

# A public campaign for a more rational use of antibiotics

I. Bauraind,<sup>1</sup> H. Goossens,<sup>2</sup> P.M. Tulkens,<sup>3,\*</sup> M. De Meyere,<sup>4</sup> P. De Mol,<sup>5</sup> and Ludo Verbist.<sup>6</sup>

Federal Ministry of Health, Brussels; *Univ. Instell. Antwerpen, Antwerp; Univ. cathol. Louvain, Brussels; Univ. Gent, Ghent; Univ. de Liège, Liège; Kathol. Univ. Leuven, Louvain; BELGIUM*

## Mailing address:

Paul M. Tulkens  
Unité de pharmacologie cellulaire  
et moléculaire  
Université catholique de Louvain  
UCL 73.70 avenue E. Mounier 73  
B-1200 Brussels, Belgium  
E-mail: tulkens@facm.ucl.ac.be

## Abstract:

Following the recommendations of the EU Conference "The Microbial Threat", a commission for the coordination of the antibiotic policy has been established at the federal level in Belgium. This commission has set up a working party to develop a 350,000 Euros programme to increase the sensibility and awareness of the public to a more rational use of antibiotics. The aim was to reduce overconsumption of antibiotics in humans, based on studies demonstrating that Belgium had one of the highest antibiotic use per capita in EU. The campaign, aimed at both to the general public and the health professional, has been organised as follows:

- a preliminary survey (n=1,014; covering equally the 15-34, 35-54, and above 54 years groups, geographic regions, and socio-economic categories) was performed to obtain direct information on the level of public awareness on antibiotic overconsumption and threat of bacterial resistance;
- all health professionals were informed about bacterial resistance and its significance ("leading article" published in a journal sent regularly to MDs and pharmacists [Folia Pharmacotherapeutica]; guidelines for primary health care and for hospitals, veterinary workgroups)
- launching information actions for the public through (i) a press conference with participation of the State authorities and university experts; (ii) a radio and TV campaign (spots) insisting on the necessity to use antibiotics with care and to address the issue of overconsumption with their doctor and pharmacist; (iii) the publication of a brochure [sent to all general practitioners and selected specialists, all pharmacists, and key professionals active in socio-medical activities (Social Security offices, Child care organisations, etc...)] for displaying and distribution to patients) telling about (a) the nature of an infection, (b) the fact that mild infections may not need antibiotic treatment, (c) the relation between an inappropriate use of antibiotics and the selection of resistant organisms, and (d) the necessity to spare antibiotics, which are a precious good; (iv) two Web sites (antibiotics.org [French], and red-antibiotic.org [Dutch]) with a similar information and the possibility to download the brochure and to display the TV video spots.

The campaign has been launched on November 27th, 2000 and its materials will be displayed.

## Introduction

The increase in resistance rate of many important pathogens to currently most available antibiotics has now been recognized as a universal health hazard and potentially life-threatening problem. A large number of studies strongly suggest that this increase is directly correlated to the actual use of antibiotics, whether in human or veterinary medicine.

Comparisons of antibiotic sales among the various countries of the European Union, and longitudinal analyses of antibiotic consumption in Belgium over the last years, have shown alarming trends (Table 1).

Following the recommendations of the European Conference "The Microbial Threat"<sup>1</sup>, a Committee for the Coordination of Antibiotic Policy (BCCAP [Commission de Coordination de la Politique Antibiotique / Commissie voor Coordinatie van de Antibiotica Beleid]) was therefore created in 1999 by Royal Decree<sup>2</sup> in order to improve the situation. Its competences are summarized in Table 2.

Because antibiotic prescription for non-hospitalized patients made a large part of the overall antibiotic usage, specific actions aimed at General Practitioners as well as to the public appeared essential. Within this context, a Working Party "Public Awareness" was set up to examine the possibility to organize a campaign directed to the public in order

- to inform it about antibiotic resistance and to warn it about the medical and general health issues related to the inappropriate use of antibiotics;
- to foster the patient - physician and patient - pharmacist dialogue about the appropriate use of antibiotics.

**Table 1:** comparative and longitudinal analyses of antibiotic consumptions in Belgium [ DDD / (year x 1,000 inh.) ]

Comparative data <sup>1</sup>	
Belgium	EU states (range)
<i>Total non-hospital antibiotic sales in 1997:</i>	
26.7	9 - 36.5
<i>Total non-hospital <math>\beta</math>-lactams sales in 1997:</i>	
14	4 - 21

<sup>1</sup> calculated from IMS figures (O. Cars, personal communication)

**Trends over time for Belgium** (non-hospital antibiotics)<sup>2</sup>

1996	1997	1998	1999
20.78 <sup>a</sup>	23.68 <sup>b</sup>	24.70 <sup>b</sup>	28.08 <sup>c</sup>

<sup>2</sup> data collated by the National Institute for Insurance of Sickness and Invalidity (INAMI / RIZIV) <sup>a</sup>2d semester only; <sup>b</sup> validated figures; <sup>c</sup> estimates

**Table 2:** Competences and tasks of the Committee for the Coordination of the Antibiotic Policy

- collection and organization of all available information on antibiotic use and resistance
- publication of reports on antibiotic use and resistance
- information and increase of public awareness on antibiotic resistance and the risks associated with the irrational use of antibiotics
- making recommendations on relevant points such as detection of resistance, cross-resistance mechanisms, use and consumption of antibiotics in both man and animal, etc ...
- making recommendations for research on antibiotic resistance and on the transfer of resistance among bacteria and among ecosystems

Translated and adapted from the Royal Decree of April 26th, 1999

## Materials and Methods

### Budget

A budget of approx. 300,000 Euros was secured from Federal Funds to cover the main costs of the campaign.

Additional support was also obtained from

- the Flemish and French-speaking Communities ( *Vlaamse Gemeenschap & Communauté française de Belgique* ), which in Belgium are responsible for Preventive Medicine, for public Radio and TV broadcasts on public channels (free access to the French-speaking channels and direct support (approx. 50,000 Euros) for broadcasts on the Flemish-speaking channels (because of differences in policies of the French-speaking and Flemish Authorities with respect to access to the corresponding public media);
- the French-speaking Community for securing the collaboration of a non-profit organization specialized in developing Public Communications in health-related topics ( *Question Santé* )

## Working party

A working party was organized with representatives of

- the Flemish and French-speaking Communities;
- the Federal Ministry of Social Affairs, Public Health and Environment;
- two non-profit, officially-recognized organizations with expertise in communication in health-related topics ( *Question Santé & Omrent Gezondheid* )
- experts from the main Belgian Universities ( three microbiologists, one pharmacologist, and a member of a Department of General Practice).

This working party worked in close contact with scientific societies of GP's and specialists, as well as with key organizations in charge of the financial and social support to patients ( *Mutuelles* ) [which in Belgium are in charge of the reimbursement of medical and pharmaceutical expenses to patients]; *Office de la Naissance et de l'Enfance / Kind en Gezin* [two organizations in charge of support and information to parents with young children]; etc...

## Definition of the objectives

These are shown in Table 3 and were based on the perception of the general needs for public information, surveys of similar campaigns in other countries, and analysis of pertinent literature.

**Table 3 :** Primary objectives of the campaign

- provide the public with a better understanding of the natural course of an infection, especially if minor and with a high rate of spontaneous resilience such as otitis media or uncomplicated bronchitis
- explain which are the real benefits of antibiotic treatment, i.e. the cure of serious bacterial infections, as opposed to their inappropriate uses such as in minor infections or infections of viral origin
- underline the risks associated with the rapid emergence of resistance to antibiotics
- foster a useful discussion of the patient with his/her doctor and his/her pharmacist on the need to use antibiotics appropriately.

A reduction of antibiotic usage was considered important but was not a primary objective of this campaign. No financial objective was set forth.

The campaign was prepared by a survey made in July 2000 on a sample of approx. 1,000 persons by a specialized agency with appropriate distribution concerning sex, ages, socio-economic status and geographical distribution. The results of this survey are shown in table 4.

**Table 4 :** Main conclusions of the pre-campaign survey (n=1,000)

- large misunderstanding or lack of information about the real conditions for usefulness of antibiotics in current infections
- belief that antibiotics will allow a faster cure for even minor infections
- great confidence of the public in MD's and pharmacists
- MD's tend to overestimate the "patient's pressure" for antibiotics

## Pre- information of Health Professionals

A "summary and position paper" underlining the general and medical significance of the resistance to antibiotics (see exhibit 1) was published and disseminated through the channel of *"Folia Pharmacotherapeutica"*, a monthly publication made by an independent center for pharmacotherapeutic information sponsored and supported by the Federal Ministry of Social Affairs, Public Health and Environment (this publication is distributed free of charge to all registered MD's and Pharmacists). In parallel, the medical organizations were pre-informed through their representatives at the Working Party and through two pre-campaign meetings. Finally, all GP's, pneumologists, ORL, pediatricians and pharmacists in the country were sent package with (a) a letter in which the campaign and its aims were explained, and its significance in terms of Public Health underlined, and (b) 200 copies of the booklets and one poster for display in their waiting room or pharmacy

## Materials

See Table 5 and the corresponding exhibits.

**Table 5:** Materials used for the campaign (Belgium = 10 millions inhab.)

	number	target	channel
Booklets	600,000	patients	MD's / Pharm.
Folders	400,000		Soc. Organizat. <sup>1</sup>
Posters	40,000		MD's / Pharm.
TV-spots	French 461 <sup>2</sup>	general public	prime time 30 sec broadcasts
	Flemish 36 <sup>3</sup>		
Radio-spots	French 708 <sup>2</sup>		
	Flem. 44 <sup>3</sup>		
Direct Press & Media communications		general public	newspapers
		MD's/Pharm.	medical press
Web sites	general <sup>4</sup>	general public	University server
	scientific <sup>5</sup>	MD's	Ministry server

<sup>1</sup> Social Security and Reimbursement Organizations (Mutuelles), etc...  
<sup>2</sup> free access; <sup>3</sup> paying access;  
<sup>4</sup> www.antibiotics.org - www.red-antibiotica.org; <sup>5</sup> www.health.fgov.be

## Results

The campaign was launched on November 27<sup>th</sup> 2000 (with a press conference organized at the national level by the two Federal Ministers of Social Affairs & Public Health for representatives of the main Belgian Medias). Table 6 shows the preliminary results of a post-campaign survey made in the general public. More data (statistics of audience, requests for additional information from the public, hospitals, schools, etc..., medical and pharmaceutical reactions, analysis of antibiotic consumption) are being gathered.

**Table 6 :** Main conclusions of the post-campaign survey (n=1,000)

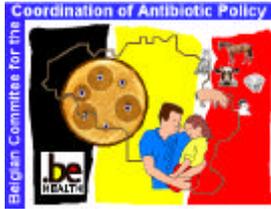
- XXX
- XXX
- XXX
- XXX

## Acknowledgments

We thank Mrs M. Aelvoet (Minister of Public Health), Mr F. Vandenbroucke (Minister of Social Affairs), Mr C. Decoster (General Secretary of the Ministry of Social Affairs, Public Health and Environment) and all the other Belgian authorities and corresponding specialized Agencies and Institutes for their help in the setting up and launching of the campaign, and for analysis of the results. Dr E. Hendrickx (Scientific Institute of Public Health Louis Pasteur, Brussels) kindly provided longitudinal antibiotic consumption figures for Belgium and Prof. O. Cars (Department of Infectious Diseases, University Hospital, Uppsala, Sweden) comparative data on antibiotic sales between Belgium and the other countries of the European Union.

## References

<sup>1</sup> The Copenhagen Recommendations Report from the International EU Conference on the Microbial Threat, Denmark, September 1998. Ministry of Health, Ministry of Food, Agriculture and Fisheries, Denmark



## **A public campaign for a more rational use of antibiotics**

**I. Bauraind,<sup>1</sup> H. Goossens,<sup>2</sup> P.M. Tulkens,<sup>3,\*</sup> M. De Meyere,<sup>4</sup> P. De Mol,<sup>5</sup> and Ludo Verbist.<sup>6</sup>**

Federal Ministry of Health, Brussels; *Univ. Instell. Antwerpen*, Antwerp; *Univ. cathol. Louvain*, Brussels; *Univ. Gent*, Ghent; *Univ. de Liège*, Liège; *Kathol. Univ. Leuven*, Louvain; BELGIUM

**Mailing address:**

Paul M. Tulkens  
Unité de pharmacologie cellulaire  
et moléculaire  
Université catholique de Louvain  
UCL 73.70 avenue E. Mounier 73  
B-1200 Brussels, Belgium  
E-mail: [tulkens@facm.ucl.ac.be](mailto:tulkens@facm.ucl.ac.be)