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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Background: do Belgian GP overprescribe antibiotics?

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 conductive 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)

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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- Time before consultation: 1-3 days
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%)

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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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- 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