

Prescribing antibiotics: who or what determines it?

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**COMMON
COLD**

**SORE
THROAT**

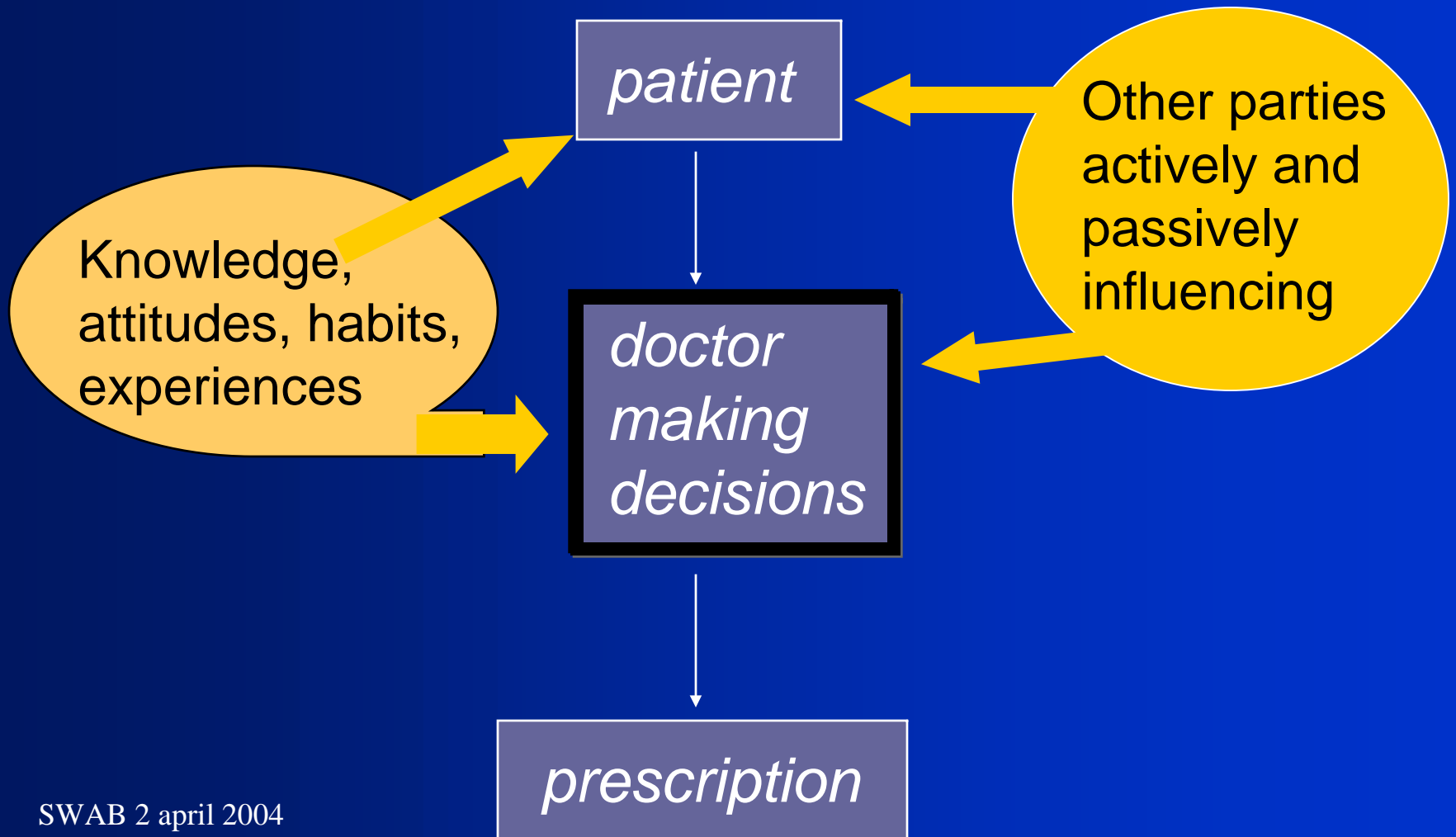
COUGH



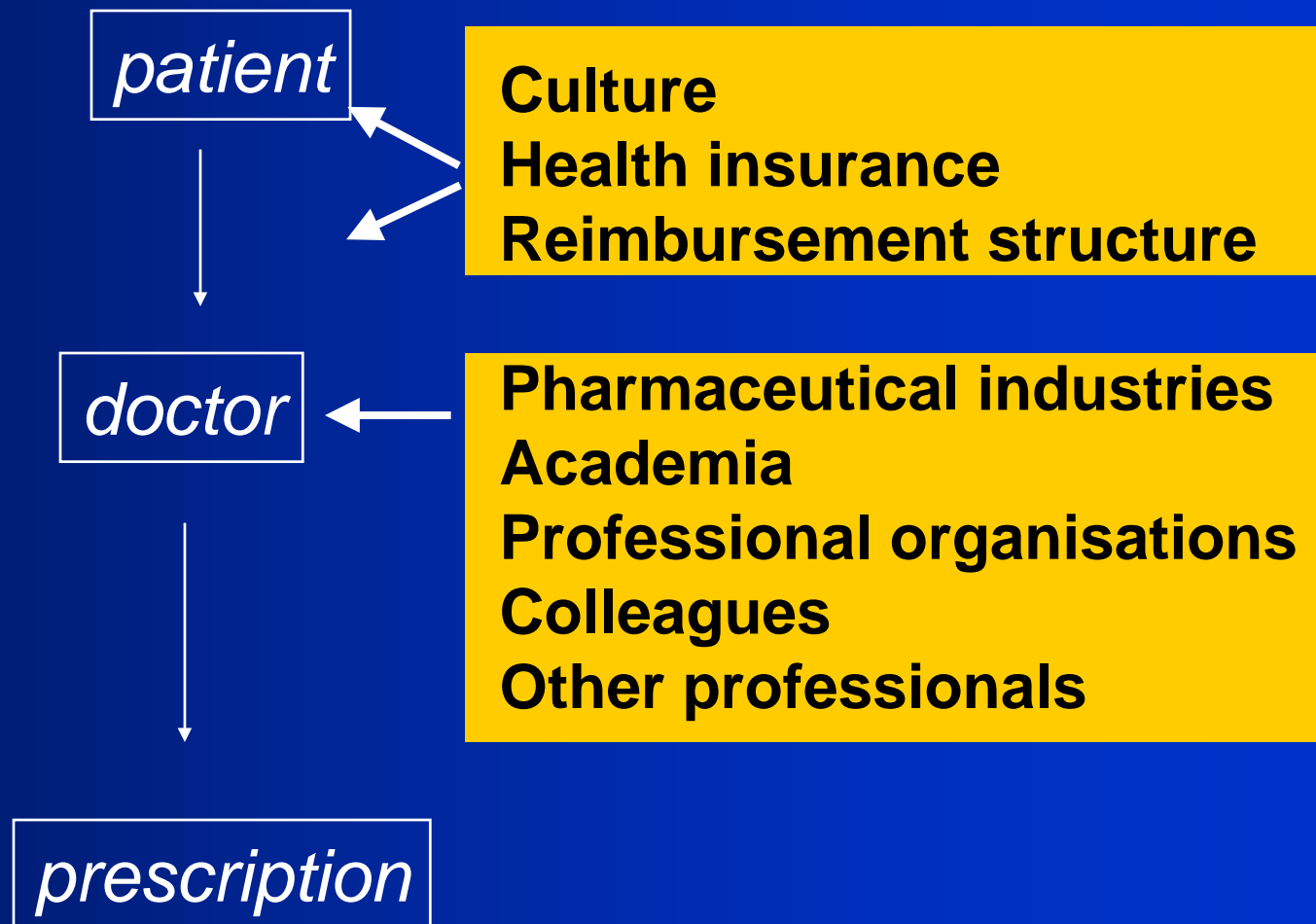
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Lancet 2003, 361:51

Prescribing decisions



Determinants



What do GPs say

- **Doctors know the evidence**
- **Patient pressure, too difficult to change pts beliefs in the consultation room**
- **prescription for doctor-pat relationship**
- **clinical signs: green phlegm, pus on tonsils, pt look very unwell**
- **Resistance is community problem, GPs' priority is individual patient**
- **Secondary care and veterinary use more important for resistance than GPs prescribing**

- Telephone prescribing of antibiotics
 - 18% in Norway (Rokstad, 1997)
- perception of GPs of telephone prescribing of AB
 - uncomfortable
 - pat demands
 - pragmatic (traveling time)

Interventions to optimise antibiotic prescribing in primary care (25 RCT/CCT)

Type of intervention	countries	# pos studies
academic detailing	US, Australia, UK, Spain	8
Indiv (mailed) feedback	Australia Canada	1 + 1 -
Interact - workshop, audit & feedback	Nl, Sw, Dk, Slov, UK, No, US, Canada	11
Interact workshops + patient education	Canada, US	3
delayed prescription strategy, with/without pat information	UK	1

Complex GP targeted intervention in Norway

- Summary of the main recommendations in electronic and poster format
- Patient educational material in electronic and paper format
- Computer based decision support and reminders during consultations
- An increase in the fee for telephone consultations for these two diagnoses with no change in the fee for an office visit
- Printed material to facilitate discussions in the practice
- Interactive courses for GPs and assistants
- Points in the CME programme

Results

	% patients with antibiotics for sore throat	
	Interv	Control
Baseline	48.1%	50.8%
Outcome	43.8	49.5
% change	-4.3	-1.3%
% difference	3.0%	

Conclusion GPs

- GPs important factor in overuse
- Effective strategies available to limit overuse
- need for broad implementation
- succes is not self evident
- CAVE : slow
intensive effort

Patients and the General Public

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	Fr	Germ
acute tonsillopharyngitis		
office visits/ 1000	136	51
antibiotic prescr/ 100	94.6	69.6
Common Cold		
office visits/ 1000	253	19
antibiotic prescr/ 100	48.7	7.7
% NOT receiving antibiotics first visit		
suspected community acquired pneumonia	8	23
acute bronchitis	7	31
exacerbation chronic bronchitis	5	26
viral lower respiratory tract infection	20	41
% diagnostic tests suspected LRT infection		
chest radiograph	18	27
peripheral blood leukocyte count	14	27
microbiologic sputum examination	3	12

Patients' on antibiotics in relation to their doctors

- Patients (more than doctors):
 - antibiotics necessary for sore throat, cough
 - antibiotics speed up recovery
 - » Van Duijn et al 2002
- Patient pressure and prescribing response:
 - expectance --> RR +
 - GPs perceive expectance --> RR ++
 - » Cockburn et al 2003

PAACT

Partners for Appropriate Anti-infective Community Therapy

Name: _____ Date: _____

Your symptoms today suggest a **viral infection**:

Cold Flu Pharyngitis Laryngitis Bronchitis

Flu, colds and 90% of sore throats are viral infections. Antibiotics are no effective treatment. Using no antibiotic is therefore safer and your infection will get better just as quickly.

Some suggestions for treating your symptoms:

- Drink plenty of fluids and get as much extra rest as possible.
- Throat pain is lessened by sucking on hard candy or ice chips or by gargling salt water (1/4 tsp. salt in warm water).
- Acetaminophen (Tylenol, Temptra), or Ibuprofen (Motrin, Advil) help to relieve stubborn viral aches and fever.
- Ask your pharmacist's advice for relief of cough, congestion, fever or aching.

Please return to see your usual family physician if:

- Your symptoms are getting worse instead of better.
- Your symptoms become different than expected.
- You develop a new or higher fever.
- You are not noticing improvement in _____ days.
- **Please inform the doctor of any other conditions such as asthma, heart disease, diabetes, cancer or immune disorder.**

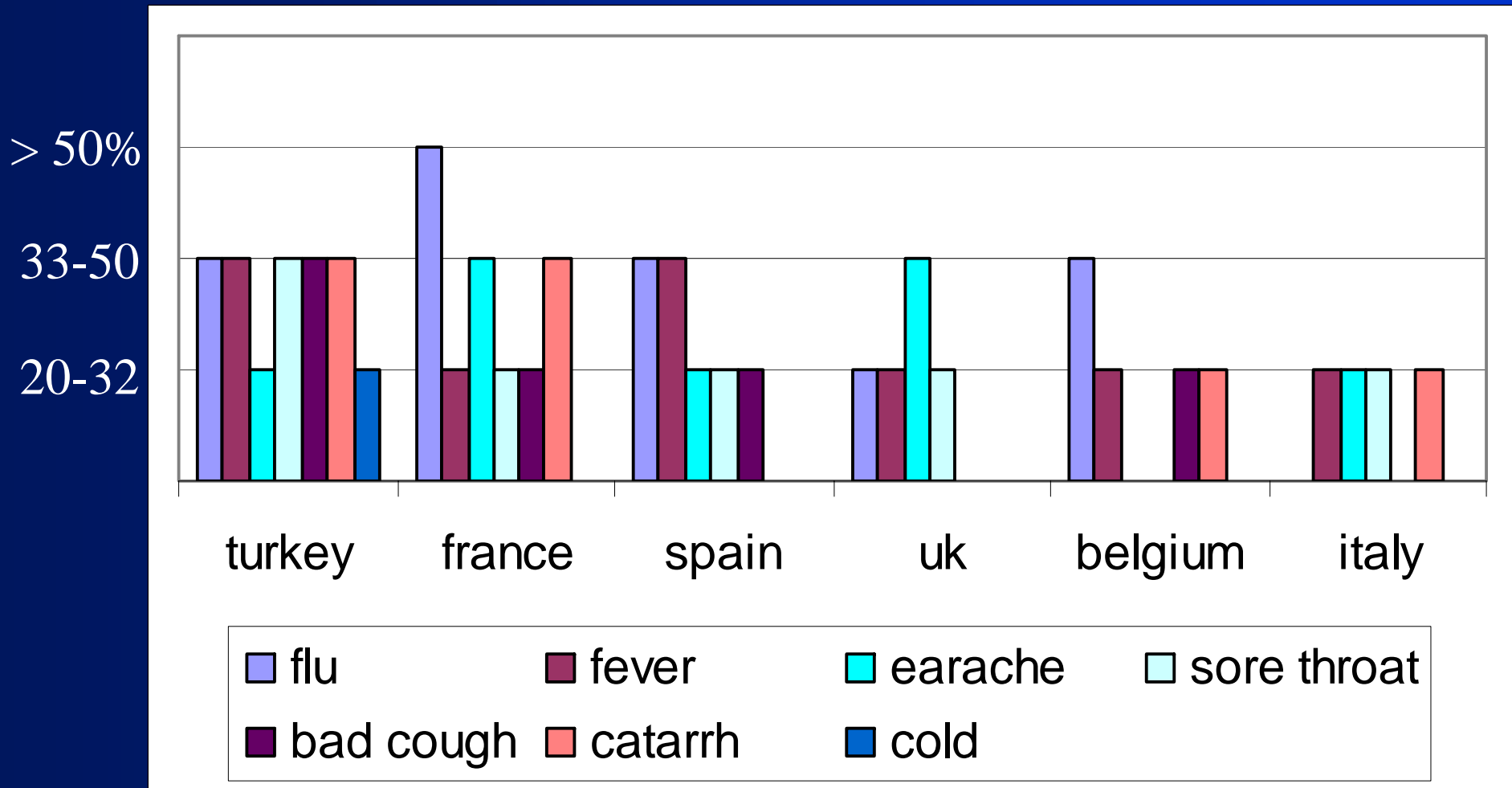
Thank you. _____ M.D

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Stewart et al

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Users' expectations (%)



Understanding patients' perceptions

- disease labeling
 - labels on symptoms
 - seriousness, uncertainty
- coping strategy
- attitudes / beliefs about antibiotics

Disease labeling, B en NL

- **Belgium**
 - **either not labelled or bronchitis**
 - **bronchitis: ‘heavy cold’, probable cases of influenza**
 - **bronchitis and flu are ‘serieus’ diseases**
- **Netherlands**
 - **cold**
 - **common flu vs real flu**
 - **seldom serious**

Coping strategies

	Flanders	Netherlands
do nothing		
nurse one's illness		++
self medication	++	
consult doctor	++	

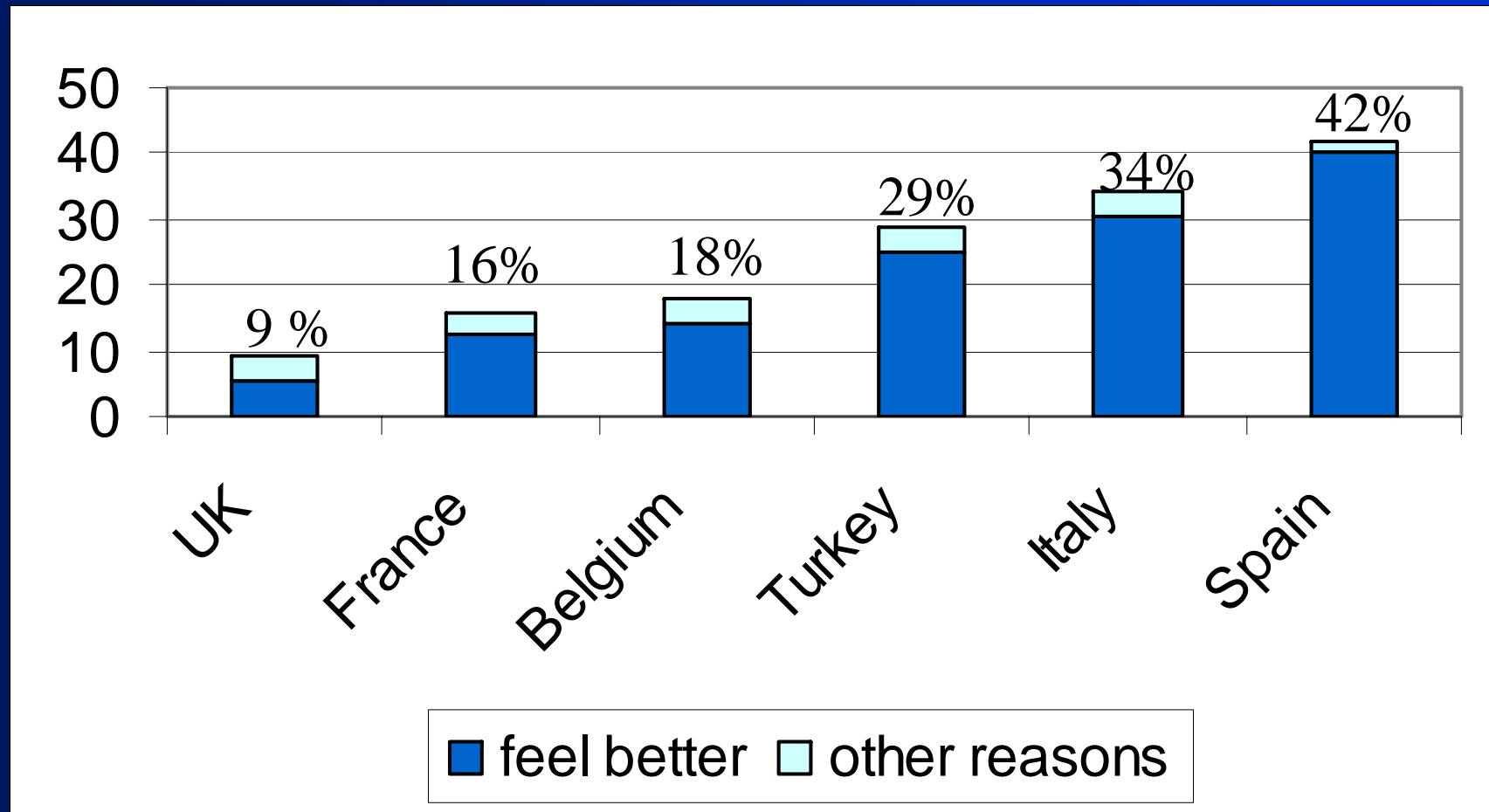
Attitudes and beliefs about antibiotics

	Flanders	Netherlands
better safe than sorry	+	
if there is no alternative (doctor's decision)	++	+
accepting, but rather not		++
refusing		+

NON- COMPLIANCE

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% pats *not* completing antibiotic course



context

- Impact rules and regulations, unknown
 - reimbursement, large variation in EU
 - remuneration of pharmacists
 - better for large quantities
- Cultural context

Reimbursement strategies

- full out-of-pocket payment
- fixed fee
- co-insurance
 - patient charges
- fixed deductible
- full reimbursement

European situation

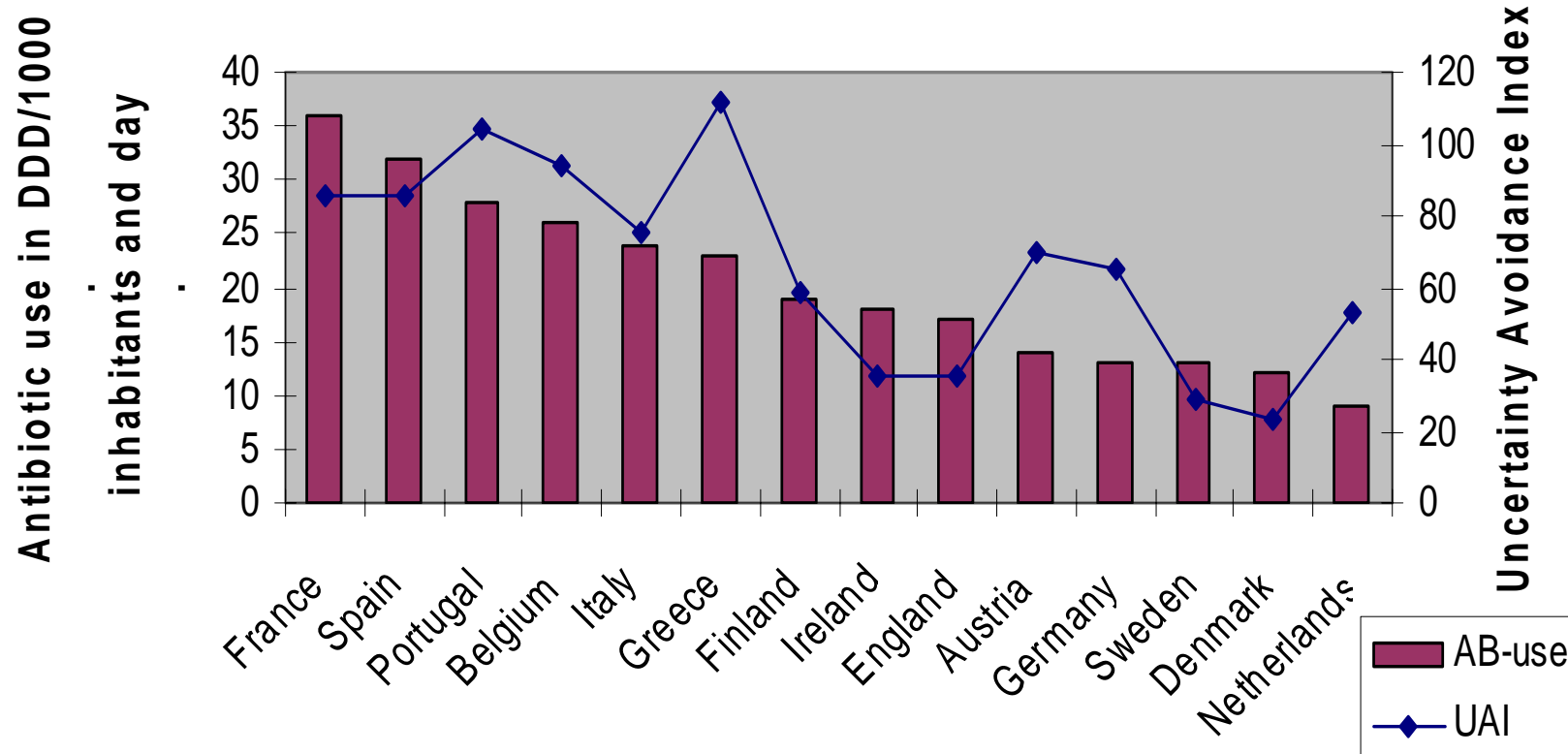
- 2 countries, mostly
 - Lith, Ro
- 3 countries (UK,De,Aust)
- 14 countries
 - Fi,La,Hu,Pol,Esp,Fr,No
 - Port,Bul,Be,Gr,Slo,Lx,Tur
- 6 countries
Dk,Sw,Ice,Ma,Irl,CH
- 5 countries
 - NL, Hr,Cz,Sk,It

Culturally determined attitudes

- Uncertainty avoidance
- Power distance
- Short-term versus long-term orientation
- Individualism versus collectivism
- Femininity versus masculinity

- correlation between A.B. use (Cars, 2001)
and Hofstede's data

Use of antibiotics and uncertainty avoidance index (UAI)

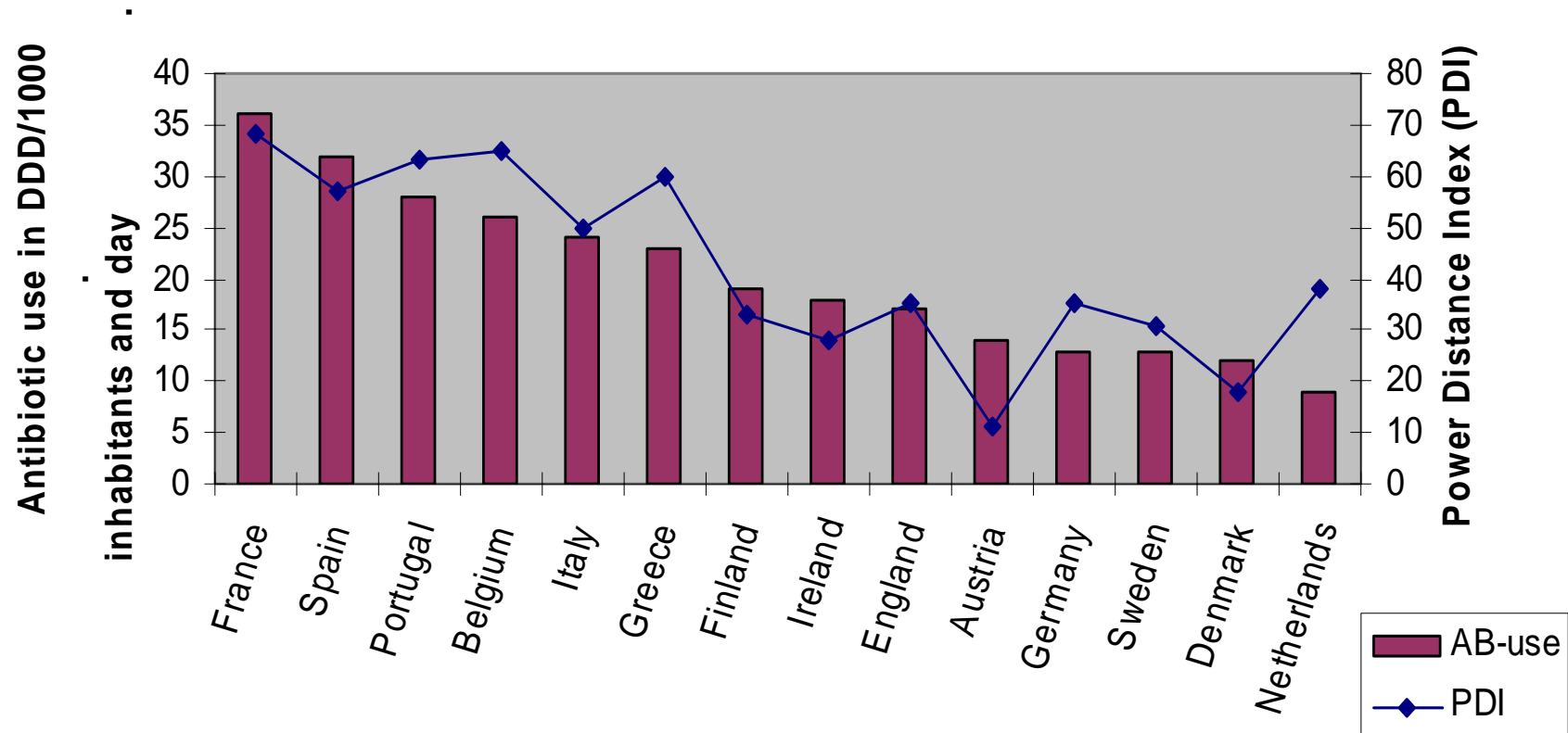


$r = 0.70$

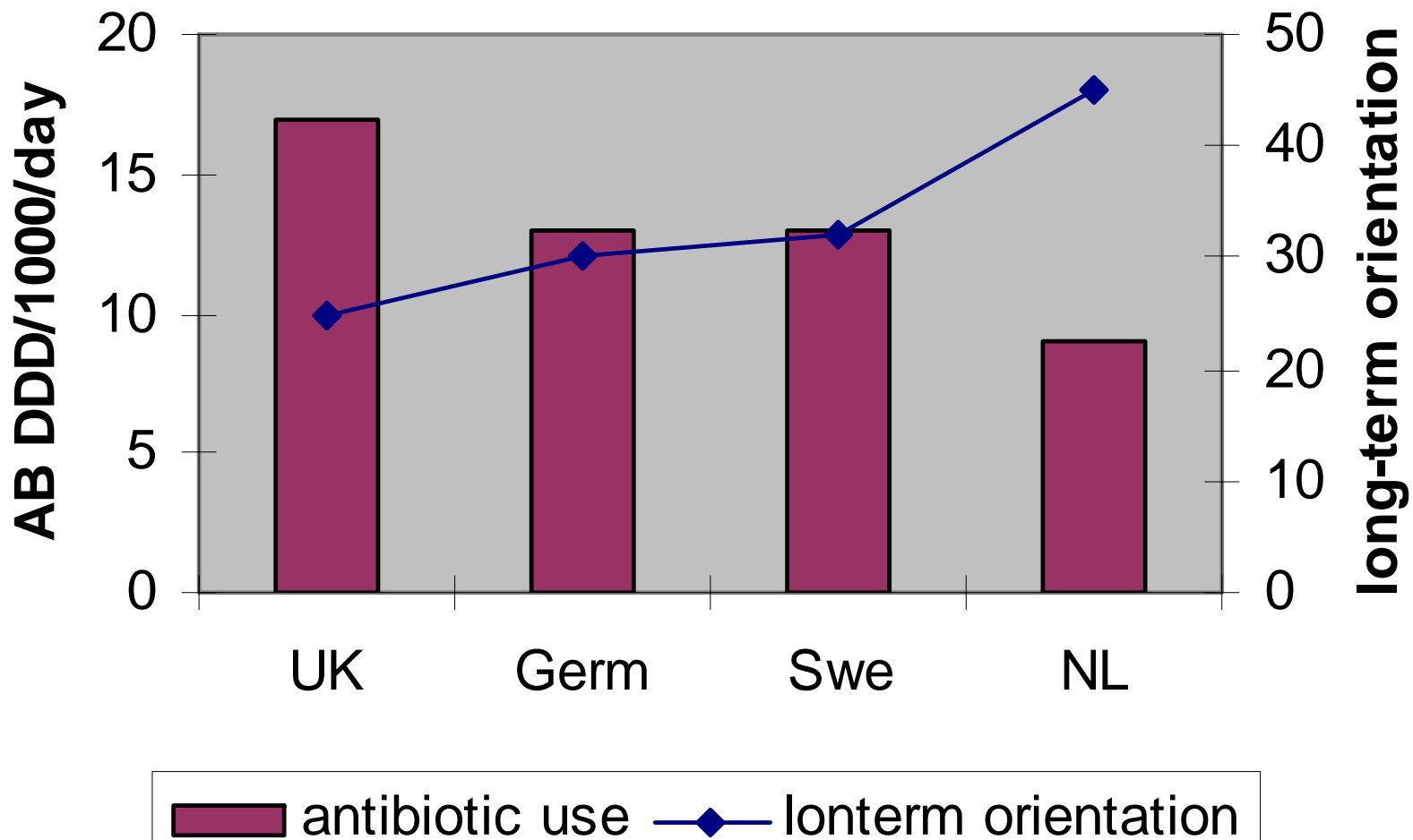
Deschepper, 2002

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Antibiotic use and Power Distance Index (PDI)



Long-term orientation and antibiotic use



Conclusions

- doctors' role
 - aware of their own role
 - need for targeted support, not more information
- patients' role
 - overestimate the need and usefulness of drugs
 - non-compliance and self medication
- reimbursement strategies: large variation, little known about relevance for AB
- cultural background seems to be relevant



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EINDE

