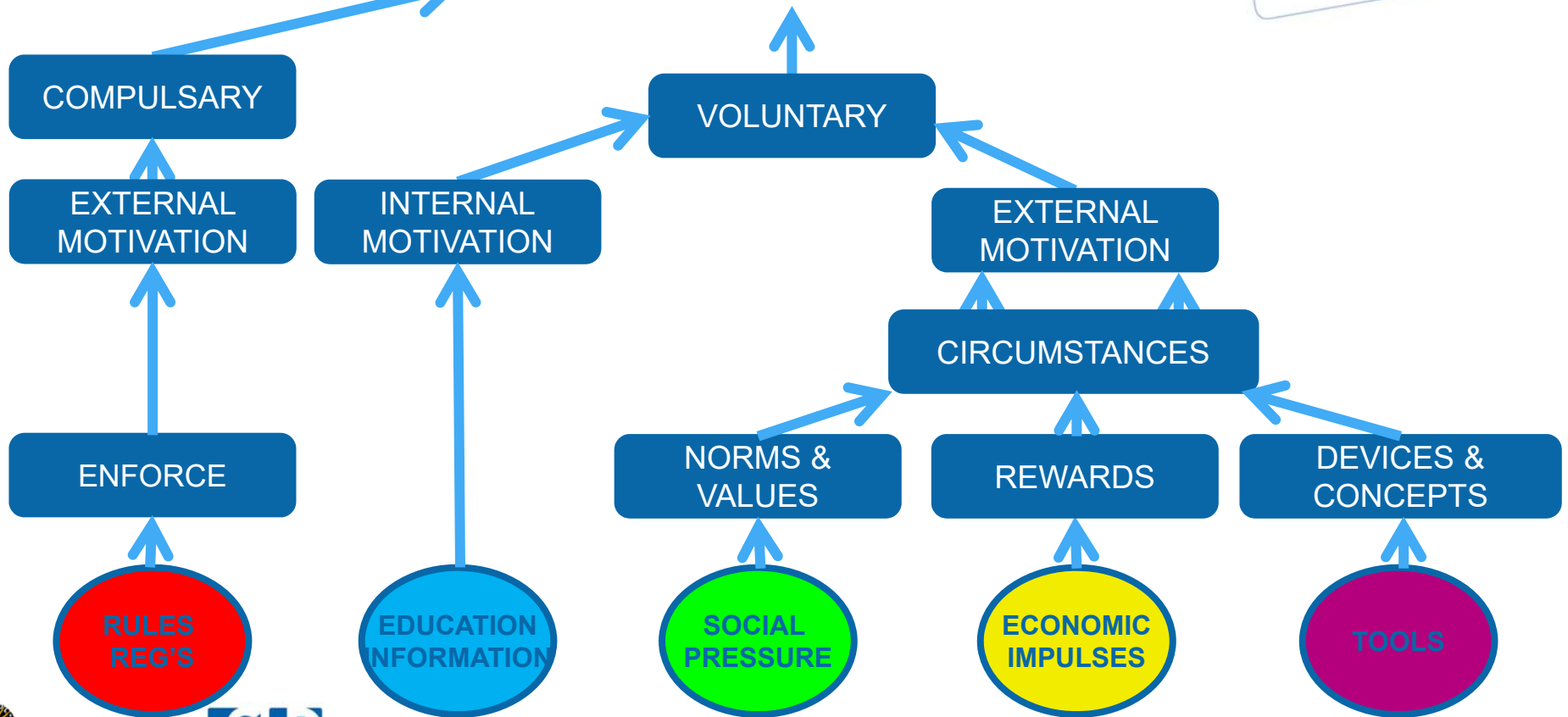
conomic incentives



RESET



# Behavioural change





**DON'T DRINK**

Drinking is just harmless fun!

**DON'T SPEND TIME**



**CAMPING WITH**

**Choose your ride. Go to Jail.**

Not everyone who gets hit by a drunk driver dies.



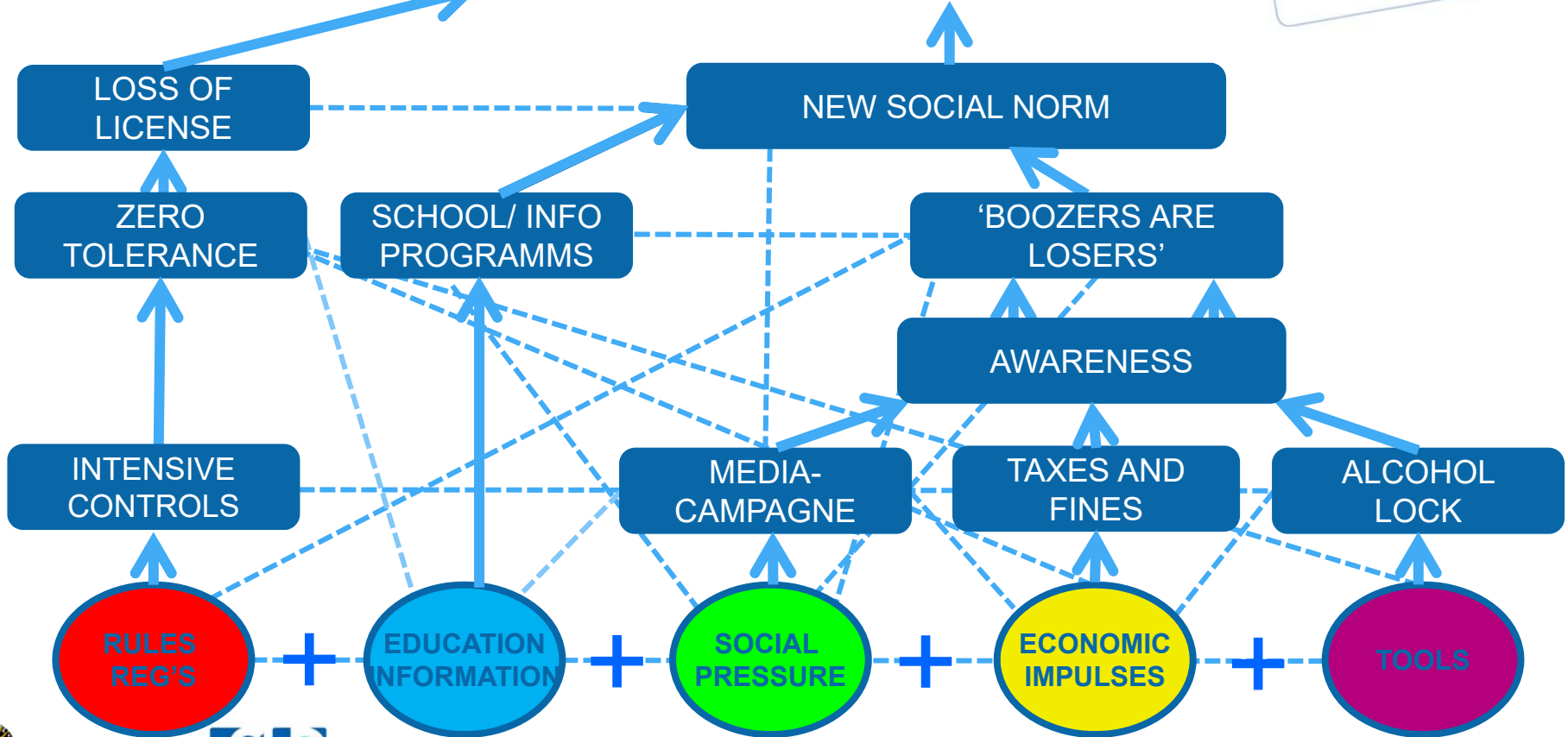
Jacqueline Saturido was 20 years old when the car she was riding in was hit by a drunk driver. Today, at 23, she is still working to put her life back together. Learn more at [www.SaveALife.org](http://www.SaveALife.org)

**DON'T DRINK & DRIVE**





# Don't drink and drive

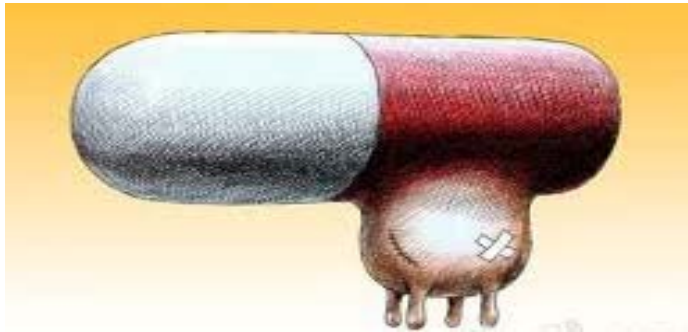


# R.E.S.E.T. the mindset antimicrobial use in dairy cows

## Goal: decrease antimicrobial usage



## Improving antimicrobial use in dairy.....



- Making antibiotic use transparent (annual ADDD per herd)
- Very limited use of critically important antibiotics
- No more preventive use of antibiotics (dry cow therapy)



R E S E T



# Rules and regulations

- 70% reduction in AM use



# R Rules and regulations

- 70% reduction in AM use
- Clear norms on ADDD



## INDICATORS DAIRY 2014



# Rules and regulations

- 70% reduction in AM use
- Clear norms on ADMM
- No preventive use of antimicrobials



# Education and information

- Traditionally overestimated by veterinarians



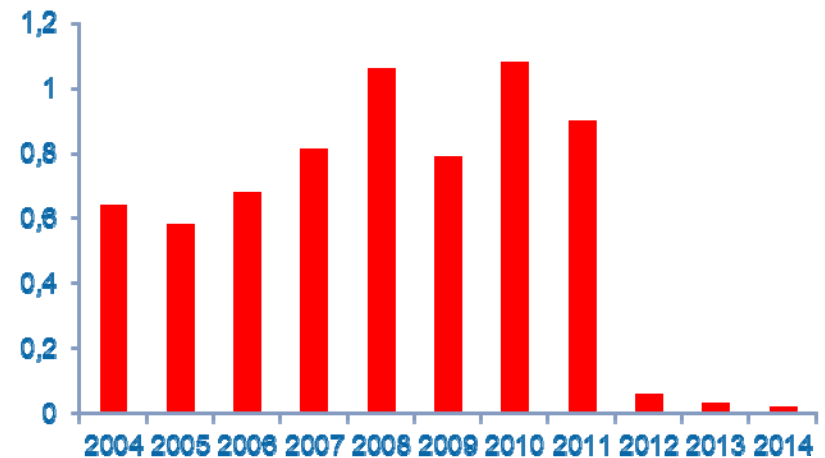
# **E** Education and information

- Traditionally overestimated by veterinarians
- Much research done



# E Education and information

- Traditionally overestimated by veterinarians
- Much research done
- Critically important antibiotics



# S Social pressure

- Extremely powerful





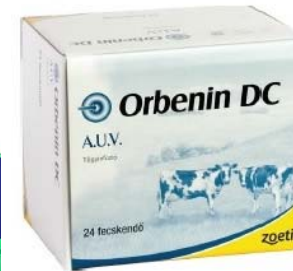
# Social pressure

- Extremely powerful
- Changing society
- ADDD 'the antibiotic number' became a critical parameter



# E Economic incentives

- Saving costs.....



# T Tools

- ADDD benchmark





# T Tools

- ADDD benchmark
- Formularies and herd treatment plan

**UGCN**  
 UGCA  
 UGCB  
 UGCD  
 UGCE  
 UGCF  
 UGCG  
 UGCH  
 UGCI  
 UGCJ  
 UGCK  
 UGCL  
 UGCM  
 UGCN  
 UGCO  
 UGCP  
 UGCQ  
 UGCR  
 UGCS  
 UGCT  
 UGCU  
 UGCV  
 UGCW  
 UGCX  
 UGCV  
 UGCY  
 UGCZ

**Bedrijfsbehandelplan klinische mastitis**

Verhouder: *Th. Lam* De Graafschap Dierenartsen 0575-551277

	Verwachtingen	Diergeneesmiddelen <i>Neem en werk!</i>	Wachtmijden* <i>...</i>
Acute mastitis	<ul style="list-style-type: none"> <li>Vlekken in de melk</li> <li>Kwarter niet afzijdig</li> <li>Geen koorts (meer dan 39°C)</li> <li>Koe eet, is niet algemeen ziek</li> <li>Normale melkproductie</li> </ul>	3 X <i>Amoxicil</i> om de 12 uur	<ul style="list-style-type: none"> <li>Milk 4</li> <li>Vees 7</li> </ul>
Mastige mastitis	<ul style="list-style-type: none"> <li>Zichtbaar afzijdende melk</li> <li>Kwarter afzijdig</li> <li>Lichte temperatuuroverhoging (meer dan 40°C)</li> <li>Overschakende eufasie</li> <li>Koe is lusteloos</li> <li>Abnorme melkproductie</li> </ul>	3 X <i>Amoxicil</i> om de 12 uur 3 dagen <i>Mammyzin</i> 2-1-1	<ul style="list-style-type: none"> <li>Milk 4</li> <li>Vees 10</li> </ul>
Ernstig zieke koe met mastitis	<ul style="list-style-type: none"> <li>Zichtbaar afzijdende melk</li> <li>Kwarter afzijdig/rood</li> <li>Koorts (meer dan 40°C)</li> <li>Koe eet niets meer</li> <li>Koe is sloom</li> <li>Ernstige abnorme melkproductie</li> </ul>	<i>Penicilline</i> en na 2 dagen <i>Salbutamol</i> 3 dagen <i>Bayhil</i>	<ul style="list-style-type: none"> <li>Milk 6</li> <li>Vees 9</li> </ul>
Heer ernstig zieke met mastitis	<ul style="list-style-type: none"> <li>Koe is koud</li> <li>Waterige/geel melk</li> </ul>	Bel uw dierenarts! 0573-451200	Datum: 5/12/05

Lees aandachtig de instructies voor het gebruik.

# T Tools

- ADDD benchmark
- Formularies and herd treatment plan
- Guideline selective DCT

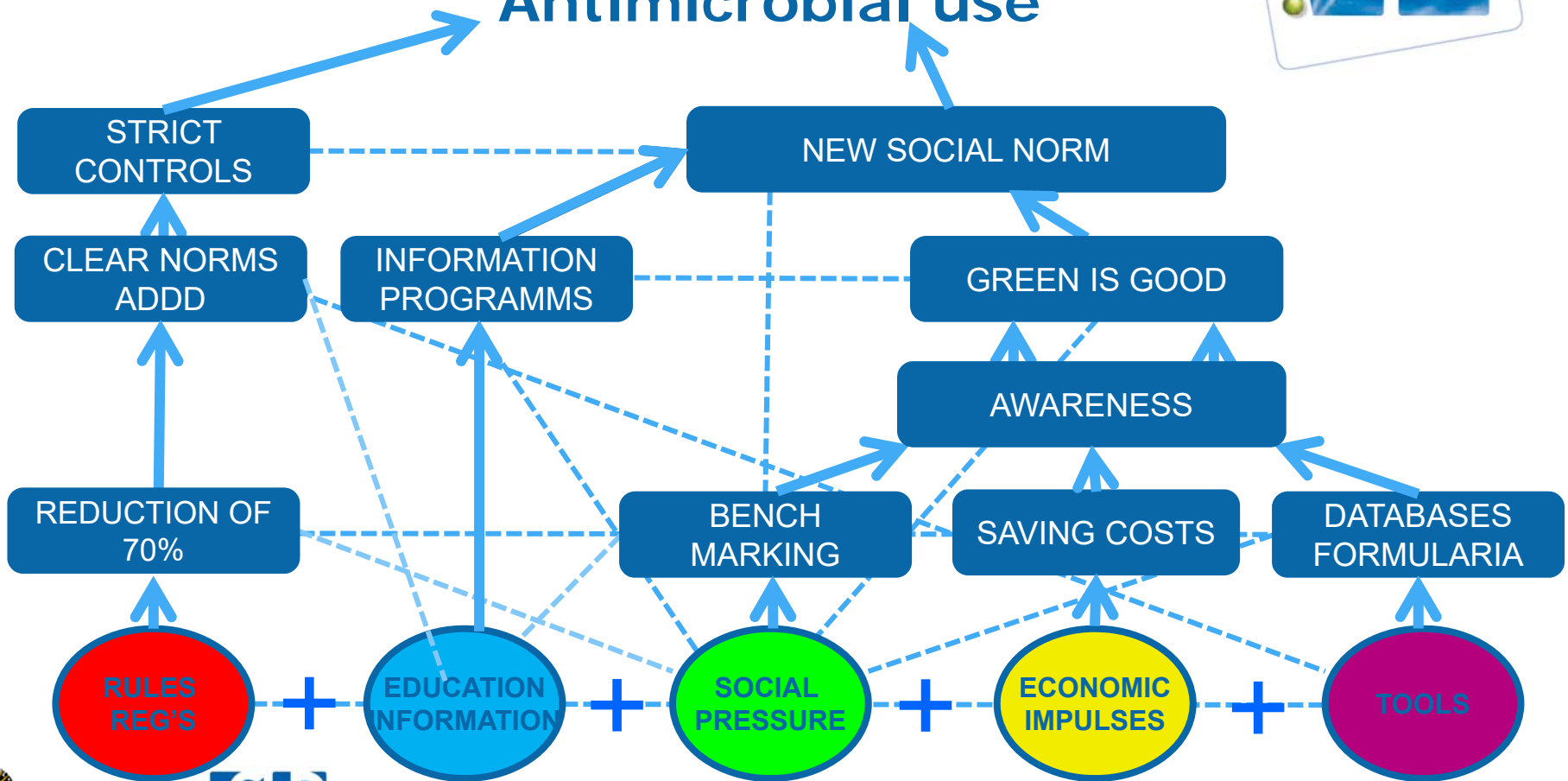


**Richtlijn**  
**Antimicrobiële middelen bij het**  
**droogzetten van melkkoeien**

Versie 1.1

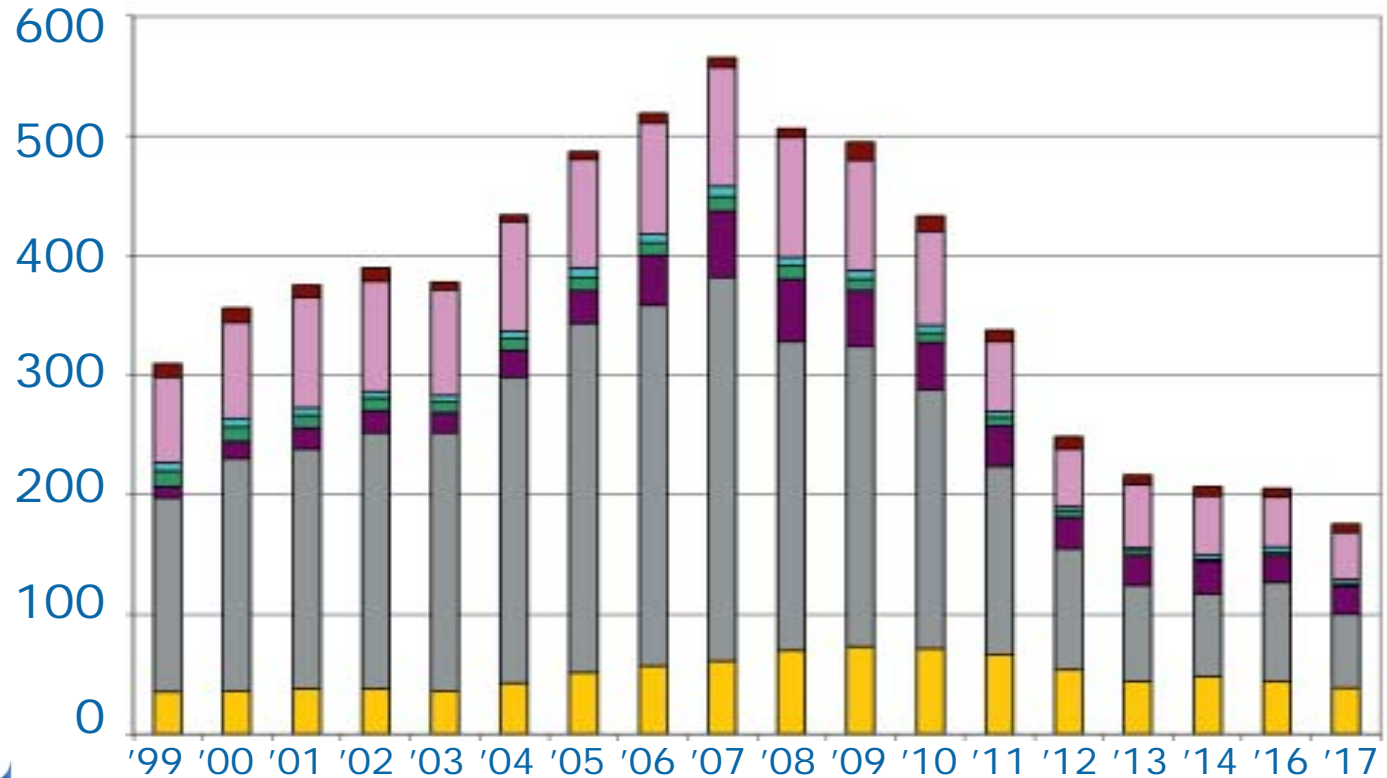


# Antimicrobial use



# Antibiotic usage in the Netherlands

Kilograms  
active  
ingredients  
( x 1000)





## Take home message

- Behavior is not only influenced by ratio
- To actually change behavior different aspects of the R.E.S.E.T. model have to be changed at the same time
- Cooperation of different stakeholders in our country led to a fundamental change in mindset and behavior



Teaming up for animal health



Universiteit Utrecht



Thank you for  
your attention!