

Challenges in Research and Risk Assessment field

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Healthcare-associated infections & Antimicrobial resistance

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Results of the 5th nationwide hand hygiene campaign in Belgium

<u>Period</u>	<u>N opportunities (n)</u>	<u>Compliance overall (%)</u>
<u>Before campaign</u>	123204	64.1
<u>After campaign</u>	115599	75.8

% = Weighed mead per hospital (N=137 in 2013)

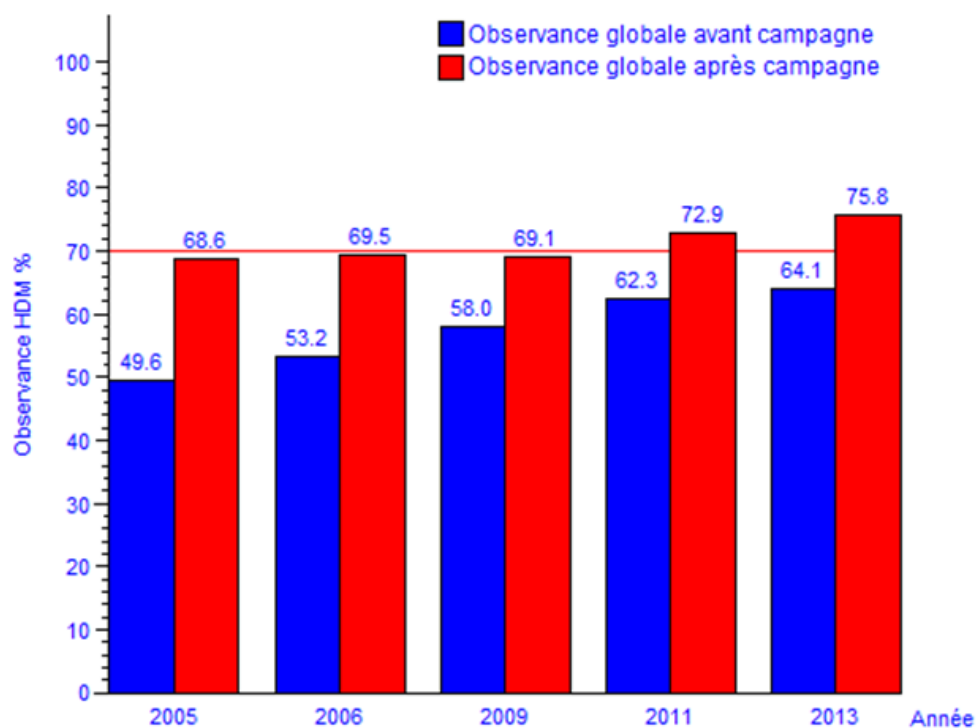
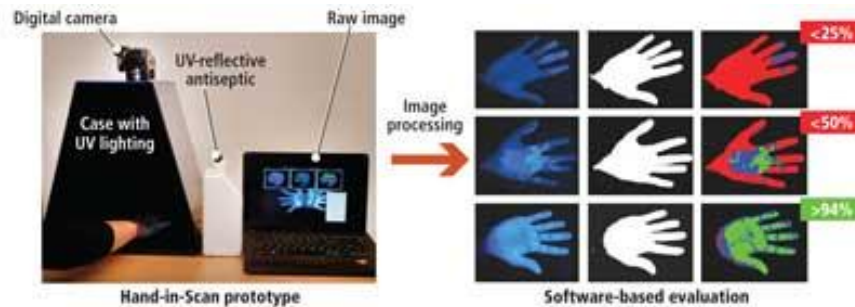


Figure 1 : Evolution de l'observance de l'hygiène des mains pour les cinq campagnes consécutives.



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Research priority

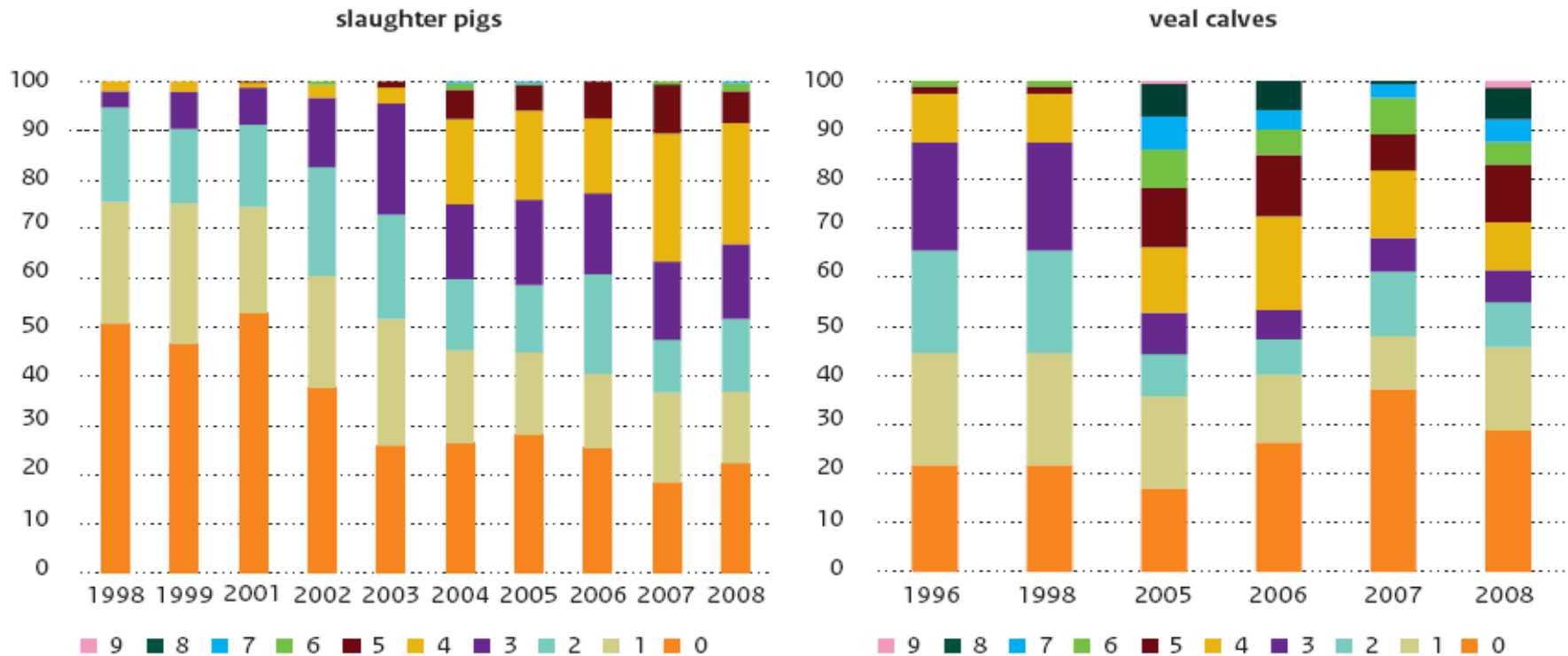
Automated entry of patient wards/rooms by hand hygiene scans

- Increase compliance to 100%
- **bypasses psychological barriers and hierarchy issues**
- Reduces current administration (Quality indicators), training, work load, multidisciplinary energy resources, and fatigue
- Cost < 1 severe healthcare associated infection
- Can be expanded to patients and visitors

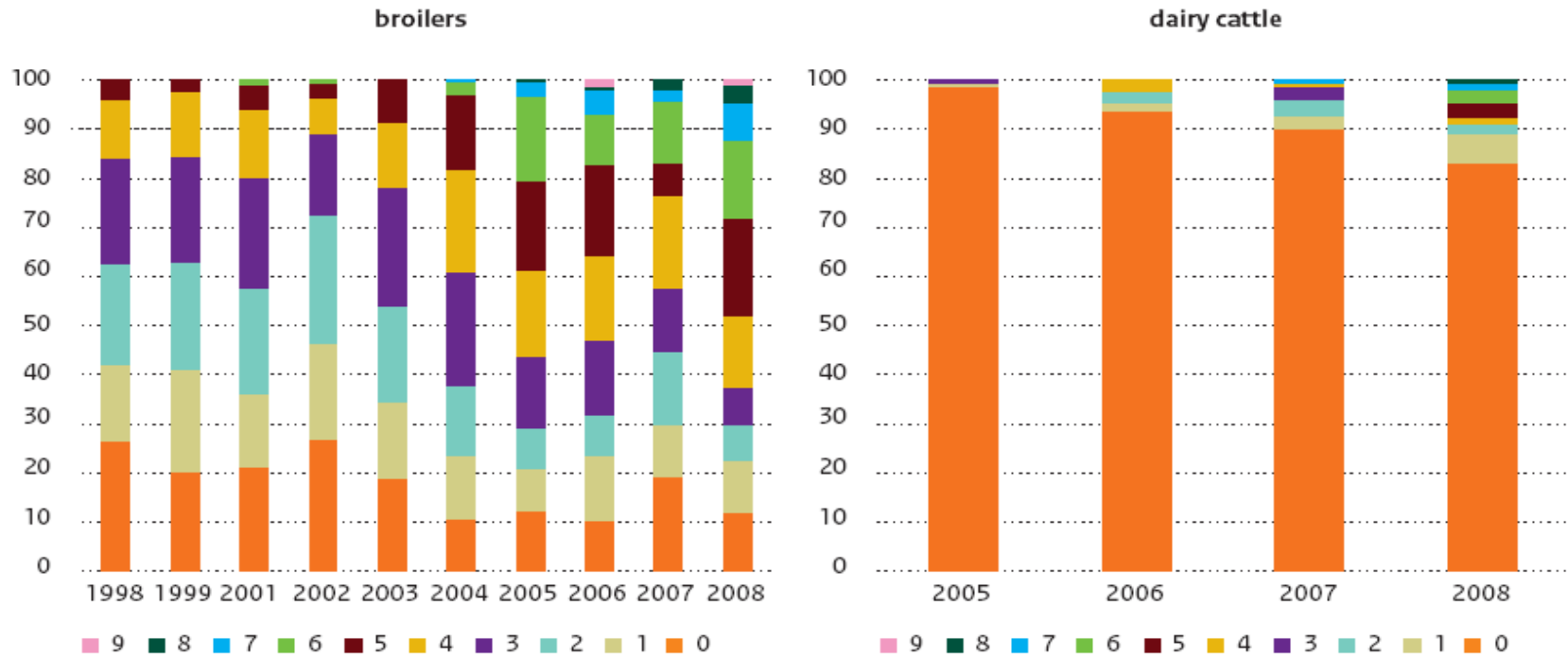
Evolution *E. coli* multiresistant



Figure 25 Trends in percentages of *E. coli* strains fully susceptible, resistant to one to a maximum of nine antimicrobial classes in broiler chickens, slaughter pigs and veal calves in the Netherlands from 1996-2008 (MARAN-2008).



Evolution *E. coli* multiresistant

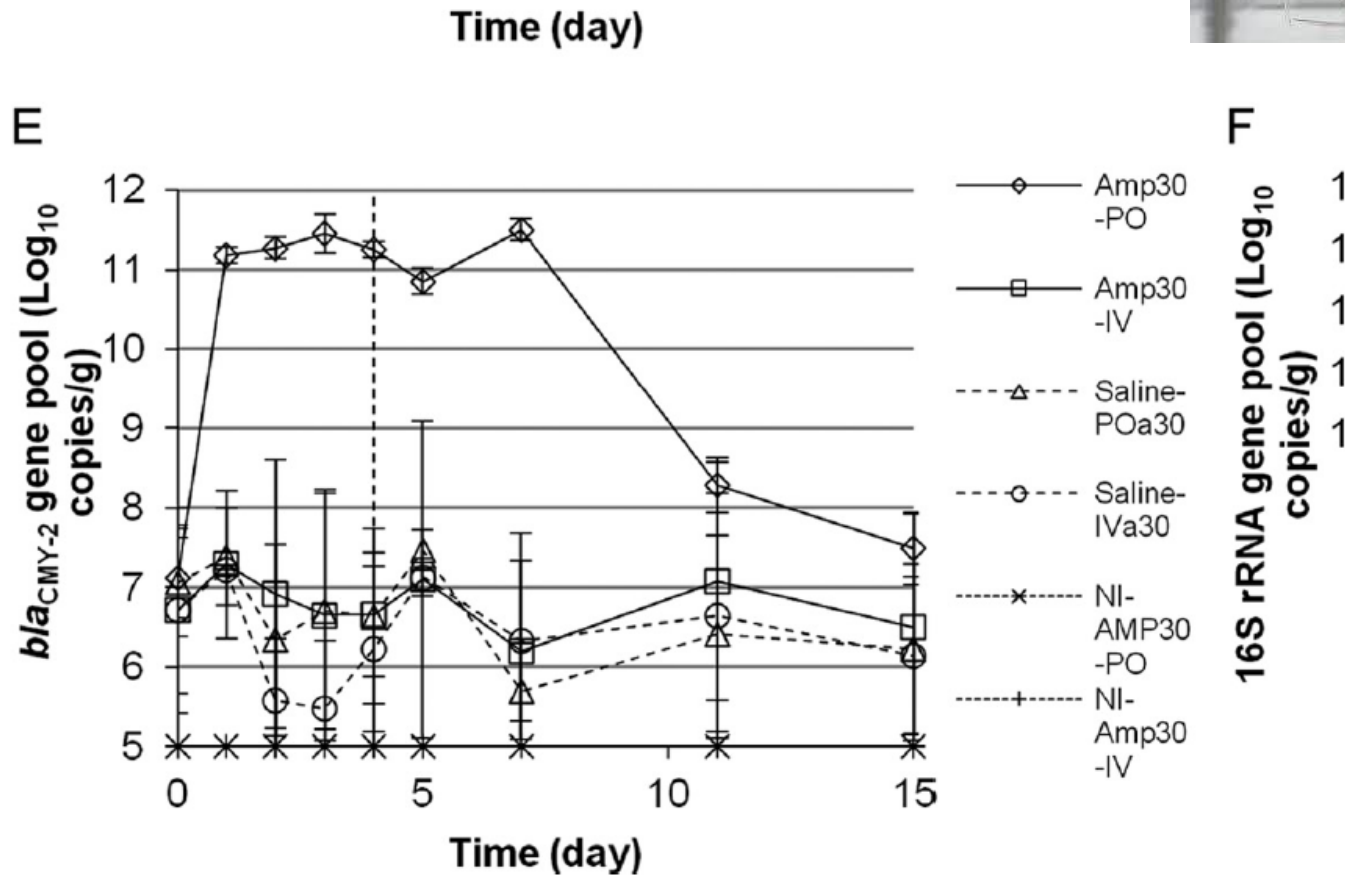


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Research priority

- 'Stand alone period'
- Patent life time ~ resistance development?
- Fast and accurate diagnostics (slow and biased surveillances)
- Oral antimicrobial (group) medication...

Ampicillin PO vs PE vs CTR: Evolution betalactamase resistance *E. coli*



Antibiotic Administration Routes Significantly Influence the Levels of Antibiotic Resistance in Gut Microbiota Lu Zhang et al. 2013, AAC

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