

2007 SANVAD 2007

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Disease Dynamics,
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WASHINGTON DC • NEW DELHI



Global
**Antibiotic
Resistance**
Partnership



UNIVERSITEIT VAN PRETORIA
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**Surveillance for
antimicrobial resistance
in animals in South
Africa: two years on?**

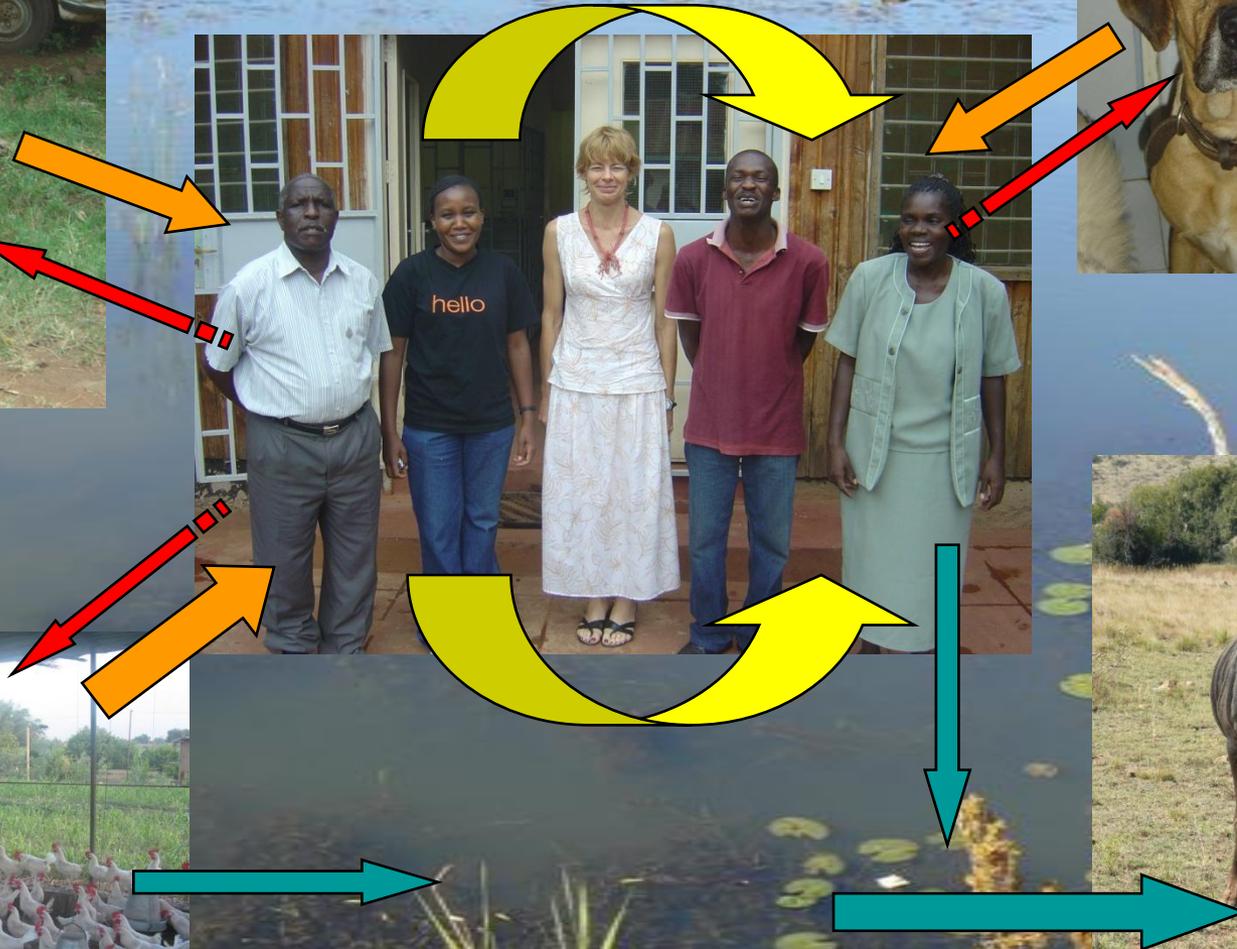
Jackie Picard

M van Vuuren

Faculty of Veterinary Science

Onderstepoort

AMR cycle



Antibiotics



Antibiotics have saved millions of people and animals

Have increased and made more cost effective the supply of healthy food animals

Have decreased zoonotic diseases

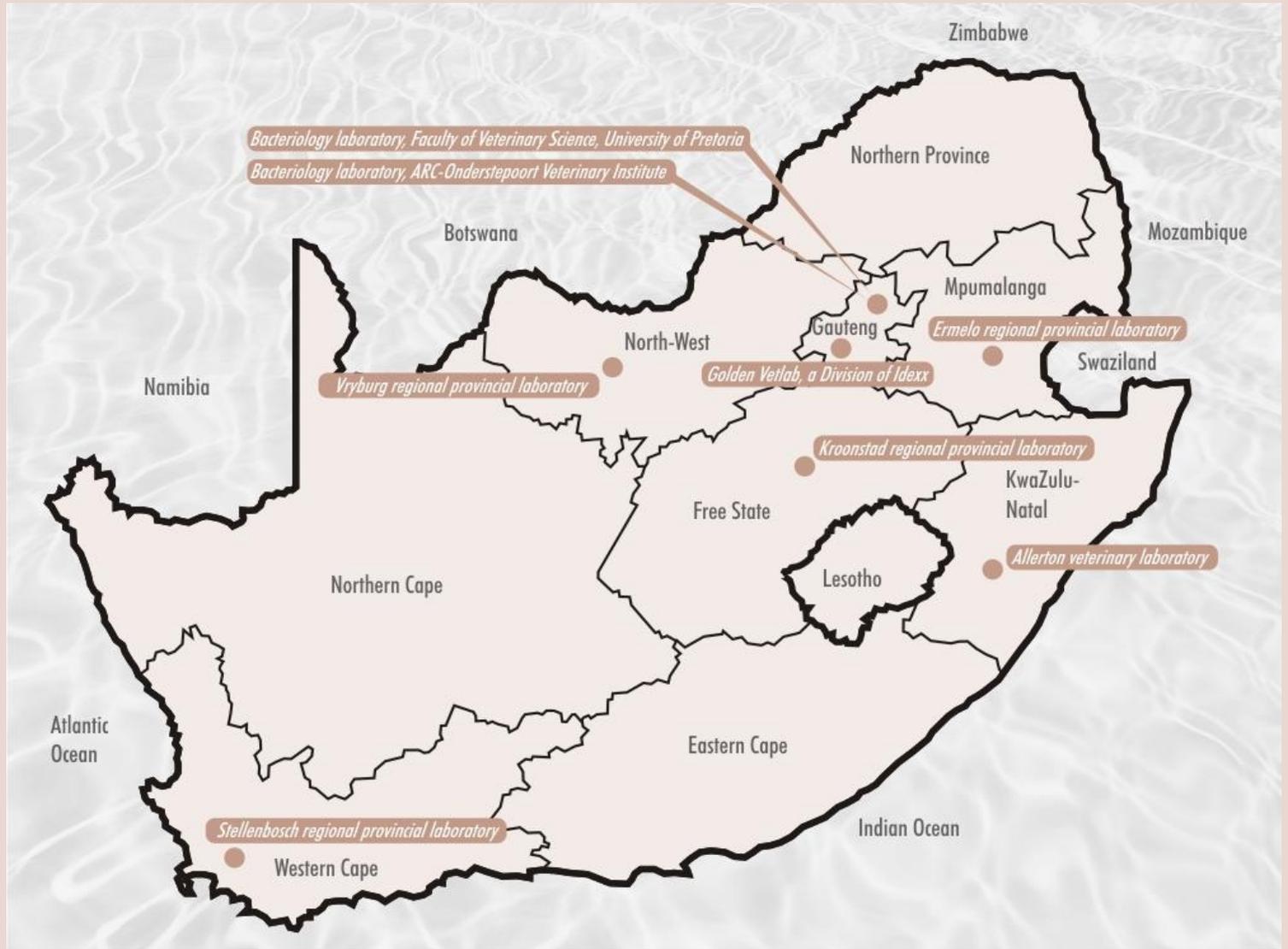


AMR in animal bacteria public health concerns??



- Zoonotic bacteria: Multi-resistant *Salmonella*, *Campylobacter*, *S. aureus*
- Has treatment of animals increased exposure of humans to resistant commensals?
- Performance enhancers are they truly the devil? Vancomycin-resistant enterococci
- Are humans being exposed to unacceptably high levels of antimicrobial residues in their food?
- Can we afford not to treat animals?

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Number of multi-resistant *Salmonella enterica* isolates. Specimens included organs, carcasses, faeces, cow's milk and animal products for retail. Both clinical and non-clinical species are included as well as the salmonellae that were typed as *Salmonella typhimurium*.

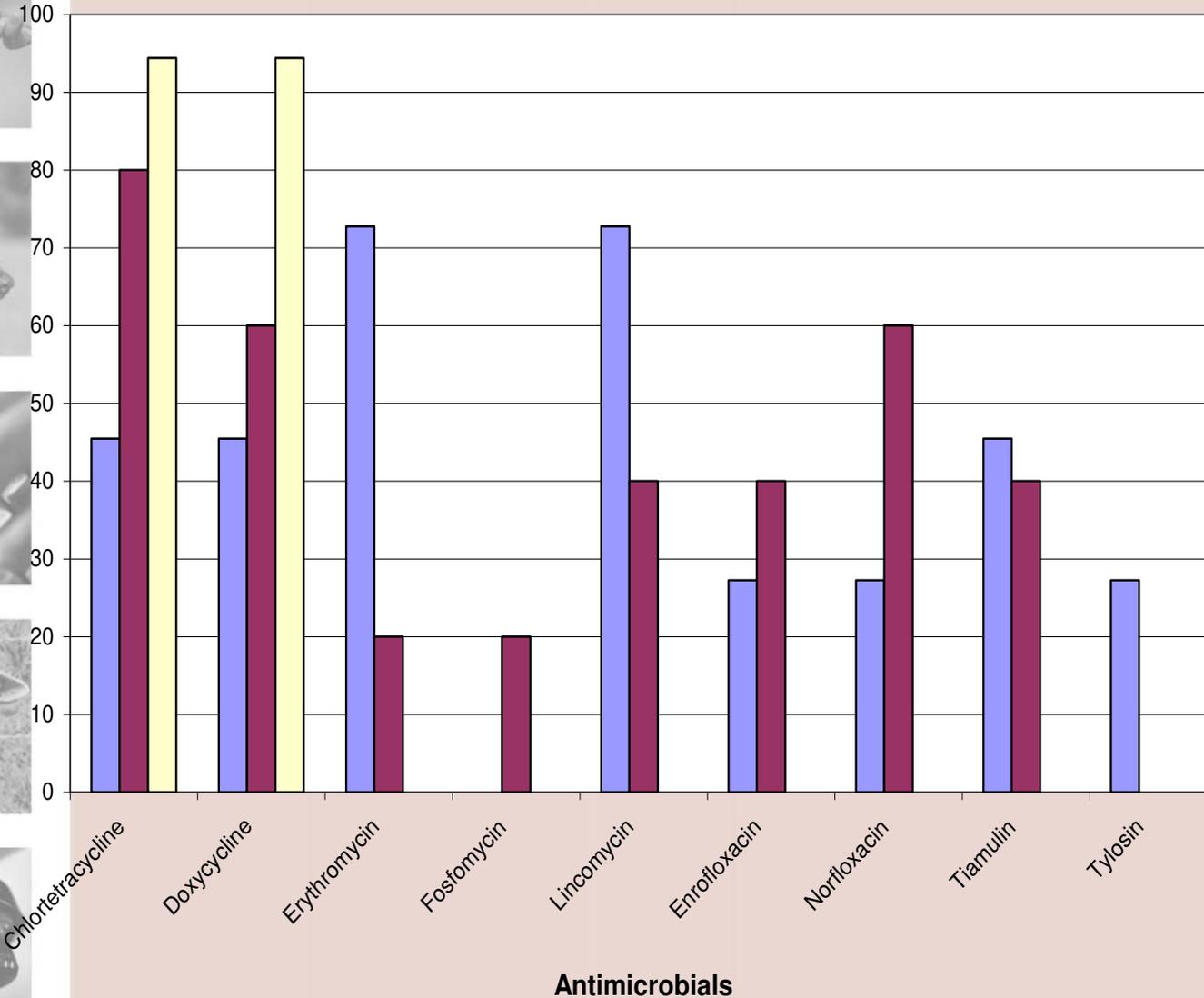
		Cattle	Sheep & goats	Pigs	Poultry	Dogs & Horses	All animals
Total isolates		37	19	10	75	6	147
Number of antimicrobial drugs [§]	≥3	9	2	10	14	2	33
	3	3	1	4	1	0	7
	4	2	0	4	2	0	8
	5	1	0	0	6	1	8
	6	0	1	1	4	1	6
	7	3	0	0	0	0	3
	8	0	0	0	1	0	1
% multi-resistant		24.3	10.5	100	18.7	33.3	22.4

[§]This refers to the number of antimicrobial drugs for which *Salmonella enterica* isolates were resistant.

Thermophilic *Campylobacter* spp.

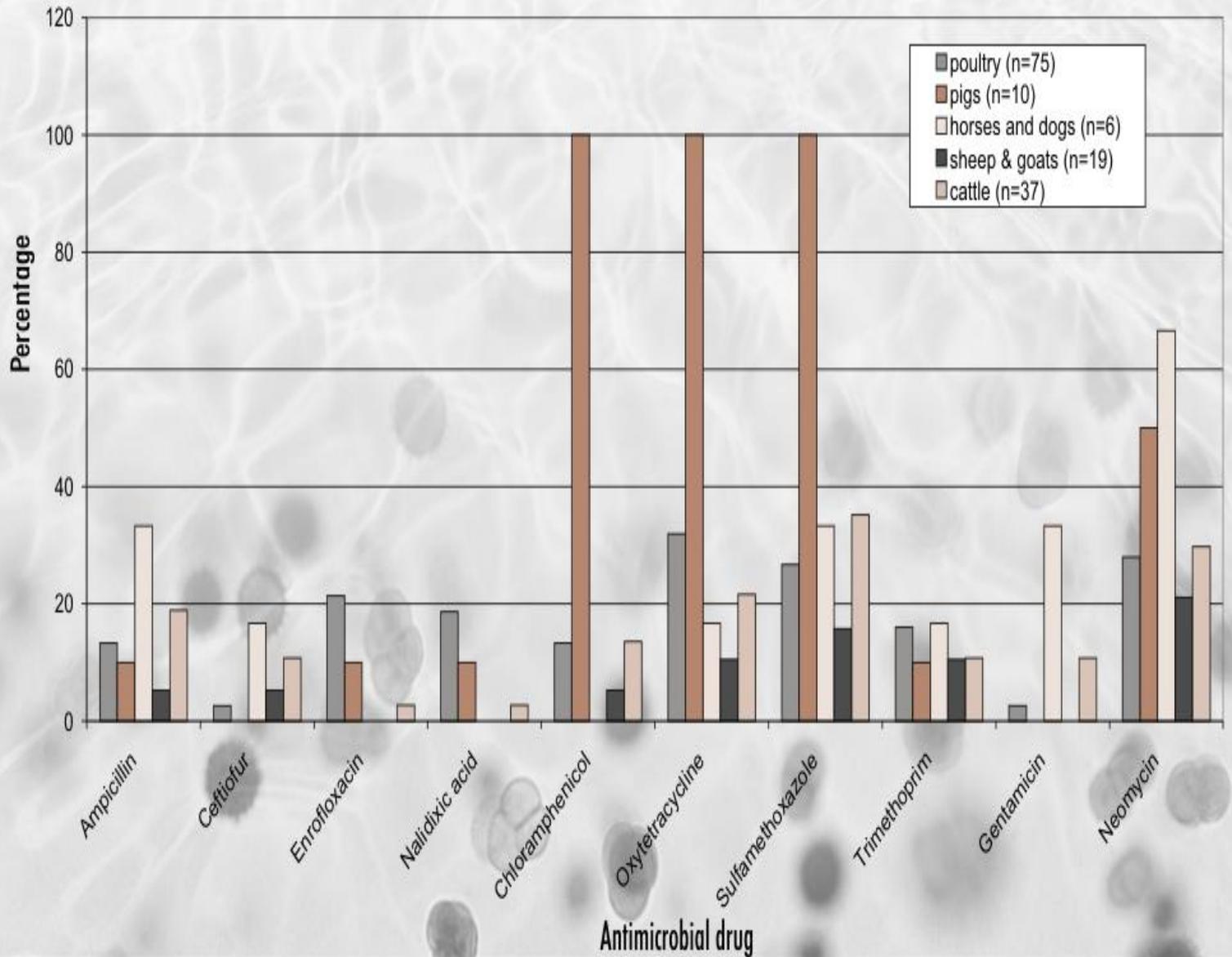


Percentage resistance

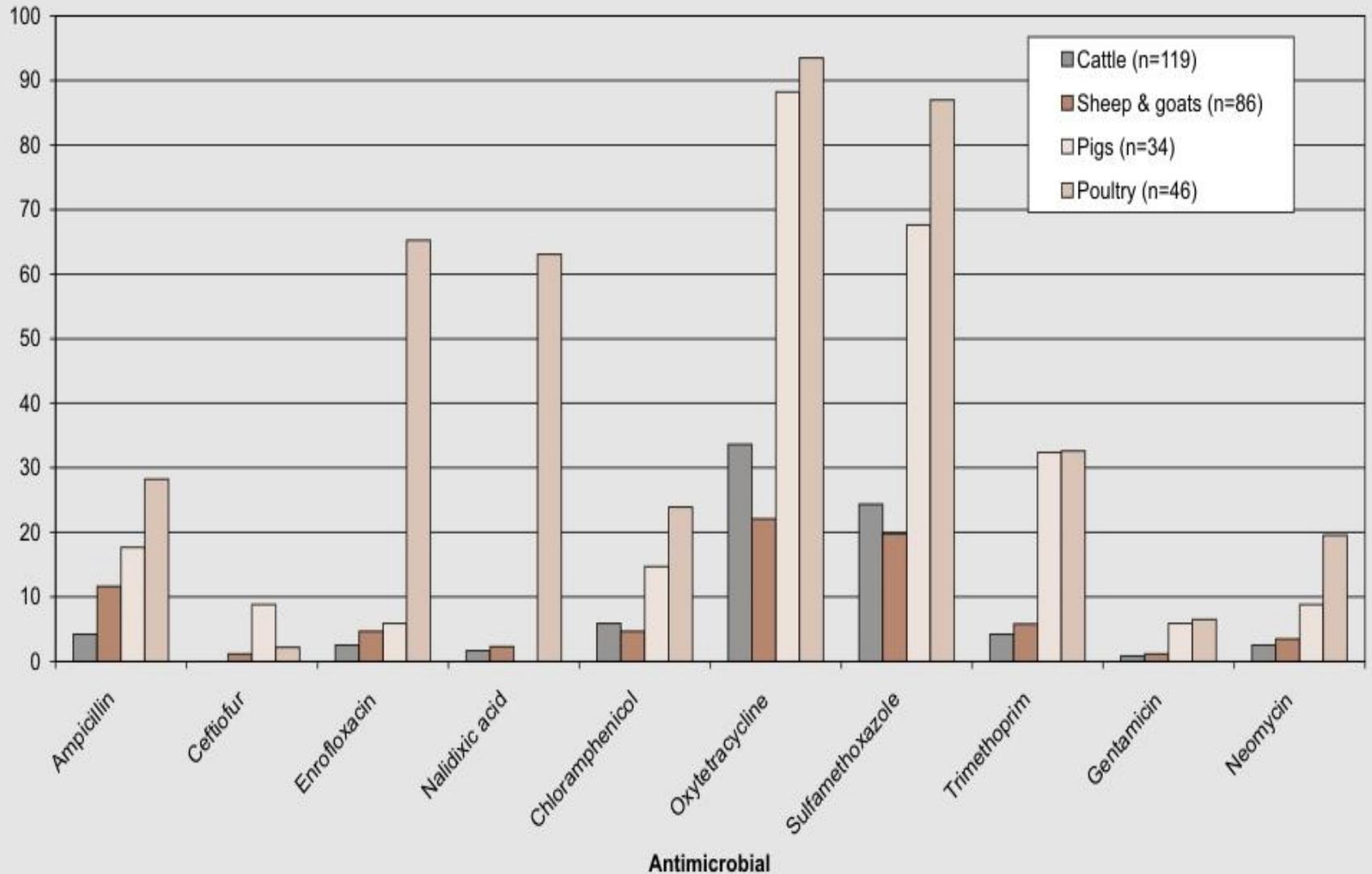


Western Cape *C. coli*
Western Cape *C. jejuni*
Gauteng *C. jejuni*

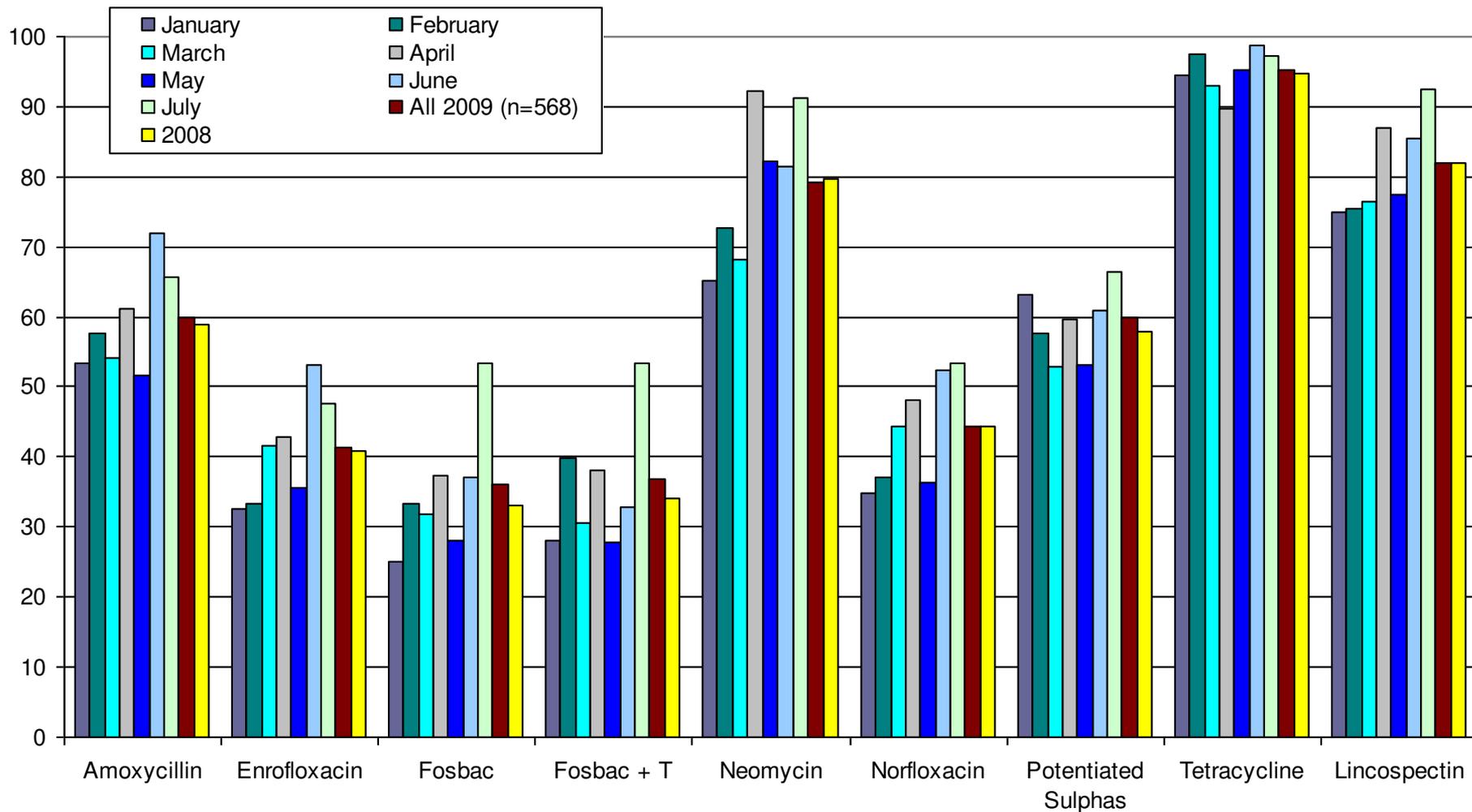
A comparison of the percentage resistance of *Salmonella enterica* in domestic animals



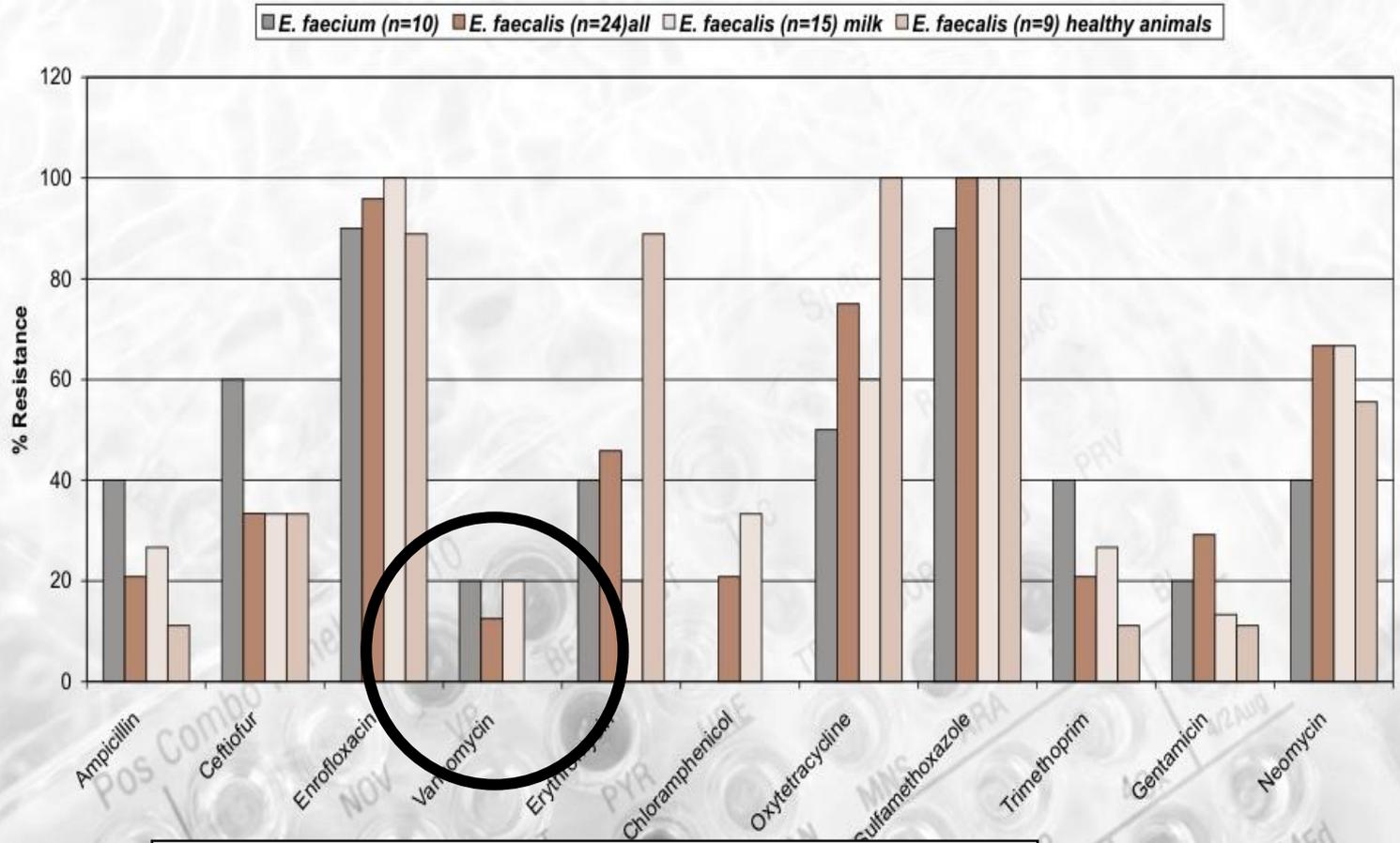
Percentage resistance of *Escherichia coli* to various antimicrobials in healthy animals



% Resistance of poultry *E. coli* in Gauteng: Jan-July 2008 and 2009

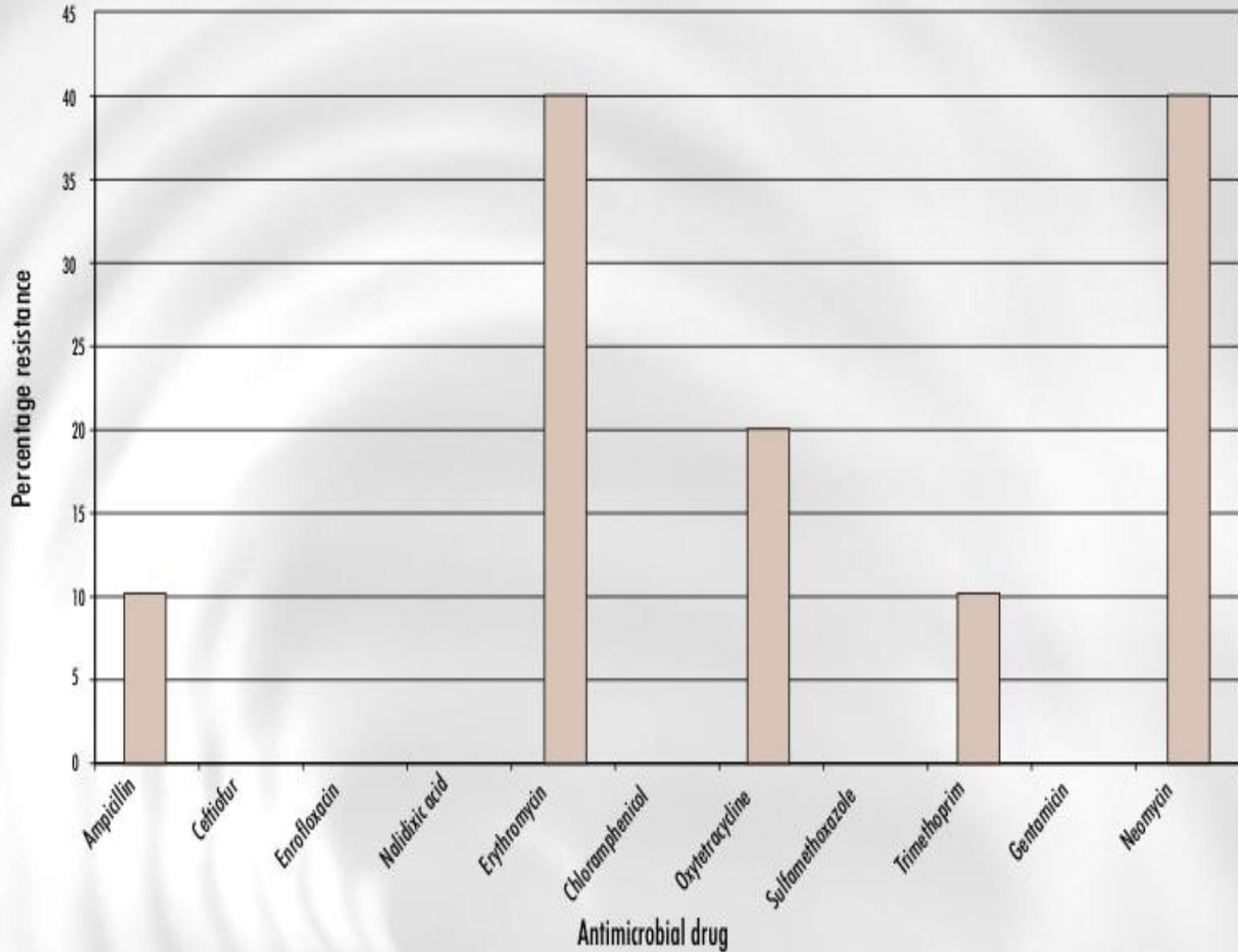


Percentage resistance of *Enterococcus* species isolated from faeces and carcasses of healthy animals and from milk of cows with mastitis

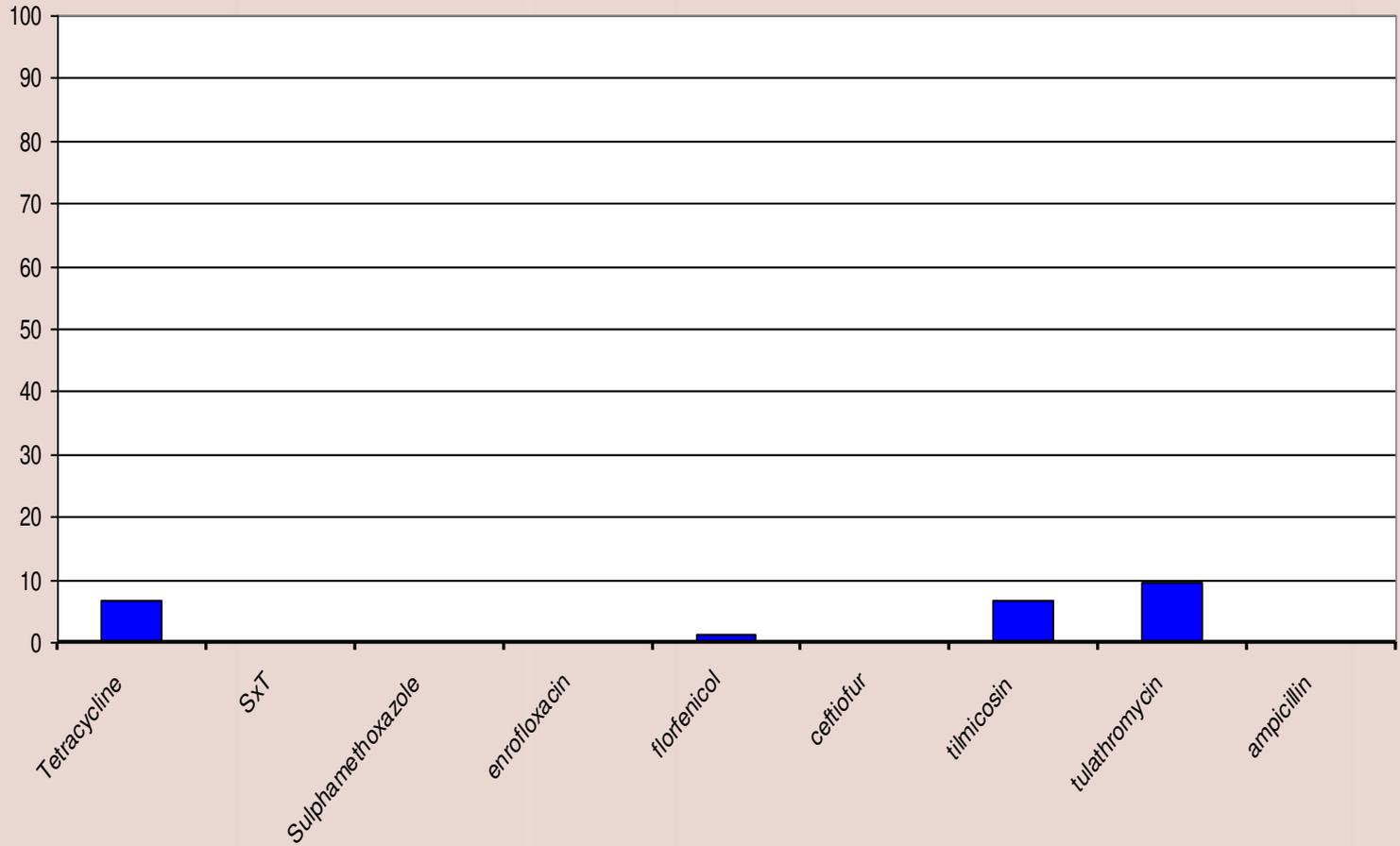


2008 – 2009: 6% resistance
 Will remain at this level- no analogues
 now used

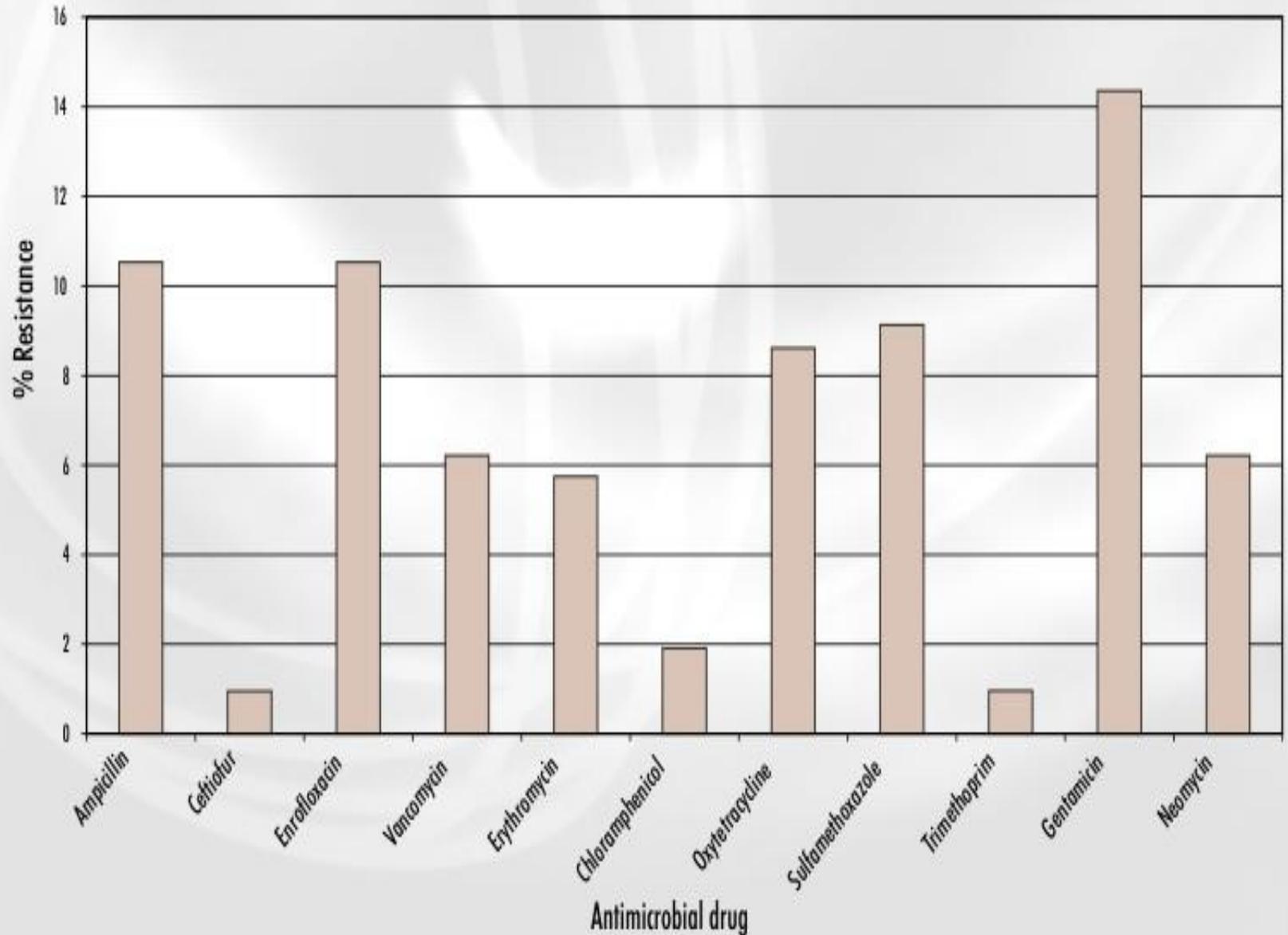
Percentage resistance of *Mannheimia haemolytica* (n=10) isolated from TTA specimens of feedlot cattle



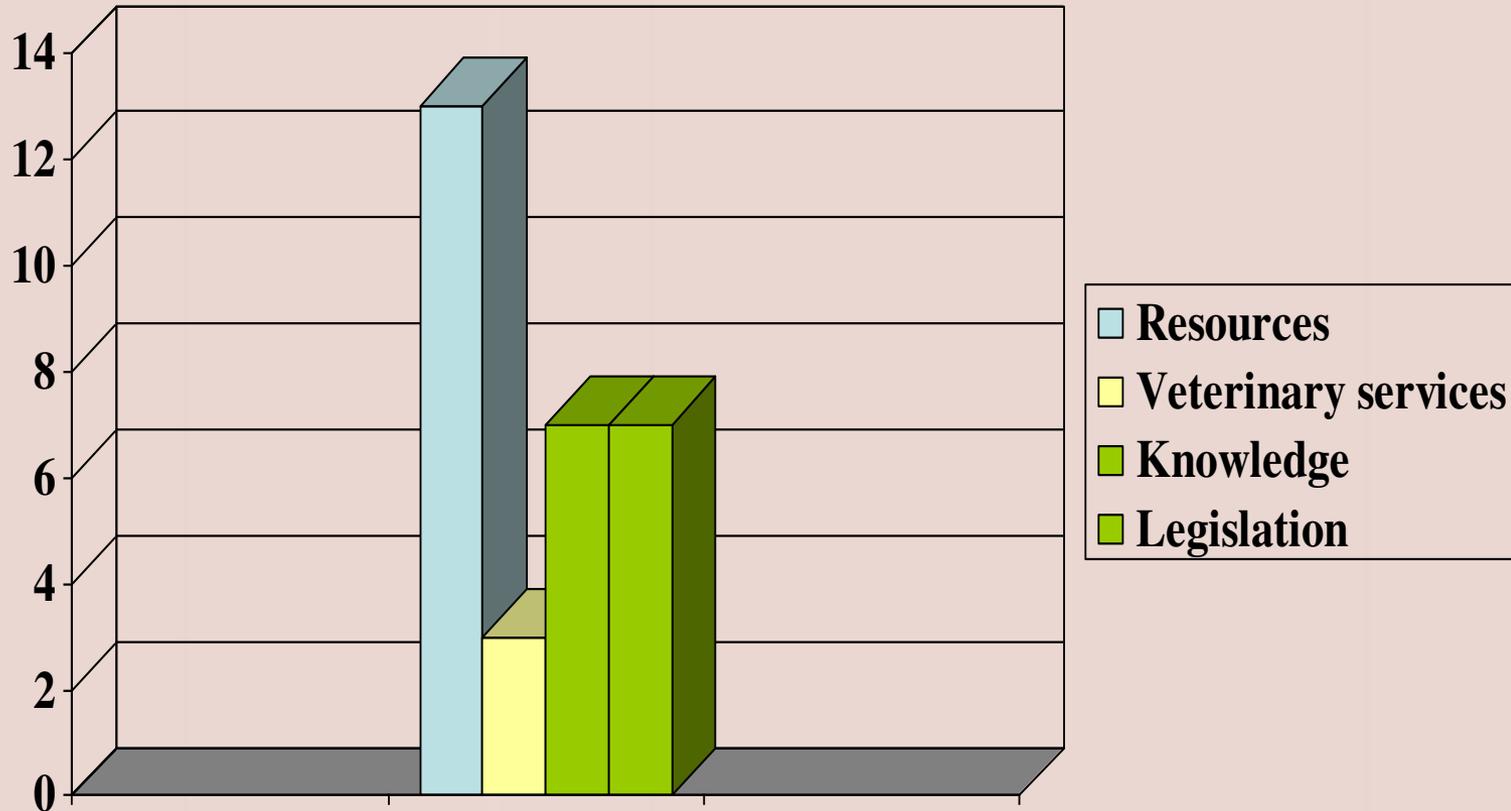
% Resistance *M. haemolytica* cattle feedlot tracheal washes



Percentage resistance of *S. aureus* (n=209) isolated from the milk of cows



Obstacles to the prudent use of antimicrobial drugs in animals in Africa

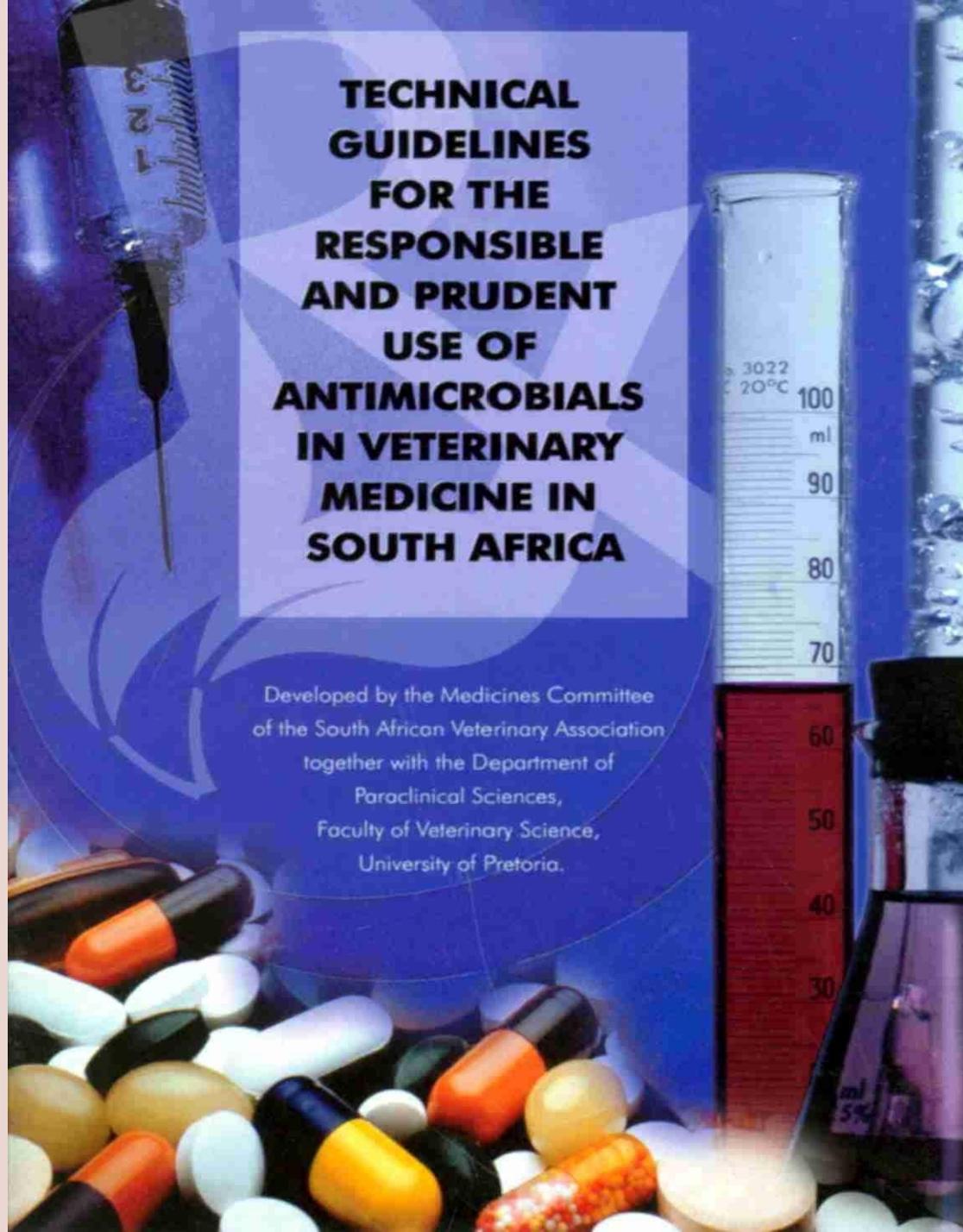


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**TECHNICAL
GUIDELINES
FOR THE
RESPONSIBLE
AND PRUDENT
USE OF
ANTIMICROBIALS
IN VETERINARY
MEDICINE IN
SOUTH AFRICA**

Developed by the Medicines Committee
of the South African Veterinary Association
together with the Department of
Paraclinical Sciences,
Faculty of Veterinary Science,
University of Pretoria.





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