



Stop overuse of antibiotics in humans – rational use

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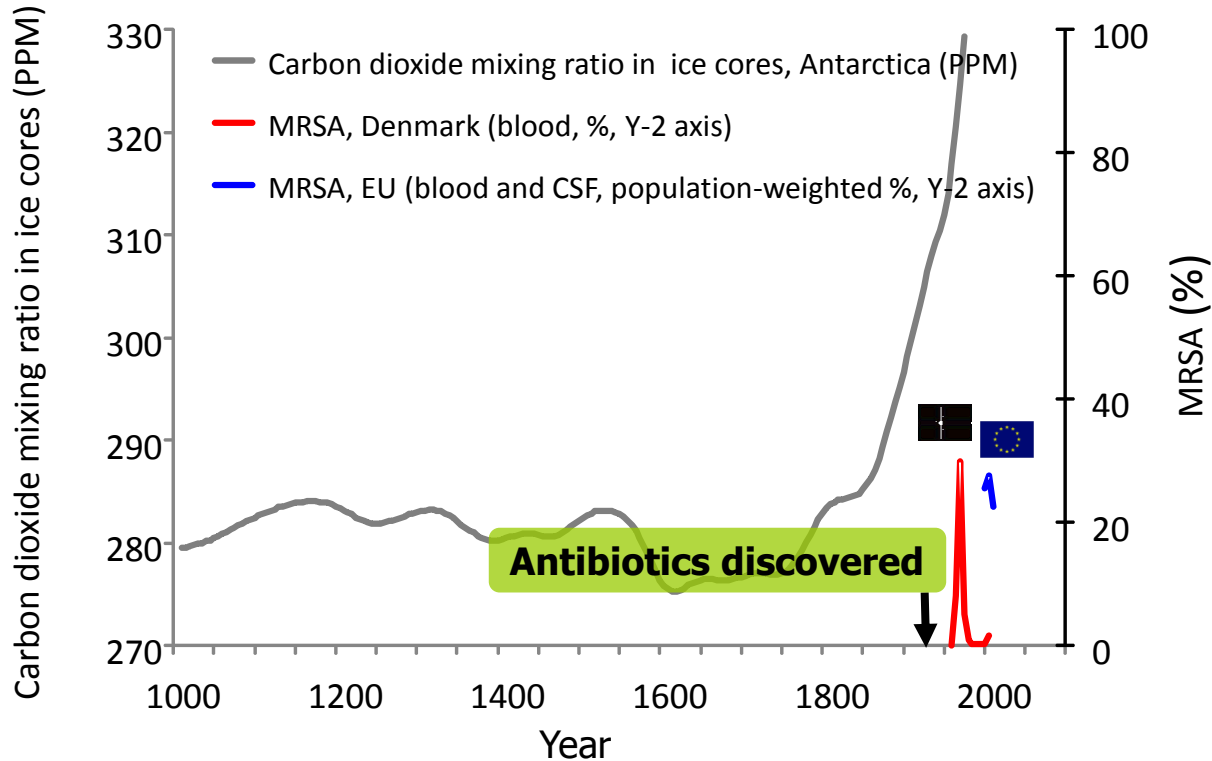
Scenario planning: key certainties

- Antibiotic resistance will exist as long as antibiotics are used
- New resistance mechanisms will necessarily emerge
- Antibiotics will always be misused to a certain extent
- Compliance with hand hygiene and other infection control measures will never be 100%



Photo: FreeFoto.c**m

Antibiotic resistance: a battle that we can win?



Scenario planning: uncertainties and implications

Prevention and control of AMR

New antibiotics with a novel mechanism of action

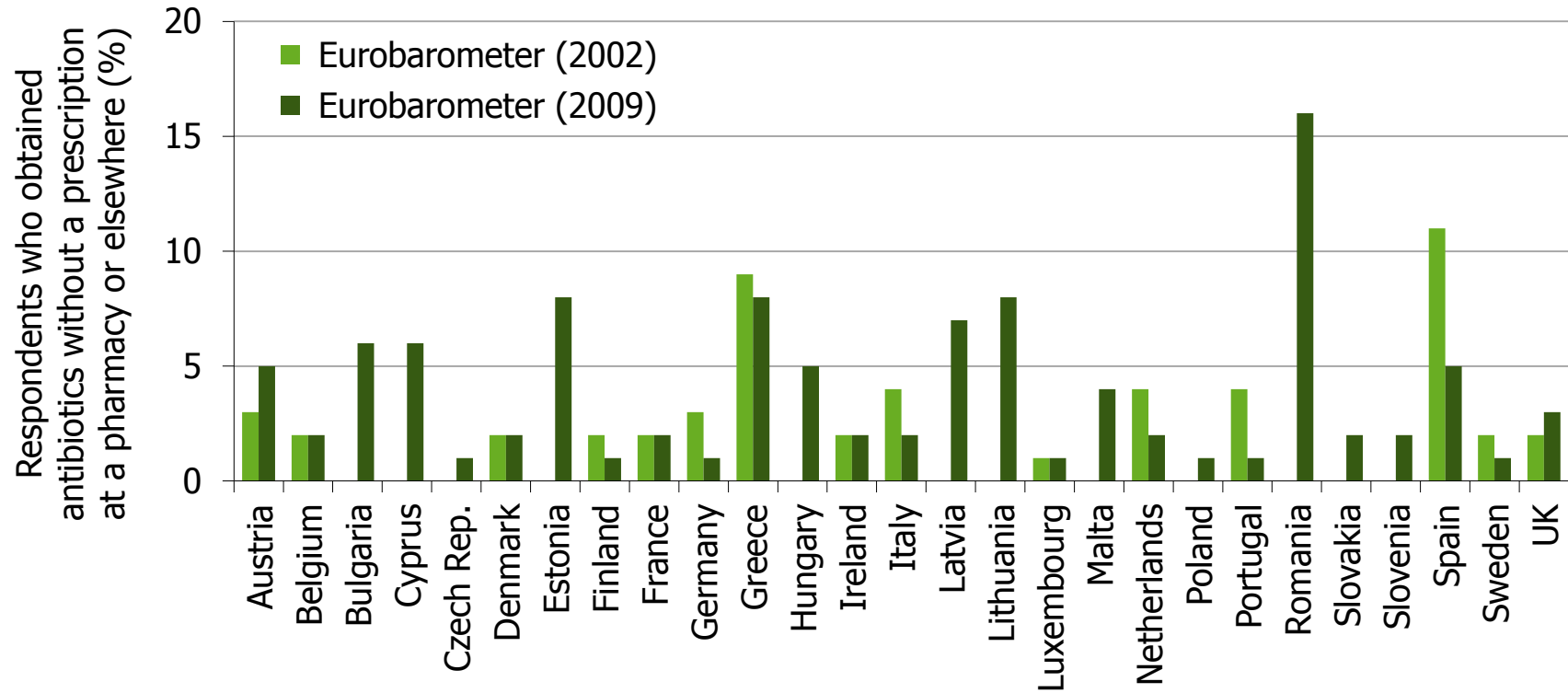
	Activities in only a few countries	Activities in many countries
No	<ul style="list-style-type: none">• Must rely on rational use of existing antibiotics and on infection control• Mitigation an achievable goal?	<ul style="list-style-type: none">• Must rely on rational use of existing antibiotics and infection control• Increase awareness among new generations
Yes	<ul style="list-style-type: none">• New antibiotics always essential• Focus on rational use of new and other antibiotics• Re-emphasise infection control	<ul style="list-style-type: none">• Market for new antibiotics mostly empiric treatment of severe inf.• Focus on detection and control of emerging AMR• Re-emphasise rational use of antibiotics

What is rational use of antibiotics in human medicine?

- No self-medication
- Only when prescribed by a medical doctor (or a nurse)
- Only when indicated
- Correct dose
- Correct dose intervals
- Correct duration



Antibiotics obtained without a prescription EU Member States, 2002 & 2009



Sales of antibiotics without prescription: SWOT analysis

Strengths

- **EU Directive transposed in the national law of each individual Member State**
- **Some Member States are taking action**

- **Potential savings for national insurance systems** (prescription-only medicines obtained OTC often are reimbursed)

Opportunities

Weaknesses

- **Varying levels of law enforcement**
- **National habits and cultural differences** (can law be enforced when the public and professionals are not aware of the need for change?)

- **Pressure for change of some antibiotics from prescription-only medicine to pharmacy (POM-to-P) status** (already in UK for azithromycin for proven Chlamydia infection)

Threats



A.C.T.I.O.N.



A.C.T.I.O.N.

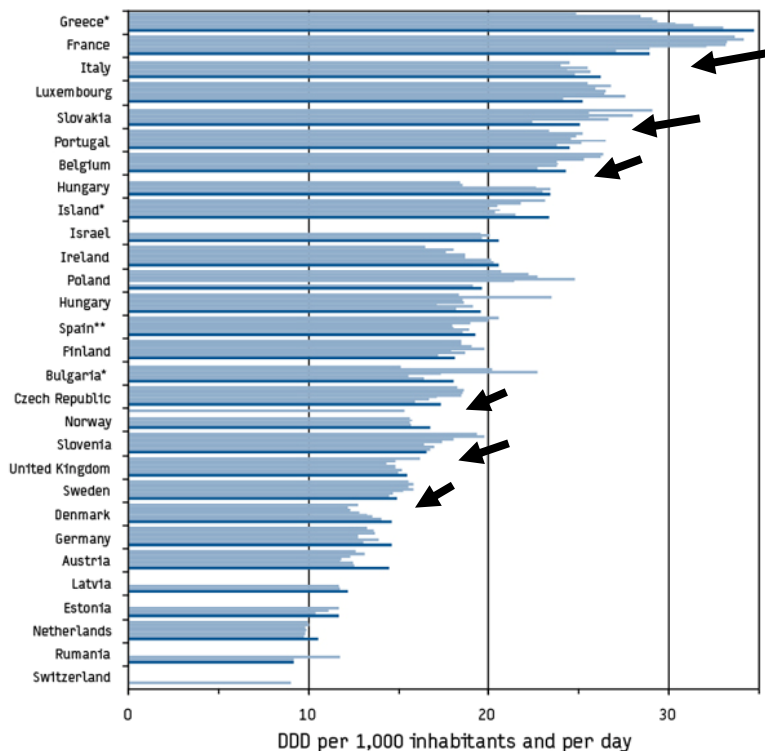
Impact of regulation on “prescription only” sales of antibiotics, Chile



- Sep. 1999: regulatory measures introduced as part of “Action plan to assure rational Antibiotic Use”, incl.:
 - Restriction of antibiotic sales to prescription-only
 - Enforced supervision by regulatory authorities
 - Public campaign, leaflets and posters in pharmacies
- 1998 to 2002: sales of oral antibiotics decreased by 43%
- Since 2002: increase to a level close to the 1997 baseline

- Need for other concomitant interventions, e.g. improving the knowledge and attitudes of consumers and prescribers

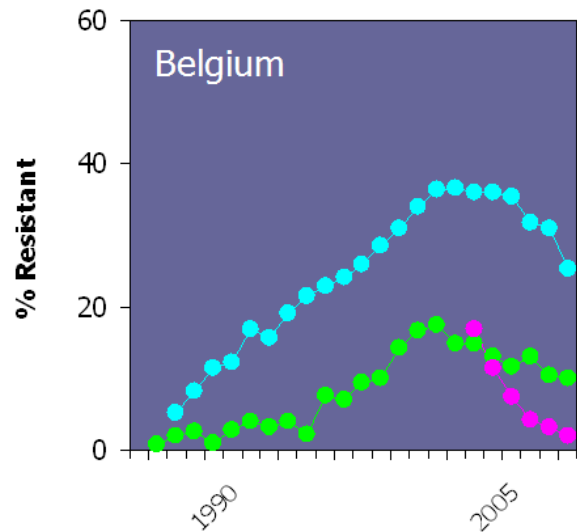
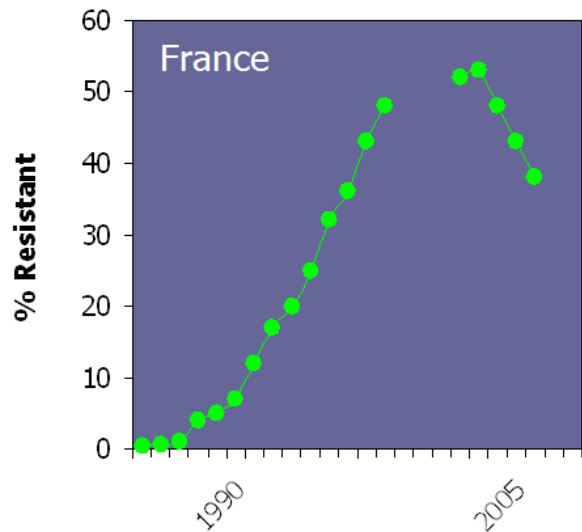
Total outpatient antibiotic use (ATC J01) in 29 European countries, 1998-2005



- ← National media campaign
- ← Education prog. for paediatricians
- ← National media campaign
- ← Education prog. for paediatricians
- ← Media coverage
- ← Media coverage

*Total use for Bulgaria and Iceland, and for Greece (2004 & 2005 only).
 **Reimbursement data, which do not include over-the-counter sales without a prescription.

Decreases in antimicrobial resistance following national media campaigns



- S. pneumoniae, penicillin-non susceptible
- S. pneumoniae, erythromycin-resistant
- S. pyogenes, erythromycin-resistant

Awareness campaigns on the prudent use of antibiotics / AMR: SWOT analysis

Strengths

- A.C.T.I.O.N. →
- Several examples of best practice in Member States
 - European Antibiotic Awareness Day (antibiotic.ecdc.europa.eu)

Weaknesses

- Cultural differences between Member States
- Must be repeated every year

- A.C.T.I.O.N. →
- Potential large savings for national insurance systems (8€ saved for 1€ invested)
 - Use national culture characteristics as levers for change

- "Campaign fatigue" (need to regularly vary and update key messages)
- Communicating on AMR (rather than prudent use) may lead to more prescriptions

Opportunities

Threats

Educational programmes for the public and for professionals: SWOT analysis

Strengths

- **Several examples of best practice in Member States**
- **e-Bug programme for junior/senior school children** (www.e-bug.eu)
- **Eurobarometer** (as a measure of knowledge of general public)

- **Increasing interest** (general public, media, parents, school teachers, professional societies, media)
- **New technical possibilities** (phone apps, social networks)

Opportunities

Weaknesses

- **Limited space in various curricula** (schools, universities)
- **Limited public funds available for continuous education of professionals** (in many Member States)

- **Limited sustainability of e-Bug** (after end of EU project)
- **Pressure for direct-to-consumer advertising for prescription-only medicines**

Threats

A.C.T.I.O.N.

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Financial incentives/disincentives: SWOT analysis

Strengths

- **Several examples from Member States:**
 - BE: perioperative prophylaxis
 - DK: delisting of antibiotics
 - FR: free Strep test for GP
 - DK: extra income for rapid diagnostic tests

- **Potential savings for national insurance systems** (if incentives/disincentives are properly placed)

Opportunities

Weaknesses

- **Most antibiotics are available as (cheap) generics**
- **In hospitals, the costs of antibiotics do not necessarily impact the hospital budget** (depending on the country)

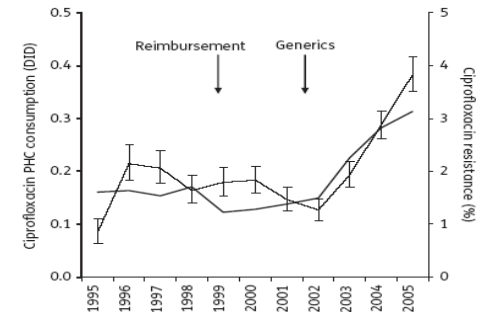
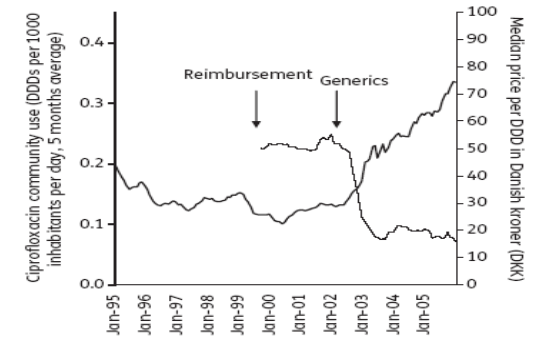
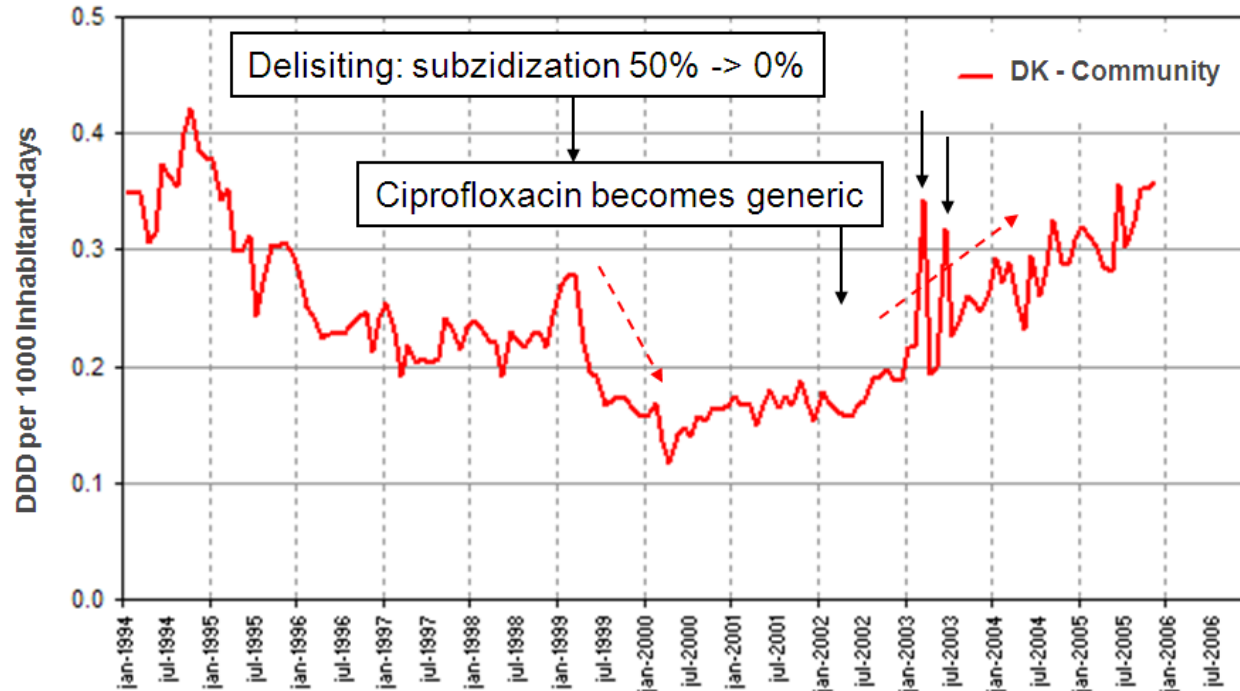
- **Professionals and the public may resist change if perceived as done only for saving costs**

Threats

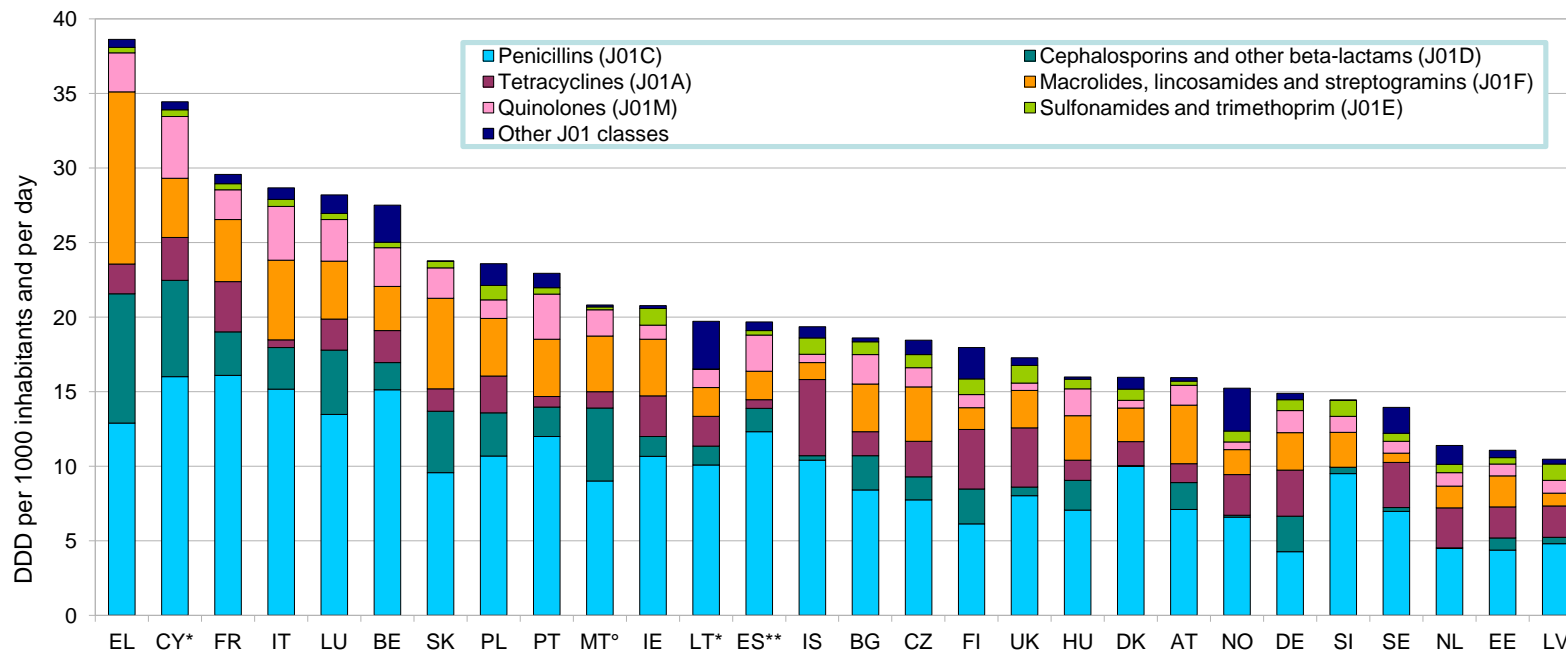


A.C.T.I.O.N.

Effects of delisting of fluoroquinolones (mainly ciprofloxacin), Denmark



Outpatient antibiotic (J01) use, by antibiotic class according to ATC classification, 2009



* Total use, i.e. including inpatients, for Cyprus and Lithuania.

** Reimbursement data, i.e. not including over-the-counter sales without a prescription, for Spain

Malta: 2008 data

Targets / benchmarking of antibiotic consumption: SWOT analysis

Strengths

- **Clear message about the objective** (size of decrease, by a certain date)
- **A few Member States are taking the lead**

- **Potential large savings for national insurance systems**

Opportunities

Weaknesses

- **Choice of target may be difficult** (e.g., size of achievable decrease? measurement unit?)

- **Uncertainty about antibiotic consumption threshold** below which the number of adverse effects due to non prescription of antibiotics (to patients who really need them) would increase

Threats

A.C.T.I.O.N.

Rapid diagnostic tests: SWOT analysis

Strengths

- **Several positive experiences from Member States**
- **Contributes to a more rational use of antibiotics**

Weaknesses

- **Implementation may vary depending on country** (who performs the test? who pays for the test?)

- **Potential savings for national insurance system**
- **Business opportunity**

- **Misuse of test may result in increasing expenses for national insurance system** (potential threat)

Opportunities

Threats

A.C.T.I.O.N.

Vaccines: SWOT analysis

Strengths

- **Several examples from Member States and other countries** (pneumococcal conjugate vaccine)
- **Reduces burden of the disease covered by vaccine**

- **Business opportunity**

Opportunities

Weaknesses

- **Serotype replacement means need for new vaccines**
- **Cost of vaccination** (for national insurance system or for the patient if not reimbursed)
- **Not for healthcare-associated infections** (so far)

- **Difficult-to-reach populations in most countries**
- **Should not distract us from working at improving use of antibiotics**

Threats

A.C.T.I.O.N.

Time for ACTION

Reducing overuse

Awareness and education: prudent use (primary care, healthcare settings)

Commitment: professional, individual, political

Targets / benchmarking: primary care, hospitals

Incentives: rapid diagnostic tests, absence from work for sick child, vaccination

One-to-one relationship: patient/doctor

No self-medication