

Guidelines Observance by General Practitioners:

A quantitative Study using the "Small Samples Approach"
for In-depth, Case-based Analysis of Prescription Behaviour for
Respiratory-Tract Infections
in French-speaking Belgium

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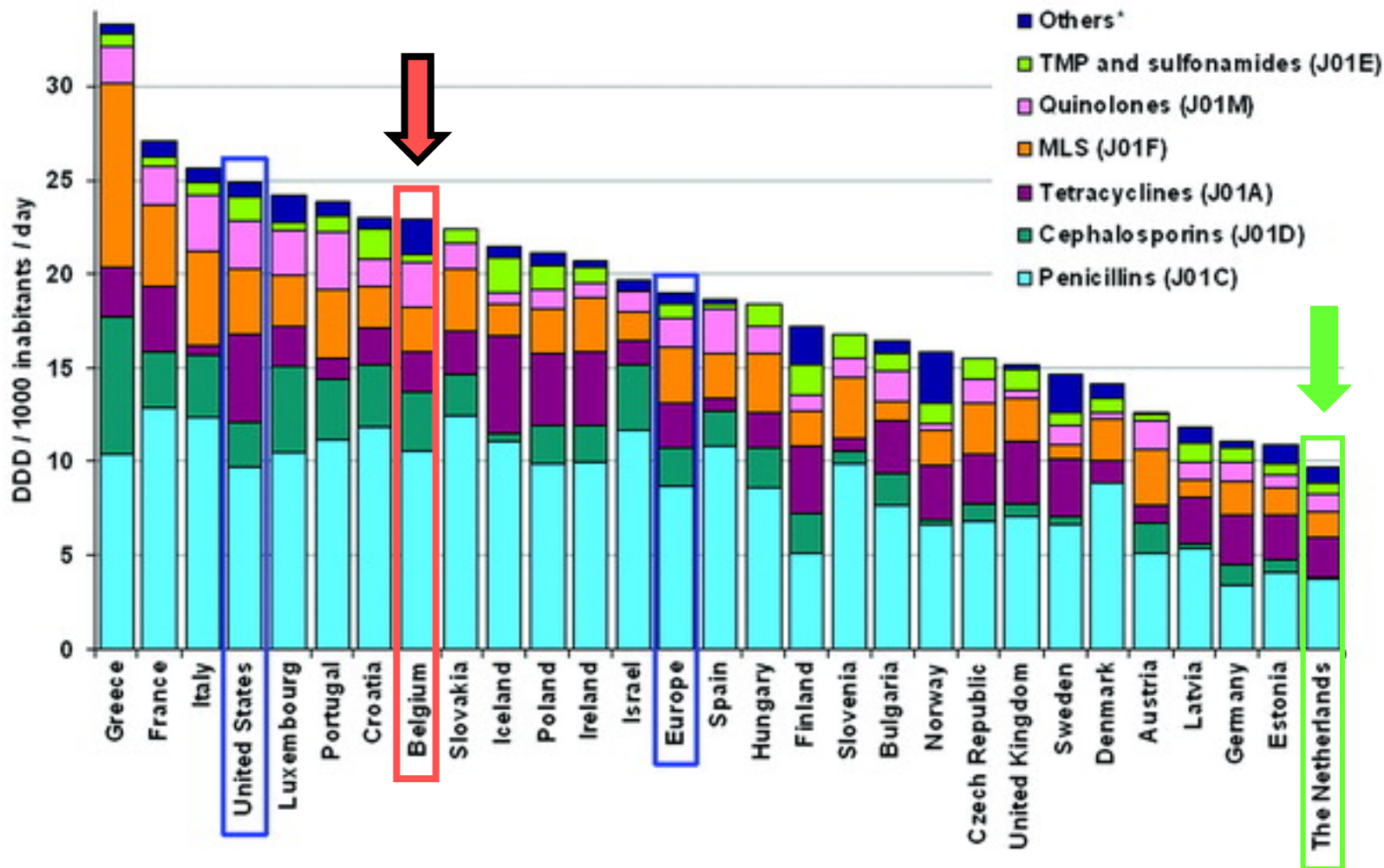
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Background: do Belgian GP overprescribe antibiotics?



Goossens et al. & the Antimicrobial Consumption Project Group. Comparison of outpatient systemic antibacterial use in 2004 in the United States and 27 European countries. Clin Infect Dis. 2007 Apr 15;44(8):1091-5. Erratum in: Clin Infect Dis. 2007 May 1;44(9):1259.

Actions of the authorities and Aims of the Study

- All Belgian GPs have been presented with guidelines for antibiotic use in respiratory tract infections using **Evidence-Based Medicine** data ...
(supported by the "Antibiotic Policy Coordination Committee", an official body with participation of the main Belgian experts in Infectious Diseases)
- Every Belgian GP receives at regular interval her/his individual "feed-back" comparing her/his personal prescribing habits to an "average GP" in her/his local environment

→ Are those guidelines and feed-backs conducive to a (more) rational prescription behaviour ?

Method: Lot Quality Assurance Sampling [LQAS]

- Originally developed in Industry to assess the quality of a production in comparison with a pre-defined standard while limiting the size of the sample
 - a set of samples of limited size is taken at random and subjected to in-depth examination for pertinent criteria
 - if a predefined percentage of the samples fulfil the criteria, the whole lot is considered as acceptable
- Used in Public Health * to define extremes in behaviour and/or to assess the success of a give action (vaccination, e.g.)
 - definition of a "high" and a "low" level of performance (e.g. > 75 % of vaccinated children in a region or a county ...)
- In our case, the analysis will examine the obedience of the GP to guidelines in her/his contact with actual patients
 - if 4/5 or more of the scripts are made according to guidelines, the GP will be considered as following these guidelines ("high level" criterion)

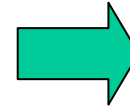
* - Lemeshow S. et al, 1991, Lot Quality Assurance Sampling: Single-and Double Sampling Plans. World Health Statistics Quarterly 44: 115-132.
- World Health Organization, 1996, Monitoring Immunization Services Using the Lot Quality Technique. WHO/VRO/TRAM/96.01.
- <http://www.cpc.unc.edu/measure/publications/html/ms-00-08-tool09.html>

LQAS: Application to this study

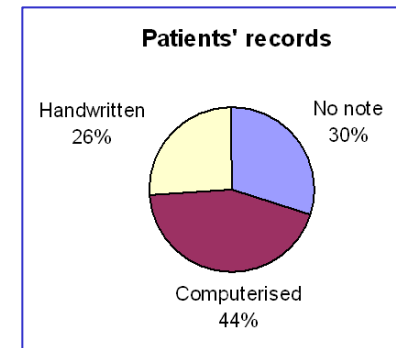
- Selection of GPs (30) at random in French-speaking Belgium for data collection from medical records and direct interview on 5 patients who were prescribed antibiotics for a respiratory tract infection
- For each patient contact (total: 150), obtain pertinent data from the prescribing GP about
 - medical history,
 - reasons for encounter,
 - symptoms and clinical examination,
 - patient's demand,
 - imaging or laboratory tests,
 - diagnostic,
 - prescribed antibiotic and obedience to guidelines (as seen by the GP)
- Analysis of the data (after anonymisation) in a simple-blinded fashion by two independent researchers (both GPs) for assessment of guideline observance (antibiotic need and choice) against the Belgian published guidelines.

Results

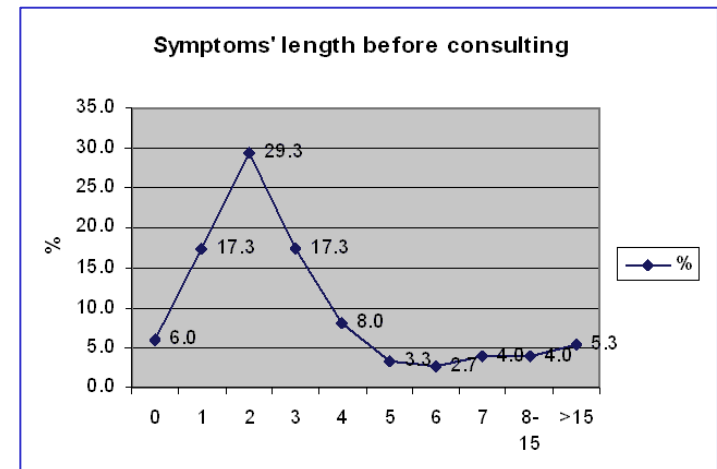
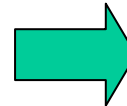
- Success in enrolment: 79% (30 agreeing / 38 approached) with good distribution throughout the French-speaking part of the country.



- Availability of records: 70 %

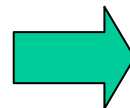


- time before consultation: 1-3 days

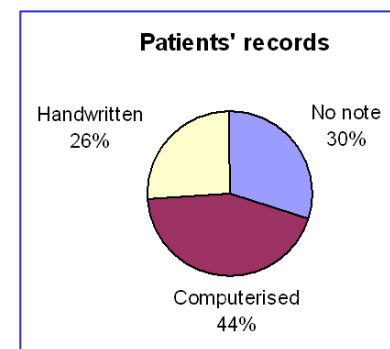
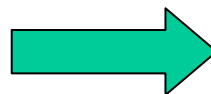


Results (1/5)

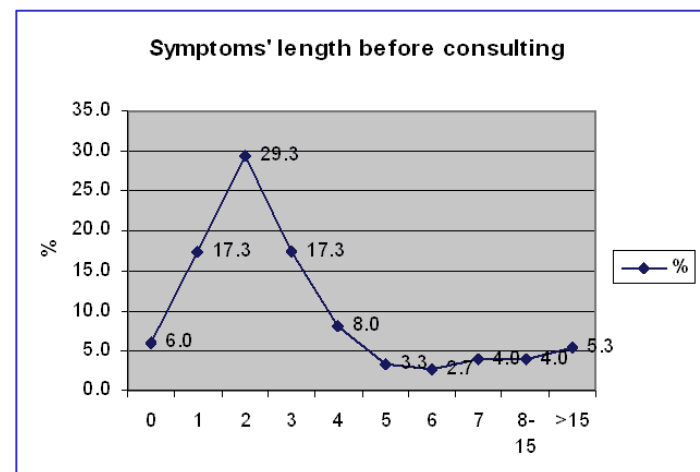
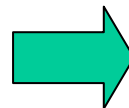
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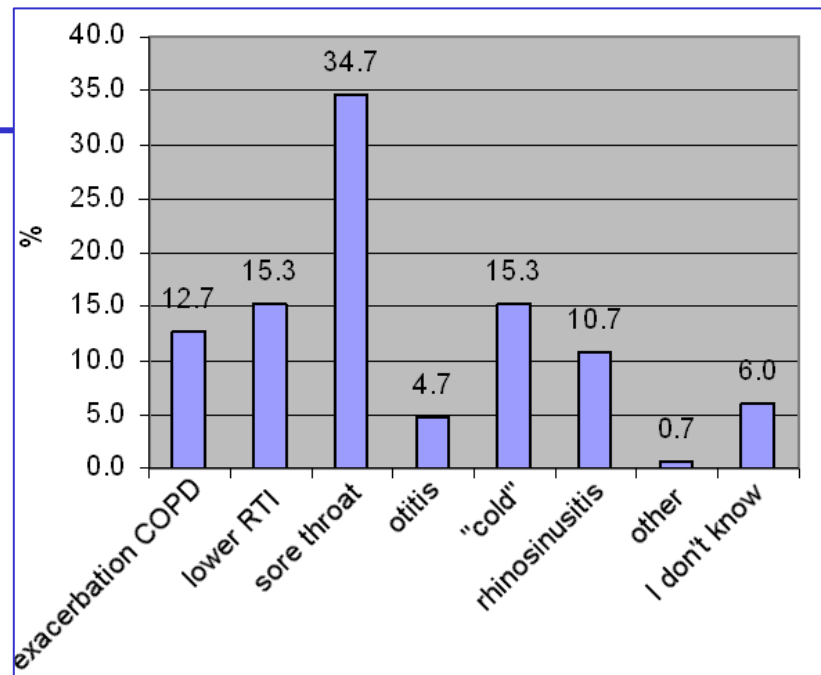
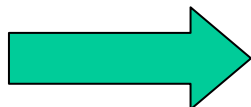


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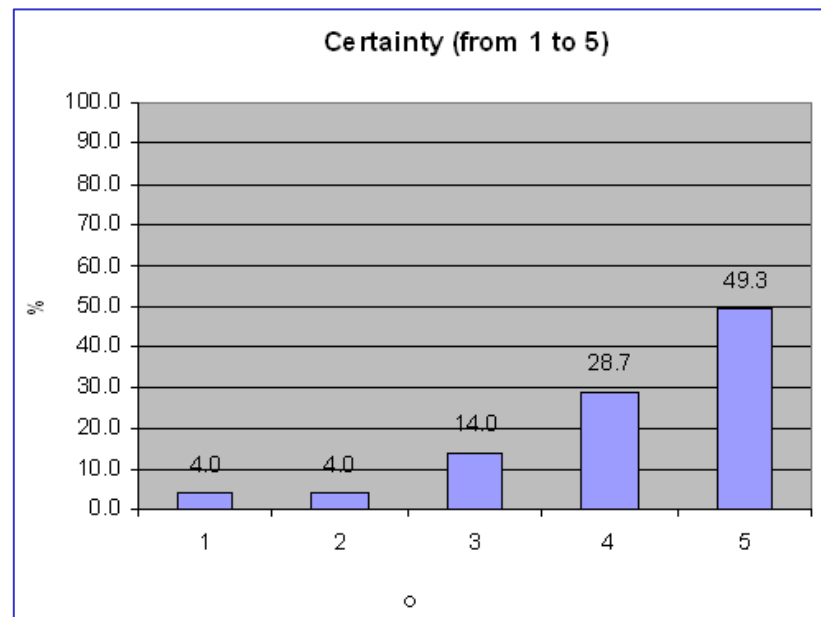


Results (2/5)

- Diagnostics made by the GP



- Certainty of the diagnostic (as assessed by the GP)



Results (3/5)

- Observance of the guidelines as assessed by the GP's (with CI 95%) for all contacts
 - **YES: 41 % (33 - 49)**
 - **NO: 26 % (18-34)**
 - **guidelines not known: 32 % (24-40).**
- Observance of the guidelines (need or choice) as assessed by the independent researchers for all contacts
 - **YES: 59 (51 - 67).**

In these contacts, patients' demand was the most frequent reason to prescribe.

Results (4/5)

number of GP's following the guidelines for 4 out 5 patients of more (80%)

		According to the independent researchers		
		No	Yes	total
According to GP's	No	13	6	19
	Yes	6	5	11
	total	19	11	30

Agreement between GP's and independent researchers: 18/30

Results (5/5)

- The most important discrepancies between guidelines and actual practice were :
 - Amoxicilline prescribed for sore throat (n = 31)
 - Amoxi-Clav prescribed for acute exacerbation of COPD (n=9), acute sinusitis (n=5) of sore throat (n=6)
 - Antibiotic prescribed for common cold (n=24)

Discussion

- Official guidelines and recommendations have only a limited impact on actual prescribing behaviour
- Self assessment of guidelines observance is not reliable
- There is always a high impact of patients' demand
- Based on the present data and on previous research*, efforts to curb the overprescribing of antibiotics in respiratory tract infections in community patients must aim at
 - decreasing patients' demands
 - making guidelines more convincing concerning their true value and independent from financial considerations

* this study is only one part of a more comprehensive programme; see previous data (qualitative analysis) presented at the 2007 RICAI (<http://www.facm.ucl.ac.be/posters.htm>)

Acknowledgments and Transparency Declaration

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Remunerations:

- J.-M. Feron and D. Legrand are paid for the performance of this study
- the independent researchers have received indemnifications corresponding to the work made for the study
- the GP's participating to the study have received an indemnification corresponding to the time spent with the interviewer
- P.M. Tulkens and the Academic Centre of General Practice coordinate the study without payment